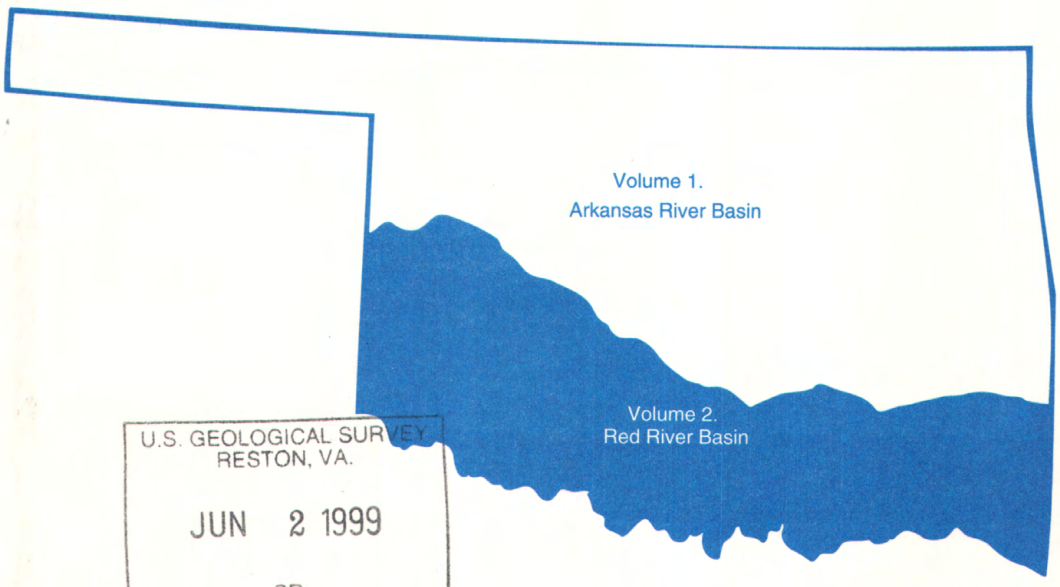
USGS

science for a changing world

Water Resources Data Oklahoma Water Year 1998

Volume 2. Red River Basin and Ground-Water Wells

Water-Data Report OK-98-2



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

GREAT SEAL OF THE STATE OF OKLAHOMA 1907

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

CALENDAR FOR WATER YEAR 1998

1997

OCTOBER

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

NOVEMBER

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

DECEMBER

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

1998

JANUARY

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

FEBRUARY

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

MARCH

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

APRIL

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

MAY

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

JUNE

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

JULY

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

AUGUST

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

SEPTEMBER

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

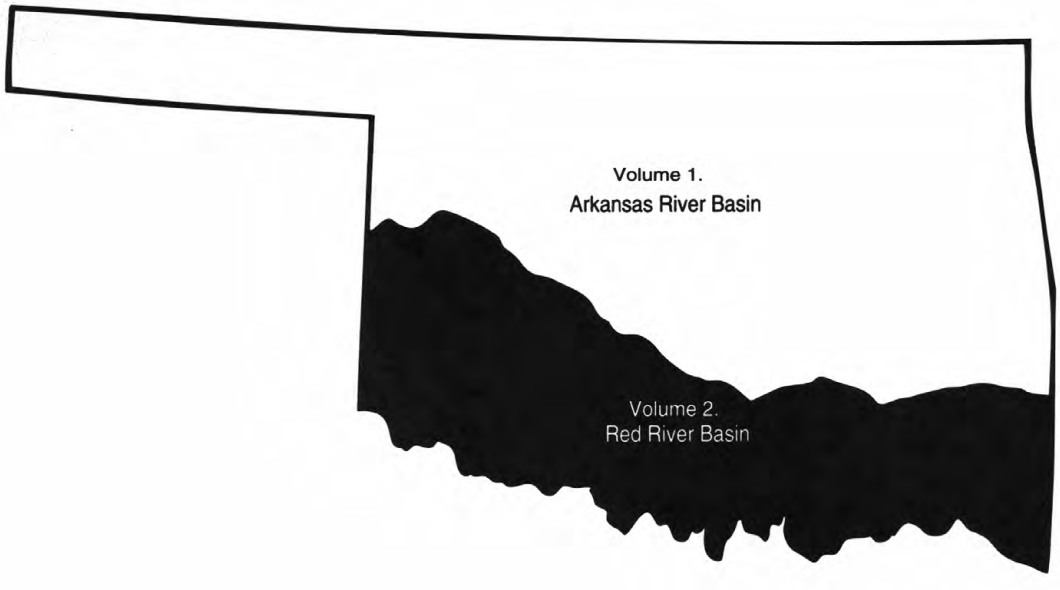
U.S. Department of the Interior
U.S. Geological Survey

Water Resources Data Oklahoma Water Year 1998

Volume 2. Red River Basin and Ground-Water Wells

By R.L. Blazs, D.M. Walters, T.E. Coffey, D.L. Boyle, J.F. Kerestes, and R.E. Johnson

Water-Data Report OK-98-2



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

Charles G. Groat, Director

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

1999

PREFACE

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

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

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

D.L. Adams	R.D. Gist	J.K. Kurklin	M.L. Schneider
L.A. Alf	J.R. Greer	T.V. Nevitt	E.W. Smith
D.L. Boyle	G.H. Haff	J.E. Norvell	S.D. Smith
C.R. Bullock	J.R. Hanlon	L.T. Pham	R.L. Tortorelli
P.A. Carpenter	R.E. Johnson	M.L. Phillips	D.M. Walters
T.E. Coffey	J.F. Kerestes	D.L. Runkle	

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

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

Form Approved OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	March 1999	Annual-Oct. 1, 1997 to Sept. 30, 1998

4. TITLE AND SUBTITLE
Water Resources Data for Oklahoma, Water Year 1998

5. FUNDING NUMBERS

6. AUTHOR(S)
R.L. Blazs, D.M. Walters, T.E. Coffey, D.L. Boyle, J.K. Kerestes, R.E. Johnson

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
U.S. Geological Survey
Water Resources Division
202 NW 66 St., Bldg. 7
Oklahoma City, OK 73116

8. PERFORMING ORGANIZATION REPORT NUMBER
USGS-WDR-OK-98-2

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING / MONITORING AGENCY REPORT NUMBER
USGS-WDR-OK-98-2

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

12a. DISTRIBUTION / AVAILABILITY STATEMENT
No restrictions on distribution. This report may be purchased from:
National Technical Information Service
Springfield, VA 22161

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

Volumes 1 and 2 of the water resources data for the 1998 water year for Oklahoma consists of record of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes or reservoirs; and water levels of ground-water wells. This report contains discharge records for 128 gaging stations; stage and contents for 12 lakes or reservoirs and 1 gage height stations; water quality for 67 gaging stations; 29 partial-record or miscellaneous streamflow stations and 1 ground-water sites. Also included are lists of discontinued surface-water discharge and water-quality sites. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Oklahoma.

14. SUBJECT TERMS
*Oklahoma, *Hydrologic data, *Surface water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperature, Sampling sites, Water analyses, Ground water, Gage height

15. NUMBER OF PAGES
245

16. PRICE CODE

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

CONTENTS

ILLUSTRATIONS

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

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

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

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

GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

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

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
Sandy Creek near Eldorado, OK	07299710	280	1960-63
Turkey Creek at Olustee, OK	07301100	317	1960-63
North Fork Red River near Sayre, OK	07301481	2,159	1978-87
North Fork Red River near Granite, OK	07302000	2,494	1904-08, 1938-44
Elm Fork of North Fork Red River near Reed, OK	07303420	579	1965-67
Elk Creek near Hobart, OK	07304500	549	1904-08, 1950-93
Elm Fork of North Fork Red River near Mangum, OK	07303500	838	1905-08, 1930-31, 1938-47, 1965-67, 1968-76
Otter Creek at Mountain Park, OK	07306500	164	1946-51
East Cache Creek near Elgin, OK	07309000	248	1956-58
Little Medicine Bluff Creek near Lawton, OK	07310000	7.00	1913-19
Medicine Bluff Creek near Lawton, OK	07310500	101	1913-19
Little Beaver Creek near Duncan, OK	07313000	158	1949-64
Beaver Creek near Waurika, OK	07313500	563	1953-93
Cow Creek at Waurika, OK	07313600	193	1966-70
Walnut Bayou near Burneyville, OK	07315900	314	1961-63, 1969-71
Sandstone Creek subwater shed 16A near Cheyenne, OK	07317500	8.78	1952-71
Sandstone Creek subwater shed 16 near Cheyenne, OK	07318000	20.3	1953-69
Sandstone Creek subwater shed 14 near Cheyenne, OK	07318500	1.02	1953-70
Sandstone Creek subwater shed 17 near Cheyenne, OK	07319000	10.1	1953-70
Sandstone Creek near Berlin, OK	07319500	44.9	1953-72
Sandstone Creek subwater shed 10A near Elk City, OK	07320000	2.87	1952-70
Sandstone Creek subwater shed 6 near Elk City, OK	07320500	6.46	1953-70
Sandstone Creek subwater shed 5 near Elk City, OK	07321000	3.89	1953-70
Sandstone Creek subwater shed 3 near Elk City, OK	07321500	0.62	1953-70
Sandstone Creek subwater shed 9 near Elk City, OK	07322000	3.50	1952-70
East Branch Sandstone Creek near Elk City, OK	07322500	23.0	1951-72

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
Sandstone Creek near Cheyenne, OK	07323000	87.1	1952-74
Sandstone Creek subwater shed 1 near Cheyenne, OK	07324000	5.33	1952-70
Barnitz Creek near Arapaho, OK	07324500	243	1946-63
Lake Creek near Eakly, OK	07325850	52.0	1970-78
Willow Creek near Albert, OK	07325860	28.0	1971-78
Sugar Creek near Gracemont, OK	07327000	208	1956-74
Spring Creek near Gracemont	07327050	34.4	1991-94
Chetonia Creek Tributary below Cyril, OK	07327445	3.35	1990-91
Little Washita River near Ninnekah, OK	07327490	208	1964-85
Little Washita River at Ninnekah, OK	07327500	227	1952-63
Washita River near Tabler, OK	07328000	4,706	1940-52
Winter Creek near Alex, OK	07328070	33.0	1965-87
Washington Creek near Pauls Valley	07328550	7.56	1991-94
Rush Creek at Purdy	07329000	145	1940-54 1982-94
Rush Creek near Maysville, OK	07329500	206	1955-76
Wildhorse Creek near Hoover, OK	07329700	604	1970-93
Antelope Spring at Sulphur, OK	07329849	0	1986-89
Outflow from Vendome Well at Sulphur, OK	07329851	0	1986-89
Rock Creek at Dougherty, OK	07329900	138	1957-67
Washita River near Berwyn, OK	07330000	6,815	1924-26
Mill Creek near Ravia, OK	07331250	89.2	1969-71
Red River at Denison Dam near Denison, TX	07331600	39,720	1959-89
Red River near Colbert, OK	07332000	39,777	1924-59
Blue River near Connerville, OK	07332390	162	1977-79
Blue River at Milburn, OK	07332400	203	1966-87
Coal Creek near Lehigh, OK	07332900	8.10	1978-81
Muddy Boggy Creek at Atoka, OK	07332950	445	1979-81
North Boggy Creek near Stringtown, OK	07333000	136	1956-59
Chickasaw Creek near Stringtown, OK	07333500	32.7	1956-68
McGee Creek near Stringtown, OK	07333800	86.6	1956-68
McGee Creek near Farris, OK	07333910	176	1978-82
Clear Boggy Creek near Wapanucka, OK	07334500	516	1940-43

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
Clear Boggy Creek near Caney, OK	07335000	720	1943-89
Tenmile Creek near Miller, OK	07336000	68	1956-70
Kiamichi River near Belzoni, OK	07336500	1,423	1926-72
Little River near Wright City, OK	07337500	645	1930-31, 1945-89
Little River near Idabel, OK	07338000	1,173	1930-46

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

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

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
Prairie Dog Town Fork Red River near Lakeview, TX	07299495	6,794	1987-88
Prairie Dog Town Fork Red River at Estelline, TX	07299505	7,293	1987-88
Jonah Creek near Newlin, TX	07299510	46.3	1987-88
Jonah Creek near Estelline, TX	07299512	57.1	1987-88
Prairie Dog Town Fork Red River near Childress, TX	07299540	7,725	1987-88
Salt Creek near Childress, TX	07299542	113	1987-88
Buck Creek at Loco, TX	07299545	175	1987-88
Buck Creek near Loco, TX	07299548	205	1987-88
Buck Creek near Childress, TX	07299550	222	1987-88
Red River near Hollis, OK	07299565	8,154	1986-88
Red River near Quanah, TX	07299570	8,321	1986-88
Groesbeck Creek near Quanah, TX	07299580	322	1986-88
Bitter Creek near Hollis, OK	07299705	10.4	1986-88
Sandy Creek near Gould, OK	07299707	169	1987-88
Sandy Creek near Louis, OK	072997087	224	1987-88
Tributary to Sandy Creek near Lincoln, OK	07299709	6.32	1987-88
Sandy Creek at Lincoln, OK	072997092		1986-88
Sandy Creek near Lincoln, OK	072997095	255	1987-88
Sandy Creek near Eldorado, OK	07299710	280	1986-88
Sandy Creek at Eldorado, OK	07299712	297	1987-88
Sandy Creek South of Eldorado, OK, formerly published as Sandy Creek in Eldorado Township, OK	07299714	312	1987-88
Sandy Creek Southeast of Eldorado, OK, formerly published as Sandy Creek near OKlahoma-Texas State-line	07299716	320	1986-88
Wanderers Creek near Odell, TX	07299732	156	1986, 1988
Gypsum Creek North of Eldorado, OK, formerly published as Tributary to Gypsum Creek near Jackson Co Line, OK	07299760	2.12	1986-88
Gypsum Creek near Duke, OK	07299764	14	1986-88
Tributary to Gypsum Creek near Eldorado, OK	07299766	4.53	1986-88

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
Gypsum Creek near Prairie Hill, OK	07299768	28.1	1987-88
Gypsum Creek at Creta, OK	07299770	34.6	1987-88
Gypsum Creek near Creta, OK	07299775	56.1	1987-88
Gypsum Creek near Olustee, OK	07299780	99.2	1986-88
Salt Fork Red River near Wellington, TX	07300000	1,222	1987-88
Panther Creek near Wellington, TX	07300005	4.61	1987-88
Salt Fork Red River near Dodson, TX	07300120	1,297	1987-88
Tributary to Salt Fork Red River near Madge, OK	07300140	4.79	1986-88
Salt Fork Red River near Madge, OK	07300145	1,388	1986-88
Bear Creek near Vinson, OK	07300150	7.24	1987-88
Salt Fork Red River near Vinson, OK	07300400	14.21	1959-63, 1976-78, 1987-88
Cave Creek near Reed, OK	07300470	46.7	1986-88
Mulberry Creek near Mangum, OK	07300485	9.3	1986-88
Fish Creek near Mangum, OK	07300495	5.3	1987-88
Salt Fork Red River at Mangum, OK	07300500	1,566	1938-51, 1953-56, 1959-70, 1972, 1974-79, 1986-89
Bitter Creek near Altus, OK	07300600		1986-88
Turkey Creek near McQueen, OK	07300960	51.5	1987-88
Turkey Creek Near Gould, OK, formerly published asTurkey Creek at Jackson-Harmon County-line, OK	07300965	76.9	1987-88
Turkey Creek near Duke, OK	07300970	84.8	1986-88
Tributary to Turkey Creek near Duke, OK	07300975	56.5	1987-88
Turkey Creek at U.S. Highway 62 near Duke, OK	07300980	148	1986-88
Cottonwood Creek near Duke, OK	07300985	54.5	1986-88
Spring Branch at Duke, OK	07300990	14	1986-88
Turkey Creek near Prairie Hill, OK	07300995	238	1987-88
Tributary to Turkey Creek near Prairie Hill, OK	07300997	13.7	1987-88
Horse Branch near Victory, OK	07301020	25.3	1986-88
Tributary to Horse Branch Northwest of Victory, OK, (formerly published as Trib to Horse Branch in Duke Twnp near Victory, OK)	07301030	8.39	1986-88

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
Tributary to Horse Branch at Victory, OK	07301040	0.23	1986, 1988
Turkey Creek near Altus, OK	07301050	309	1986-88
Turkey Creek at Olustee, OK	07301100	317	1986-88
Tributary to Salt Fork Red River near Elmer, OK	07301105		1986-88
Salt Fork Red River near Elmer,OK	07301110	1,878	1979-94
Red River near Elmer, OK	07301150	16,459	1986-88
North Fork Red River near Texola, OK	07301315	1,284	1976-77
Sweetwater Creek near Sweetwater, OK	07301420	424	1986-90
North Fork Red River near Erick, OK	07301450		1960-63
North Fork Red River near Sayre, OK	07301481	2,159	1987-90
North Fork Red River near Carter, OK	07301500	2,337	1948-53, 1959-63, 1968-80, 1985-90
North Fork Red River near Granite, OK	07302000	2,494	1938-44
Altus Canal Blw Lake Altus near Lugert, OK	07302510		1949-50
North Fork Red River Blw Altus Dam near Lugert, OK	07303000	2,515	1962-63, 1975-80, 1987-88
Elm Fork North Fork Red R at Salton Crossing, OK	07303395		1959-61, 1973-79
Elm Fork of the North Fork Red River near Carl, OK	07303400	416	1960-63 1968-82 1994-97
Fish Creek near Vinson, OK	07303402	31.5	1978-79
Salt Creek near Vinson, OK	07303404	5.64	1978-79
Elm Fork N Fork Red Rvr near Vinson, OK	07303406	428	1978-81
Elm Fork of North Fork Red River near Reed, OK	07303420	579	1978, 1981-82
Elm Fork of North Fork Red River near Mangum, OK	07303500	838	1938-47, 1951, 1960-65, 1968-80
Elk Creek near Hobart, OK	07304500	549	1949-51, 1955, 1958-63, 1969-90

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
North Ford Red River near Headrick, OK	07305000	4,244	1951-57, 1958-63, 1968-93
West Otter Creek at Snyder Lk near Mt. Park, OK	07305500	132	1947, 1960, 1988
Otter Creek near Snyder, OK	07307010	217	1959-63, 1987-89
North Fork Red River near Tipton, OK	07307028	4,691	1960, 1985-89
East Cache Creek near Elgin, OK	07309000	248	1975-80
East Cache Creek near Walters, OK	07311000	675	1947, 48, 1951-55, 1958-63, 1970-93
Blue Beaver Creek near Cache, OK	07311200	24.6	1964-96
Deep Red Run near Randlett, OK	07311500	617	1987-90
Beaver Creek near Lawton, OK	07312900		1947-48, 1961
Little Beaver Creek near Duncan, OK	07313000	158	1947-51, 1955, 1960, 1962-63
Beaver Creek near Waurika, OK	07313500	563	1986-90
Mud Creek near Courtney, OK	07315700	572	1985-90
Washita River near Reydon, OK	07316350	498	1949, 1977
Washita River near Cheyenne, OK	07316500	794	1938-40, 1942-47, 1950, 1960-61, 1969-73, 1985-90
Sandstone Creek SWS 17 near Cheyenne, OK	07319000	10.1	1968-70
Sandstone Creek SWS 10a near Elk City, OK	07320000	2.87	1975, 1979
Sandstone Creek SWS 1 near Cheyenne, OK	07324000	5.33	1968-70, 1979
Washita River near Moorewood, OK	07324150		1969-71
Quartermaster Creek near Hammon, OK	07324190		1969-71
Washita River near Hammon, OK	07324200	1,387	1969-87, 1989-90

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
Washita River near Foss, OK	07324400	1,551	1928, 1946-48, 1950-51, 1956-57, 1969-87, 1989-90
Barnitz Creek near Arapaho, OK	07324500	243	1947-49, 1951-52, 1955
Washita River near Clinton, OK	07325000	1,977	1938-45, 1947-50, 1959-63, 1975, 1987-90
Washita River at Carnegie, OK	07325500	3,129	1942-51, 1955-90
Spring Creek near Eakly, OK	07325753		1960-61
Cobb Creek near Eakly, OK	07325800	132	1987-90
Cobb Creek near Fort Cobb, OK	07326000	313	1943-48, 1950-51, 1959-60, 1962-63, 1986-90
Washita River at Anadarko, OK	07326500	3,656	1954, 1962-80, 1987-90
Tonkawa Creek near Anadarko, OK	07326720	26	1967-71
Sugar Creek near Gracemont, OK	07327000	208	1949-50, 1960, 1962-74
Delaware Creek near Anadarko, OK No. 131	07327040	40.1	1962-77
Salt Creek near Chickasha, OK	07327150	23.8	1967-77
Washita River near Chickasha, OK	07327300		1959-61
West Salt Creek near Chickasha, OK	07327320	22	1967-71
West Bitter Creek near Tabler, OK	07327420	59.4	1960-61, 1964-71
Spring Creek near Blanchard, OK	07327432	1	1968-71
Spring Creek near Tabler, OK	07327435	2	1967-71
Spring Creek Trib near Middleberg, OK	07327437		1968-71

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
East Bitter Creek near Tabler, OK	07327440	35.2	1960-61, 1964-77
Little Washita River near Ninnekah, OK	07327490	208	1948-52, 1954-55, 1963-78
Little Washita River at Ninnekah, OK	07327500	227	1960-63
Washita River near Tabler, OK	07328000	4,706	1942-53
Winter Creek near Alex, OK	07328070	33	1985-87
Washita River at Alex, OK	07328100	4,787	1962-80, 1986, 1989-90
Finn Creek near Payne, OK	07328250		1960-61
Washington Creek near Pauls Valley	07328550	7.56	1991-94
Rush Creek at Purdy, OK	07329000	145	1938-53, 1985-90
Rush Creek near Maysville, OK	07329500	206	1938-39, 1944, 1953-75, 1977
Wildhorse Creek near Hennepin, OK	07329660		1949-50
Wildhorse Creek near Hoover, OK	07329700	604	1954-55, 1962-63, 1969-71, 1985-90
Honey Creek near Turner Falls, OK	07329790		1949, 1951
Honey Creek near Davis, OK	07329810	18.7	1953, 1955-56
Rock Creek N of Sulphur, OK	07329843		1958-60
Outflow from Vendome Well at Sulphur, OK	07329851		1985-90
Rock Creek at Sulphur, OK	07329852	44.1	1990-95
Rock Creek S of Platt Natl Pk near Sulphur, OK	07329853		1959-60
Rock Creek at Dougherty, OK	07329900	138	1951-57, 1960-63
Washita River near Dickson, OK	07331000	7,202	1944-95
Mill Creek near Ravia, OK	07331250	89.2	1968-69
Washita River near Tishomingo, OK	07331290		1953-55
Pennington Creek near Reagan, OK	07331300	65.7	1951-55, 1957-59

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
Butcher Pen Creek near Tishomingo, OK	07331450		1960-61
Red River at Denison Dam near Denison, TX	07331600	39,720	1942-43, 1945-49, 1959-85
Red River near Colbert, OK	07332000	39,777	1930-31, 1936-62
Blue River at Connerville, OK	07332350		1951-56, 1961-62, 1977-79
Blue River near Connerville, OK	07332390	162	1977-79
Blue River at Armstrong, OK	07332450	224	1976-77
Blue River near Blue, OK	07332500	476	1936, 1938-42, 1944-50, 1953-80
Muddy Boggy Creek near Coalgate, OK	07332850		1961-62
Coal Creek near Lehigh, OK	07332900	8.1	1905, 1977-81
Muddy Boggy Creek at Atoka, OK	07332950	445	1978-81
Chickasaw Creek near Stringtown, OK	07333500	32.7	1955-58, 1960
Mcgee Creek near Farris, OK	07333910	176	1908, 1976-82
Muddy Boggy Creek near Farris, OK	07334000	1,087	1938-81
Byrds Mill Spring near Fittstown, OK	07334200		1953, 1955, 56, 1990-93
Clear Boggy Creek near Tupelo, OK	07334400	248	1957-58, 1960-62, 1983
Leader Creek at Tupelo, OK	07334420	64.3	1958, 1960
Clear Boggy Creek near Wapanucka, OK	07334500	516	1940-42
Clear Boggy Creek Abv Caney Creek near Caney, OK	07334800		1976-77
Clear Boggy Creek near Caney, OK	07335000	720	1943-80
Muddy Boggy Creek near Unger, OK	07335300	2273	1961-62, 1985-90
Red River at Arthur City, TX	07335500	44,531	1938-80, 1982

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER BASIN			
Kiamichi River near Big Cedar, OK	07335700	40.1	1966-96
Kiamichi River near Clayton, OK	07335790	708	1976-77
Kiamichi River near Antlers, OK	07336200	1,138	1962, 1972-81
Kiamichi River near Belzoni, OK	07336500	1,423	1938-40, 1943-72
Kiamichi River near Sawyer, OK	07336700		1961-62, 1975, 1977-80
Red River near Valliant, OK	07336730		1921, 1923, 1970-76
Red River near Millerton, OK	07336760		1970-76
Little River near Cloudy, OK	07337100	324	1976-80
Little River near Ringold, OK	07337200		1961-62
Little River near Wright City, OK	07337500	645	1945-47, 1949, 1961-73, 1975-77
Glover River near Glover, OK	07337900	315	1961-80
Little River Blw Lukfata Creek, near Idabel, OK	07338500	1,226	1930-31, 1938-40, 1944-54, 1960-80
Mountain Fork near Smithville, OK	07338840		1976-80
Mountain Fork near Eagletown, OK	07339000	787	1938-40, 1944-45, 1947-48, 1960-70, 1973, 1975-80
Mountain Fork Blw Eagletown, OK	07339010		1960-63
Little River near Cerrogordo, Ar	07339100		1976, 1978
Blue R at Pexton Ranch near Milburn, OK	341835096342901		1976, 1978
Coal Ck Trib near Lehigh	342652096152202		1977-81
Coal Ck Tributary	342743096154701		1977-81
Little Blue Creek at Pontotoc, OK	342914096370701	11.6	1977-78
Blue River at Ford, OK	343554096250801		1976-77


U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

INTRODUCTION

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

Volumes 1 and 2 of this report includes records on both surface water and ground water in the State. Specifically they contain: (1) Discharge records for 128 streamflow-gaging stations, and 29 partial-record or miscellaneous streamflow stations, (2) stage and content records for 12 lakes , reservoirs and gage height records for 1 station; (3) water-quality records for 67 streamflow-gaging stations; (4) water-level records for 1 observation well.

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

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Oklahoma were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface Water Supply of the United States, Parts 7A and 7B." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 under the title "Ground-Water Levels in the United States," and 1980 to 1989 under the title "Ground-Water Levels in Observation Wells in Oklahoma." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report OK-98-2" For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports also will be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

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

COOPERATION

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

Oklahoma Water Resources Board.

Oklahoma Conservation Commission

Oklahoma City Water Utilities Trust.

City of Tulsa.

Oklahoma State University

Oklahoma Geological Survey.

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

Corps of Engineers, U.S. Army

Bureau of Reclamation, U.S. Department of Interior

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

Organizations that supplied data are acknowledged in the station descriptions.

SPECIAL NETWORKS AND PROGRAMS

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

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

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

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

Assessment activities have begun in about two-thirds of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

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

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

EXPLANATION OF THE RECORDS

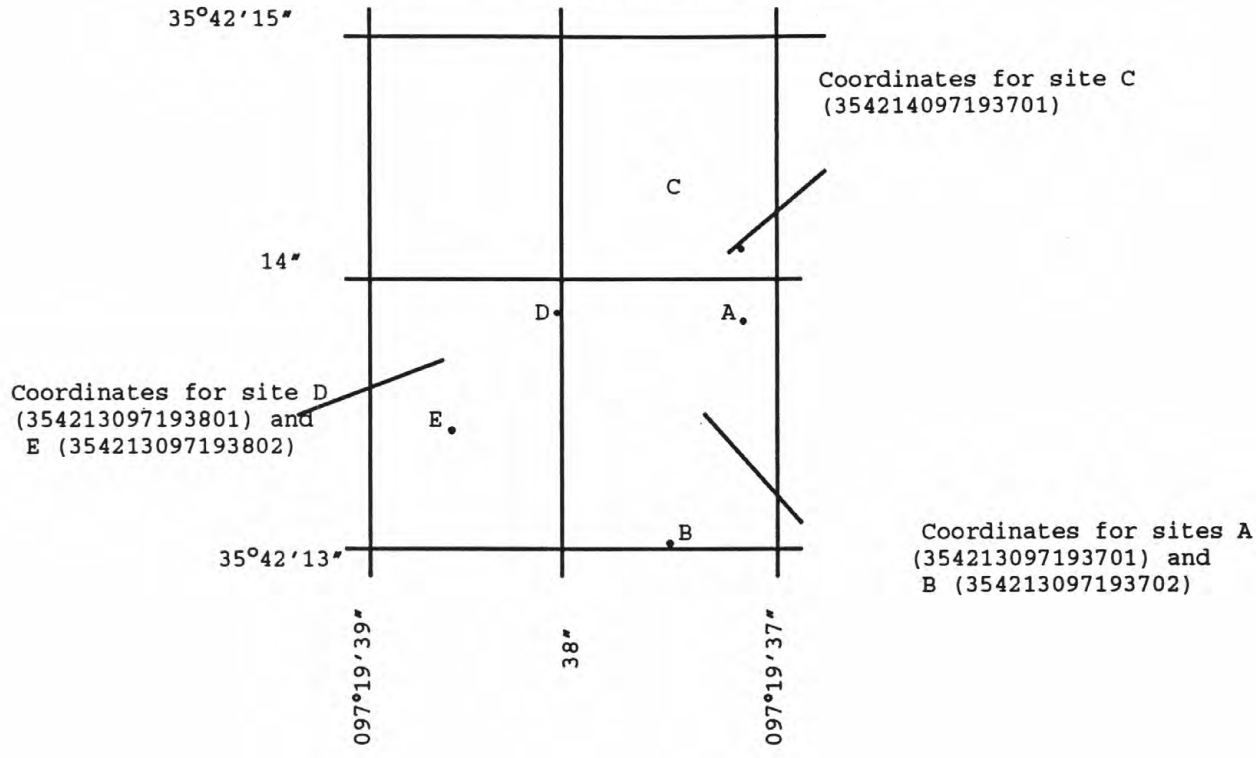
The surface-water and ground-water records published in this report are for the 1998 water year that began Oct. 1, 1997 and ended Sept. 30, 1998. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface water and water levels for ground water. The locations of the stations where the data were collected are shown in figures 1-3. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

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

Downstream Order System

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



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

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

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete number for each station, such as 07152500, which appears just to the left of the station name, includes the two-digit Part number "07" plus the up to 13-digit downstream-order number "152500." The Part number designates the major river basin; for example, part "07" is the Lower Mississippi River basin.

Latitude-Longitude System

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

Records of Stage and Water Discharge

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

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

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

Data Collection and Computation

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

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals or with electronic data loggers. Measurements of discharge are made with current meters using methods adapted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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

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

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

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

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

Data Presentation

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

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

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

Station Manuscript

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

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

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

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to sea level (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

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

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

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

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity

table when daily contents are given.

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

Data Table of Daily Mean Values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN.") or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of Monthly Mean Data

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

Summary Statistics

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

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

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnote.

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

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

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

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

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

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

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

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

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

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

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

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

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

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

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

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

Hydrograph

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

Data collected at partial-record stations follow the information for continuous-record sites. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called miscellaneous sites.

Identifying Estimated Discharge

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

Accuracy of the Records

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

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

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

Other Records Available

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

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

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 2.

Arrangement of Records

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

On-site Measurements and Sample Collection

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

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors which must be evaluated by the collector.

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

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

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

Sediment

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

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

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

Laboratory Measurements

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

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

Data Presentation

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

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

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

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

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

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

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

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

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

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

Remarks Codes

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

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

Water Quality-Control Data

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

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

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

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

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

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

Filter blank - a blank soltion that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

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

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

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

Replicate Samples--Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a

duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are:

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

Split sample - a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

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

Dissolved Trace-Element Concentrations

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

Nutrient Calculations

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

Records of Ground-Water Levels

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

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

Data Collection and Computation

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

Water-level records are obtained from direct measurements with a steel tape or punched tape of the water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in each well description.

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

Data Presentation

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

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

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

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

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

casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) sea level; it is reported with a precision depending on the method determination.

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

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

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

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

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at

http://www.water.usgs.gov

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

DEFINITIONS OF TERMS

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

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

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

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

Aroclor is the registered trade mark for a group of polychlorinated biphenyls which were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific four-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type and the last two digits represent the weight percent of the hydrogen substituted chlorine.

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

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

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

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°C ± 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

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

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

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

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

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

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

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

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

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

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

Cubic foot per second (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 [$(ft^3/s)/mi^2$] 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.

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

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

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

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

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

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

water.

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

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

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

HWM is a high-water mark or flood mark.

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

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

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

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

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

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

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

Organism is any living entity.

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

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

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

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

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

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

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel....	2.0 - 64.0	Sieve

The particle-site 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 know 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 [mg C/m3.time)] for periphyton and macrophytes and [mg C/(m3.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 [mg O/(m3.time)] for periphyton and macrophytes and [mg O/m3.time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

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

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

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

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

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil

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

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

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

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

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

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

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

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

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

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

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total"

amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

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

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchial 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	Hexagenia
Species	hexagenia limbata

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

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

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

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

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, Oct. 1 through Sept. 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending Sept. 30, 1995, is called the "1995 water year."

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

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

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

1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, 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. MacCary: 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 measurement 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-Al0. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. *Measurement of discharge by the 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*, Revised, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS- -TWRI Book 3, Chapter A12. 1986. 34 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. Rathbun, Nobuhiro Yotsukura, G. W. Parker, and L. L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.

3-A19. *Levels at streamflow gaging stations,* by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 31 pages.

3-A20. *Simulation of soluable waste transport and buildup in surface waters using tracers,* by F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.

3-B1. *Aquifer-test design, observation, and data analysis,* by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction,* by G. D. Bennett: USGS-- TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers,* by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

3-B4. *Regression modeling of ground-water flow,* by R. L. Cooley and R. L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.

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

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

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

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

3-C1. *Fluvial sediment concepts,* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment,* by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. *Some statistical tools in hydrology,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. *Frequency curves,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. *Low-flow investigations,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply,* by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. *Regional analyses of streamflow characteristics,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. *Computation of rate and volume of stream depletion by wells,* by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments,* by M.J. Fishman and L. C. Friedman, editors: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy,* by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

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

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples,* by L. J. Britton and P. E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

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

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

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

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

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

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

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

7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

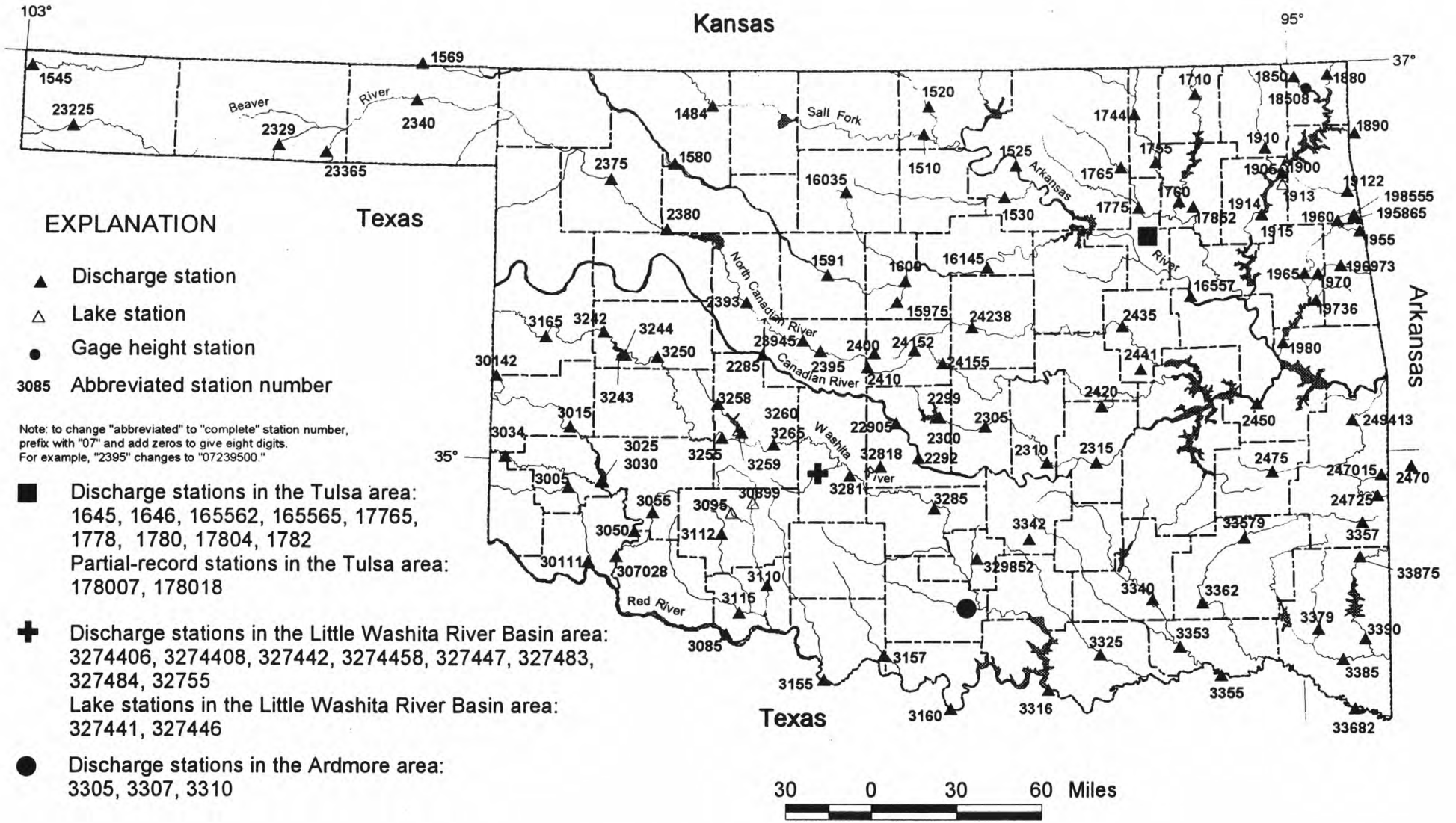


Figure 1.--Locations of continuous surface-water stations, water year 1998

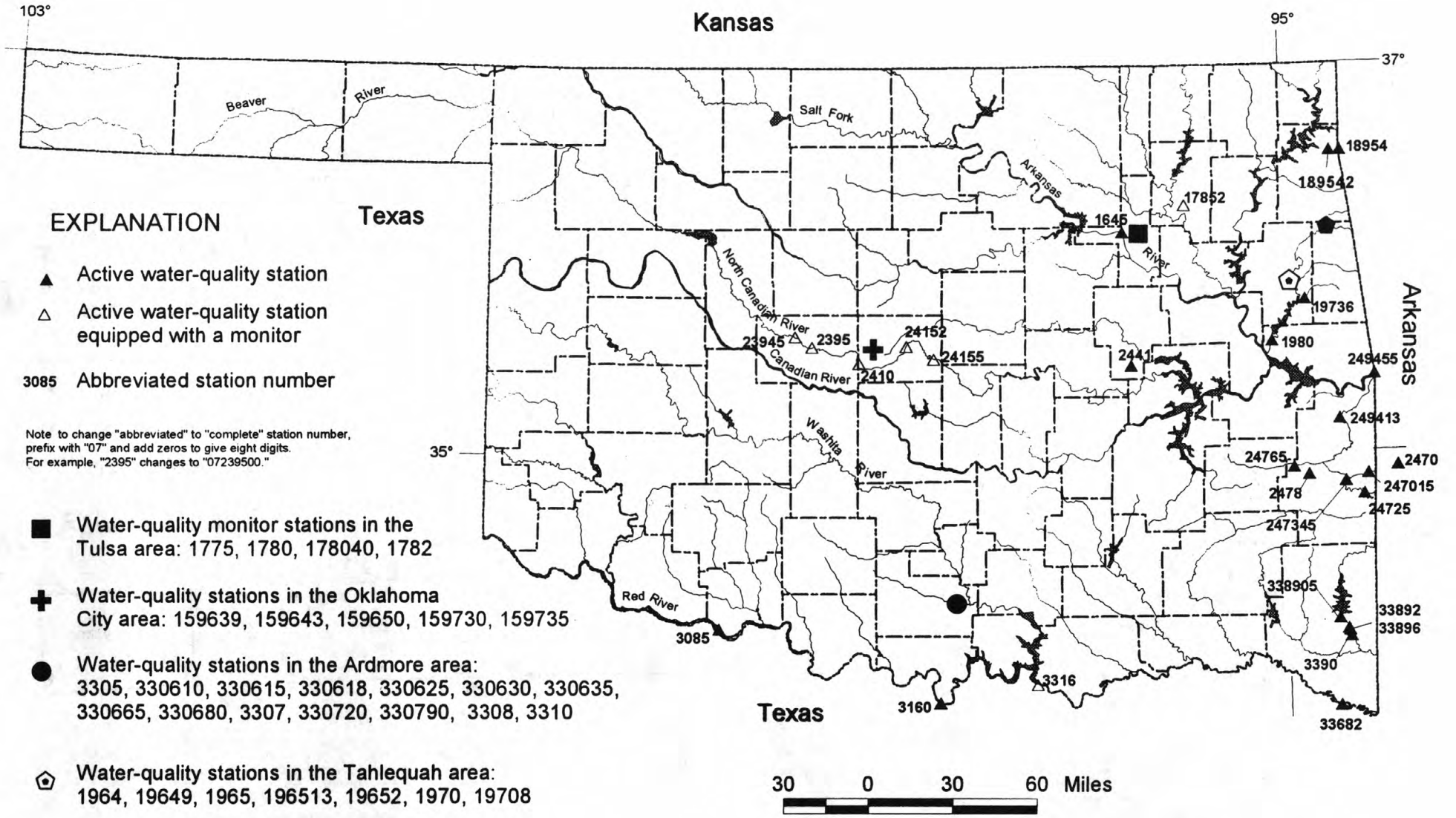


Figure 2.--Locations of water-quality stations, water year 1998

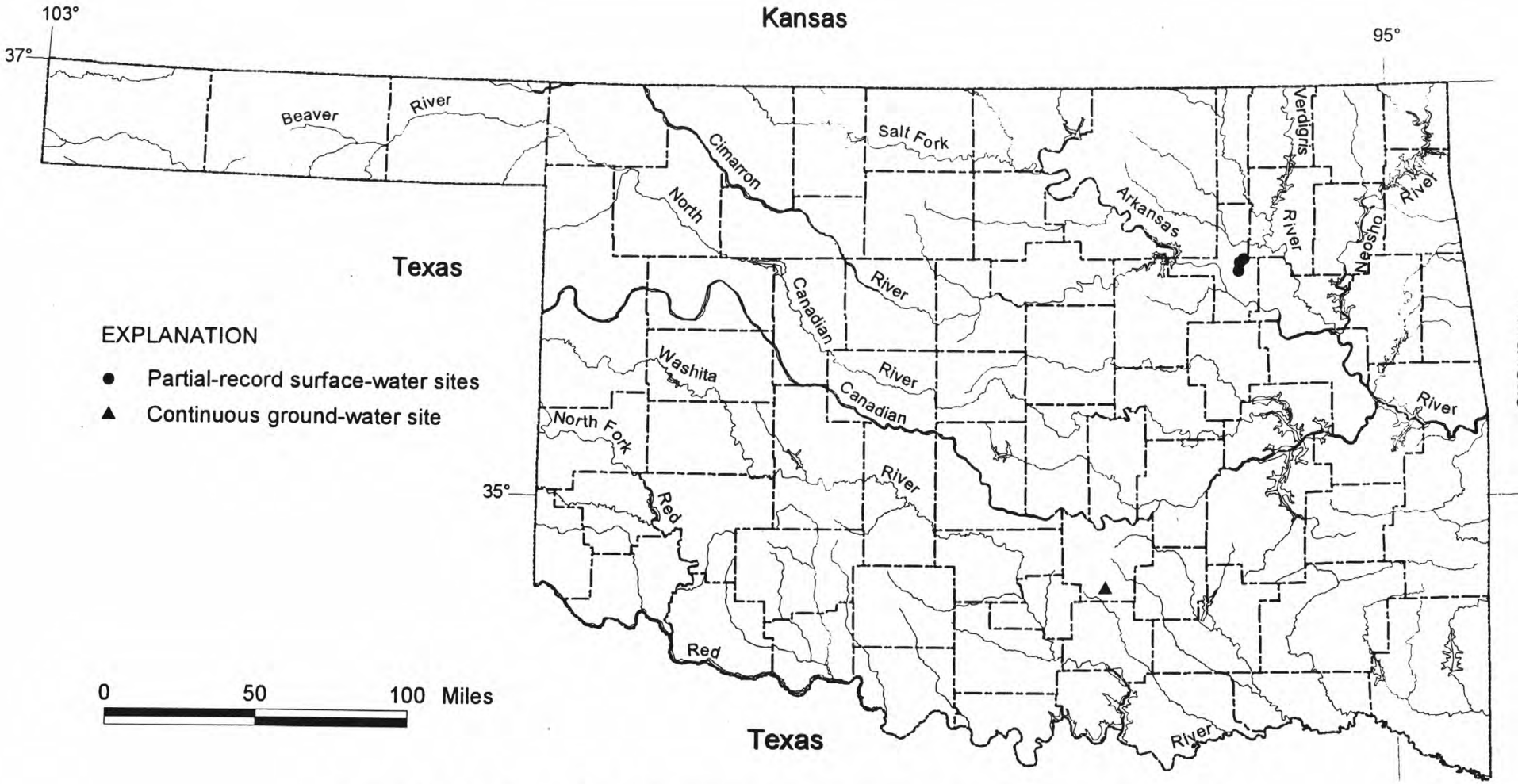


Figure 3.--Locations of network partial-record surface-water stations and ground-water wells, water year 1998

07300500 SALT FORK RED RIVER AT MANGUM, OK

LOCATION.--Lat 34°51'30", long 99°30'30", in SW ¼ SE ¼ sec.34. T.5 N, R.22 W., Greer County, Hydrologic Unit 11120202, near left bank on downstream side of pier of bridge on State Highway 34, 0.5 mi south of Mangum, 13.0 mi downstream from Fish Creek, and at mile 35.5.

DRAINAGE AREA.--1,566 mi^2, of which 209 mi^2 is probably noncontributing.

PERIOD OF RECORD.--April 1905 to June 1906, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1241: 1938.

GAGE.--Water-stage recorder. Datum of gage is 1,490.87 ft above sea level (levels by U.S. Bureau of Reclamation). Apr. 11, 1905 to June 30, 1906, nonrecording gage at site 0.2 mi upstream at different datum. Oct. 1, 1937 to Nov. 8, 1938, nonrecording gage at present site and datum.

REMARKS.--Records good.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/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 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	75	107	118	362	234	189	142	38	1.7	1.1	.14
2	24	70	118	118	197	245	185	126	36	1.9	.92	.18
3	21	64	130	113	174	240	169	119	32	1.7	1.1	.23
4	19	65	133	208	159	242	161	104	30	1.6	2.3	.12
5	19	68	134	168	166	256	152	93	32	1.8	2.9	.00
6	22	67	121	164	172	271	150	88	36	2.2	2.7	.00
7	38	68	119	150	173	386	149	85	35	1.8	2.4	.00
8	37	70	123	145	177	405	146	82	36	1.8	1.7	.00
9	36	73	126	130	192	337	137	94	34	1.7	1.3	.01
10	52	84	121	123	196	297	136	132	33	1.8	.83	.02
11	148	84	119	125	194	292	135	216	35	2.5	1.6	.00
12	265	86	114	126	181	288	136	167	29	2.3	2.8	.00
13	225	101	107	123	177	277	132	127	27	3.0	2.6	.04
14	208	122	100	125	178	282	114	101	24	2.8	2.4	.20
15	149	137	95	129	192	424	109	178	20	2.5	1.9	.29
16	120	130	99	125	210	1360	110	347	18	3.1	1.6	.42
17	99	111	108	125	348	936	118	184	16	3.0	1.3	e.37
18	90	107	101	121	366	466	121	106	13	2.7	.90	e.40
19	82	114	99	117	439	417	121	87	12	2.8	.79	e.36
20	78	115	102	116	431	338	128	79	11	e2.2	.88	e.38
21	107	106	163	113	425	238	132	73	9.7	1.9	1.1	.37
22	93	104	166	115	380	205	131	71	11	1.6	.91	.30
23	110	103	184	113	393	241	123	70	8.5	1.6	.75	.58
24	99	107	309	109	350	292	114	65	6.3	1.9	.56	1.3
25	82	108	212	112	321	284	107	58	5.0	1.9	.47	1.3
26	73	108	210	110	293	252	108	75	4.4	1.6	.45	.72
27	75	109	184	105	269	258	133	128	3.8	1.5	.38	.56
28	71	115	160	101	243	239	142	76	2.3	1.7	.26	.56
29	76	101	139	99	---	248	164	58	1.6	1.2	.26	.61
30	77	100	130	100	---	221	169	49	1.5	.92	.11	.57
31	78	---	120	229	---	189	---	41	---	1.0	.16	---
TOTAL	2699	2872	4253	3975	7358	10660	4121	3421	601.1	61.72	39.43	10.03
MEAN	87.1	95.7	137	128	263	344	137	110	20.0	1.99	1.27	.33
MAX	265	137	309	229	439	1360	189	347	38	3.1	2.9	1.3
MIN	19	64	95	99	159	189	107	41	1.5	.92	.11	.00
AC-FT	5350	5700	8440	7880	14590	21140	8170	6790	1190	122	78	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1998, BY WATER YEAR (WY)

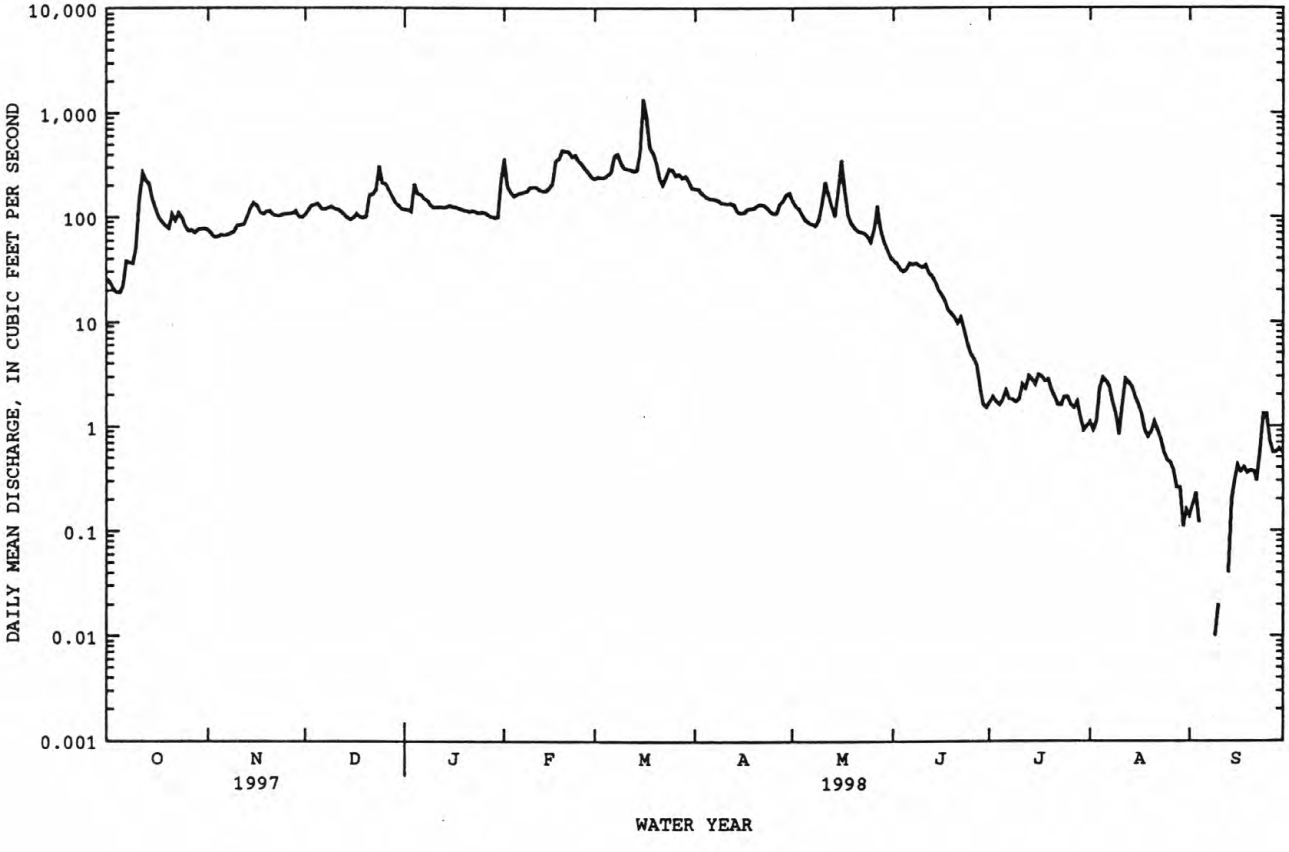
MEAN	79.8	31.5	38.5	47.5	56.8	54.0	105	266	242	65.8	41.2	52.5
MAX	919	196	148	199	263	344	1292	1389	1602	575	539	424
(WY)	1961	1987	1992	1960	1998	1998	1997	1957	1941	1953	1995	1995
MIN	.000	.000	.000	.000	.000	.12	.000	.000	.000	.000	.000	.000
(WY)	1941	1940	1940	1940	1953	1971	1955	1953	1952	1963	1943	1939

e Estimated

07300500 SALT FORK RED RIVER AT MANGUM, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1938 - 1998	
ANNUAL TOTAL	95552		40071.28			
ANNUAL MEAN	262		110		90.1	
HIGHEST ANNUAL MEAN					277	1941
LOWEST ANNUAL MEAN					12.3	1940
HIGHEST DAILY MEAN	13000	Apr 4	1360	Mar 16	22600	May 28 1978
LOWEST DAILY MEAN	13	Sep 21	.00	at times	[a].00	Oct 2 1937
ANNUAL SEVEN-DAY MINIMUM	18	Sep 15	.00	Sep 5	.00	Aug 14 1938
INSTANTANEOUS PEAK FLOW			1670	Mar 16	72000	May 16 1957
INSTANTANEOUS PEAK STAGE			7.69	Mar 16	14.70	Jun 16 1938
ANNUAL RUNOFF (AC-FT)	189500		79480		65290	
10 PERCENT EXCEEDS	442		246		130	
50 PERCENT EXCEEDS	103		101		18	
90 PERCENT EXCEEDS	37		.74		.00	

[a]No flow at times in most years.



07301110 SALT FORK RED RIVER NEAR ELMER, OK

LOCATION.--Lat 34°28'44", long 99°22'55", in NW ¼ NE ¼ sec.15, T.1 S., R.21 W., Jackson County, Hydrologic Unit 11120202, on right bank at bridge on State Highway 5, 1.7 mi west of Elmer, and at mile 3.5.

DRAINAGE AREA.--1,878 mi^2, of which 209 mi^2 is probably noncontributing.

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,258.55 ft above sea level.

REMARKS.--Records poor. Low flows sustained at times by irrigation returns from Lake Altus.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 16	1430	7,020	8.00	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	138	e156	210	e500	e490	e421	230	90	93	83	66
2	136	130	e158	199	e335	e520	385	204	77	99	83	83
3	121	123	e169	210	e260	e580	360	186	72	109	93	68
4	107	122	e180	e298	e240	e750	330	185	65	106	102	54
5	98	122	e183	e572	e223	e1000	321	195	61	73	106	36
6	91	117	e180	e450	e220	e1210	320	200	62	64	120	28
7	98	112	e169	e390	e230	e1300	307	206	71	59	78	23
8	112	116	e166	e350	e245	e1180	298	180	82	44	82	21
9	121	115	e164	e290	e250	e1000	275	201	91	55	72	18
10	114	116	e177	e290	e255	e905	255	203	93	58	69	23
11	129	120	e170	e270	e263	e890	244	202	102	49	104	48
12	443	127	e171	e250	e258	e810	243	256	84	56	138	59
13	744	139	e159	e240	e253	e790	238	247	82	58	96	78
14	448	161	e155	e225	e245	e800	237	219	81	53	73	54
15	318	e220	e152	e210	e241	e1090	226	239	106	59	66	53
16	225	e222	151	e210	e475	5350	215	360	126	72	95	66
17	182	e216	153	e200	e650	e4130	201	455	147	80	89	64
18	162	e204	159	e194	942	e2070	223	317	128	74	58	52
19	149	e185	159	e188	1690	e1410	248	229	105	54	50	26
20	137	e182	153	e185	1530	e1210	230	192	89	55	81	23
21	149	e180	e298	e170	935	e925	231	147	76	58	102	22
22	204	e172	e604	e164	711	e737	253	144	84	48	91	38
23	234	e162	e620	e159	646	e616	247	153	71	60	88	30
24	269	e160	e1510	e156	582	e631	254	154	54	62	115	18
25	272	e160	e1340	e153	502	e589	240	151	47	64	104	14
26	174	e171	e566	e150	460	e550	218	174	49	60	106	17
27	158	e169	e414	e167	e500	e564	195	249	51	43	86	15
28	152	e169	e322	e188	e540	e536	207	215	50	48	195	14
29	148	e178	291	e182	---	e517	222	169	69	59	161	12
30	143	e172	257	e194	---	e495	219	145	79	70	90	11
31	141	---	e226	e295	---	e459	---	116	---	66	74	---
TOTAL	6131	4680	9732	7409	14181	34104	7863	6523	2444	2008	2950	1134
MEAN	198	156	314	239	506	1100	262	210	81.5	64.8	95.2	37.8
MAX	744	222	1510	572	1690	5350	421	455	147	109	195	83
MIN	91	112	151	150	220	459	195	116	47	43	50	11
AC-FT	12160	9280	19300	14700	28130	67650	15600	12940	4850	3980	5850	2250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1998, BY WATER YEAR (WY)

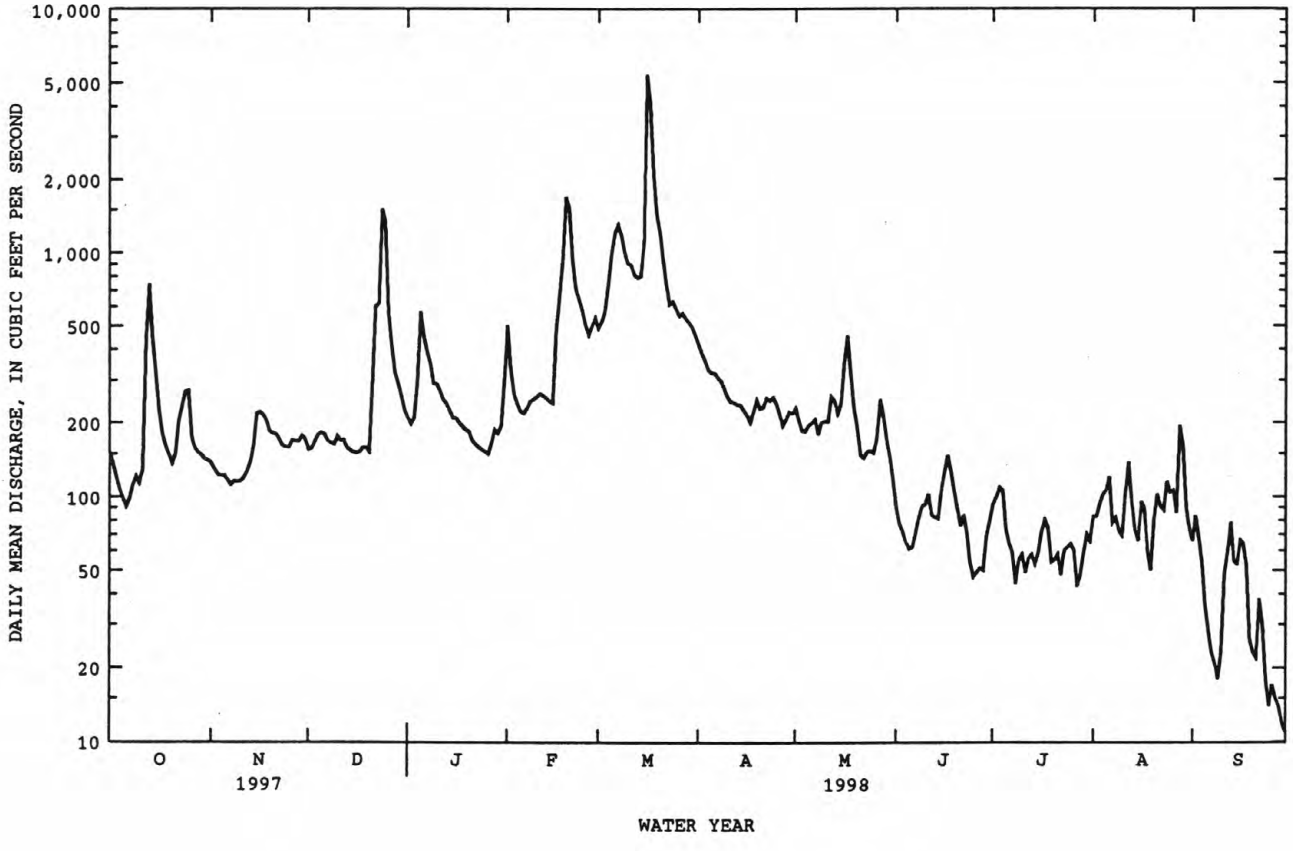
MEAN	267	138	140	131	178	208	289	586	699	194	304	220
MAX	1828	680	701	362	697	1100	2109	2566	2836	641	1681	950
(WY)	1987	1987	1992	1993	1997	1998	1997	1980	1995	1993	1995	1986
MIN	3.79	4.72	16.5	13.3	13.7	21.1	13.9	7.51	61.1	9.25	4.19	7.90
(WY)	1985	1985	1983	1981	1981	1982	1982	1984	1994	1981	1981	1981

e Estimated

07301110 SALT FORK RED RIVER NEAR ELMER, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1980 - 1998	
ANNUAL TOTAL	222700		99159			
ANNUAL MEAN	610		272		280	
HIGHEST ANNUAL MEAN					594	1997
LOWEST ANNUAL MEAN					71.2	1983
HIGHEST DAILY MEAN	10300	Apr 5	5350	Mar 16	28200	Aug 3 1995
LOWEST DAILY MEAN	30	Sep 21	11	Sep 30	.08	Sep 4 1981
ANNUAL SEVEN-DAY MINIMUM	40	Sep 15	14	Sep 24	.12	Aug 30 1981
INSTANTANEOUS PEAK FLOW			[a]7020	Mar 16	44900	Oct 20 1983
INSTANTANEOUS PEAK STAGE			[a]8.00	Mar 16	[b]16.06	May 29 1987
ANNUAL RUNOFF (AC-FT)	441700		196700		202500	
10 PERCENT EXCEEDS	1420		575		485	
50 PERCENT EXCEEDS	211		167		87	
90 PERCENT EXCEEDS	115		55		14	

[a]May have been higher.
[b]From high-water mark.



07301420 SWEETWATER CREEK NEAR SWEETWATER, OK

LOCATION.--Lat 35°25'20", long 99°58'08", in NW ¼ NE ¼ sec.20, T.11 N, R.26 W., Roger Mills-Beckham County line, Hydrologic Unit 11120302, on right bank downstream bridge piling of State Highway 152, 0.4 mi downstream from Freezeout Creek, 3.3 mi west of Sweetwater, and at mile 16.0.

DRAINAGE AREA.--424 mi^2, of which 20 mi^2 is probably noncontributing.

PERIOD OF RECORD.--April 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,087.76 ft above sea level.

REMARKS.--Records good. U.S. Bureau of Reclamations' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	31	37	58	49	39	64	50	20	2.7	.99	.43
2	18	32	37	56	49	38	63	47	19	2.7	1.0	.39
3	17	30	41	56	46	38	59	44	18	2.6	1.4	.37
4	17	29	40	92	45	38	55	44	16	2.3	2.0	.30
5	17	30	37	84	45	38	56	41	16	2.3	2.2	.24
6	16	31	36	75	47	37	57	39	16	2.3	2.6	.19
7	16	31	36	66	48	42	59	37	17	2.3	2.6	.17
8	21	32	37	60	47	55	55	36	17	3.0	2.3	.19
9	37	34	38	56	47	50	52	99	16	3.6	1.8	.19
10	30	35	36	54	46	45	50	119	15	3.8	1.1	.18
11	41	37	35	53	43	43	51	87	15	3.0	1.2	.17
12	111	37	35	54	43	41	49	64	14	2.3	2.7	.17
13	121	39	35	53	43	41	46	54	13	2.2	2.7	.17
14	72	53	35	52	43	42	45	47	11	2.2	4.5	.19
15	54	50	35	52	44	54	44	64	11	2.1	5.6	.18
16	45	43	34	51	46	237	43	55	11	2.8	4.2	.19
17	41	40	34	48	62	304	45	47	10	2.2	3.2	.24
18	38	40	33	48	66	188	48	43	8.8	e1.7	2.6	.25
19	35	38	34	49	57	165	47	40	8.1	e1.4	2.0	.33
20	33	37	33	48	53	155	45	37	7.5	e1.2	1.8	.50
21	32	35	42	47	49	125	44	35	6.9	e1.1	1.6	.44
22	32	34	68	46	47	106	44	34	6.5	e1.1	1.3	.37
23	32	33	79	46	47	95	44	31	6.0	1.2	1.1	.59
24	34	33	142	46	46	88	46	29	5.3	1.1	.94	.89
25	33	33	114	46	47	84	42	28	4.7	.89	.76	.83
26	32	35	92	46	43	80	39	28	4.0	.77	.65	.54
27	31	37	78	45	41	84	55	28	3.5	.75	.52	.39
28	31	42	73	45	39	84	71	26	3.1	1.1	.67	.58
29	31	42	68	44	---	77	62	24	3.0	.81	.65	.34
30	31	38	63	44	---	72	57	22	2.9	.75	.59	.28
31	32	---	59	45	---	68	---	20	---	.78	.46	---
TOTAL	1149	1091	1596	1665	1328	2653	1537	1399	325.3	59.05	57.73	10.29
MEAN	37.1	36.4	51.5	53.7	47.4	85.6	51.2	45.1	10.8	1.90	1.86	.34
MAX	121	53	142	92	66	304	71	119	20	3.8	5.6	.89
MIN	16	29	33	44	39	37	39	20	2.9	.75	.46	.17
AC-FT	2280	2160	3170	3300	2630	5260	3050	2770	645	117	115	20

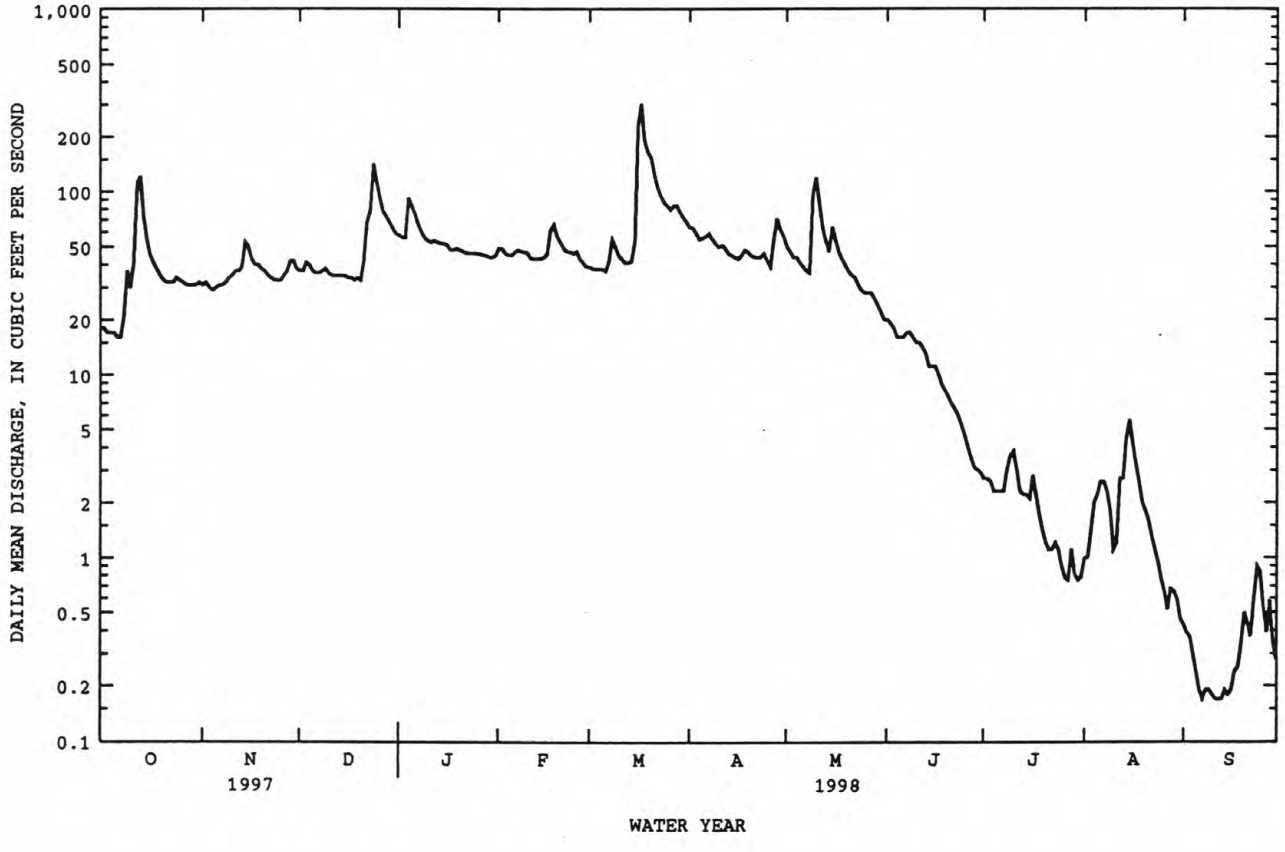
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1998, BY WATER YEAR (WY)

MEAN	18.0	21.7	25.9	28.7	30.4	38.0	38.4	41.2	39.0	12.3	8.44	13.2
MAX	72.2	61.1	51.5	53.7	51.3	85.6	126	150	115	31.6	38.7	51.6
(WY)	1987	1987	1998	1998	1987	1998	1997	1997	1995	1997	1995	1988
MIN	.20	5.23	6.73	11.2	15.3	17.9	16.2	18.1	7.08	.97	.080	.084
(WY)	1995	1995	1995	1995	1995	1991	1991	1991	1994	1994	1994	1994

e Estimated

07301420 SWEETWATER CREEK NEAR SWEETWATER, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1986 - 1998	
ANNUAL TOTAL	20263.8		12870.37			
ANNUAL MEAN	55.5		35.3		26.5	
HIGHEST ANNUAL MEAN					53.0	1997
LOWEST ANNUAL MEAN					10.9	1994
HIGHEST DAILY MEAN	755	May 25	304	Mar 17	755	May 25 1997
LOWEST DAILY MEAN	9.8	Sep 20	.17	Sep 7, 11-13	.00	at times
ANNUAL SEVEN-DAY MINIMUM	11	Sep 15	.18	Sep 7	.00	Sep 28 1994
INSTANTANEOUS PEAK FLOW			332	Mar 17	1940	Jun 3 1995
INSTANTANEOUS PEAK STAGE			11.20	Mar 17	15.89	Jun 3 1995
ANNUAL RUNOFF (AC-FT)	40190		25530		19220	
10 PERCENT EXCEEDS	105		65		49	
50 PERCENT EXCEEDS	34		36		20	
90 PERCENT EXCEEDS	17		.76		2.1	



07301500 NORTH FORK RED RIVER NEAR CARTER, OK

LOCATION.--Lat 35°10'05", long 99°30'25", in NW ¼ SE ¼ sec.15, T.8 N., R.22 W., Beckham County, Hydrologic Unit 11120302, on left bank on downstream side of roadway on State Highway 34, 3.0 mi south of Carter, 10.8 mi downstream from Timber Creek, and at mile 110.5.

DRAINAGE AREA.--2,337 mi^2, of which 399 mi^2 is probably noncontributing.

PERIOD OF RECORD.--October 1944 to September 1962. Annual maximum and occasional low-flow measurements, water years 1963-64. August 1964 to current year.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,673.71 ft above sea level.

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 3,200 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 16	1500	3,610	7.62	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	155	247	339	743	244	203	276	121	12	.00	.00
2	135	147	228	339	409	222	211	252	114	8.5	.00	.00
3	128	131	220	328	350	221	217	224	102	e7.7	.01	.00
4	119	125	245	412	307	219	199	209	89	e7.2	.00	.00
5	107	127	262	675	303	220	242	192	79	e6.8	.00	.00
6	110	126	263	547	295	219	266	193	79	6.5	.34	.00
7	118	133	252	415	293	264	280	196	81	6.4	.09	.00
8	138	150	250	368	306	309	295	190	94	6.4	.00	.00
9	152	158	252	373	323	224	275	419	98	6.1	.00	.00
10	154	158	256	354	332	235	266	968	93	5.7	.00	.00
11	212	160	240	354	327	231	260	499	86	5.5	.00	.00
12	615	177	230	323	316	239	244	348	79	5.2	.00	.00
13	551	206	217	322	308	244	235	284	70	4.9	.00	.00
14	251	255	216	341	292	232	227	242	64	4.7	.00	.00
15	205	306	219	348	303	279	221	857	58	4.2	.00	.00
16	169	262	232	340	327	2750	217	799	53	3.7	.00	.00
17	167	216	225	336	403	2950	217	360	50	3.6	.00	.00
18	159	206	217	330	447	1260	213	286	48	3.2	.00	.00
19	163	215	218	321	342	825	220	235	42	2.6	.00	.00
20	160	228	217	335	291	506	223	216	38	2.0	.00	.00
21	158	220	318	312	279	302	231	202	36	1.4	.00	.00
22	155	209	435	281	293	241	227	193	33	.59	.00	.00
23	166	207	394	288	286	221	218	183	29	.22	.00	.00
24	180	204	1160	299	293	241	214	171	26	.07	.00	.00
25	172	196	853	293	301	215	199	152	23	.00	.00	.00
26	161	198	529	310	287	211	195	204	22	.00	.00	.00
27	150	199	444	327	255	199	217	229	20	.00	.00	.00
28	146	210	455	334	260	241	258	187	18	.00	.00	.00
29	145	226	388	328	---	235	335	169	16	.00	.00	.00
30	147	243	335	322	---	228	308	154	14	.00	.00	.00
31	147	---	316	619	---	215	---	136	---	.00	.00	---
TOTAL	5679	5753	10333	11213	9271	14442	7133	9225	1775	115.18	0.44	0.00
MEAN	183	192	333	362	331	466	238	298	59.2	3.72	.014	.000
MAX	615	306	1160	675	743	2950	335	968	121	12	.34	.00
MIN	107	125	216	281	255	199	195	136	14	.00	.00	.00
AC-FT	11260	11410	20500	22240	18390	28650	14150	18300	3520	228	.9	.00

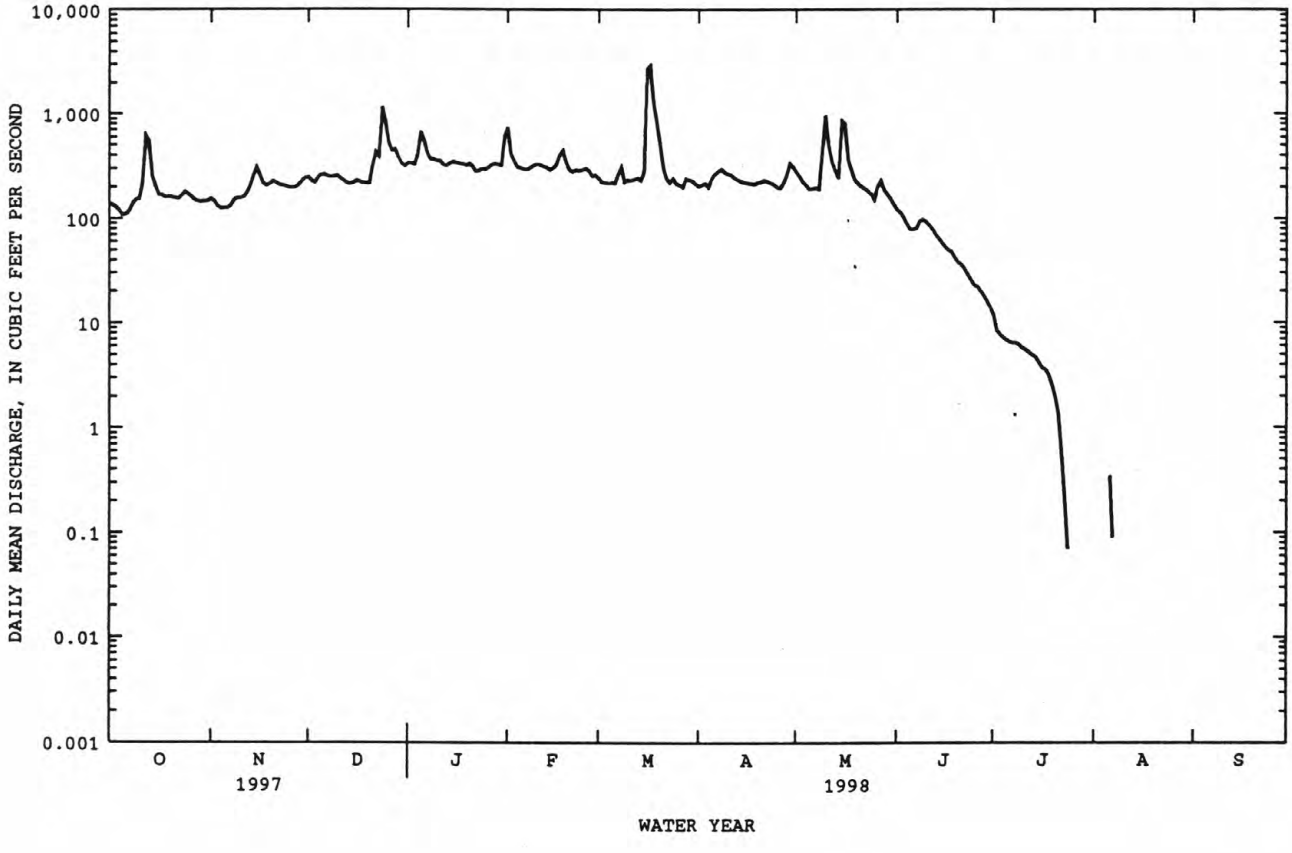
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

MEAN	95.4	56.5	66.0	77.8	100	109	148	412	287	72.9	49.4	58.1
MAX	1195	360	333	362	365	466	1253	2713	1560	828	560	432
(WY)	1987	1987	1998	1998	1960	1998	1997	1977	1995	1950	1995	1996
MIN	.000	.000	.000	.000	.000	.000	.079	.000	.60	.000	.000	.000
(WY)	1946	1946	1953	1953	1953	1955	1971	1971	1966	1954	1952	1945

e Estimated

07301500 NORTH FORK RED RIVER NEAR CARTER, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1945 - 1998	
ANNUAL TOTAL	132962.7		74939.62			
ANNUAL MEAN	364		205		128	
HIGHEST ANNUAL MEAN					356	1987
LOWEST ANNUAL MEAN					12.9	1981
HIGHEST DAILY MEAN	5570	Apr 26	2950	Mar 17	20700	May 26 1959
LOWEST DAILY MEAN	9.8	Sep 20	.00	at times	.00	at times
ANNUAL SEVEN-DAY MINIMUM	14	Sep 15	.00	Jul 25	.00	May 24 1945
INSTANTANEOUS PEAK FLOW			3610	Mar 16	53400	May 26 1959
INSTANTANEOUS PEAK STAGE			7.62	Mar 16	15.08	Jun 4 1995
ANNUAL RUNOFF (AC-FT)	263700		148600		92720	
10 PERCENT EXCEEDS	706		348		222	
50 PERCENT EXCEEDS	198		204		36	
90 PERCENT EXCEEDS	66		.00		.00	



07302500 LAKE ALTUS AT LUGERT, OK

LOCATION.--Lat 34°53'08", long 99°17'43", in SW ¼ SE ¼ sec.22, T.5 N., R.20 W., Kiowa County, Hydrologic Unit 11120302, on upstream face of Altus Dam on North Fork Red River, 1.0 mi west of Lugert, 2.6 mi upstream from Elm Fork of North Fork, and at mile 73.5.

DRAINAGE AREA.--2,515 mi^2, of which 399 mi^2 is probably noncontributing.

PERIOD OF RECORD.--December 1943 to September 1950 (monthly records only), October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation). Prior to Nov. 19, 1948, nonrecord- ing or float gage at same site and datum.

REMARKS.--Reservoir is formed by concrete and coursed masonry dam. Storage began in December 1943. Capacity, 134,500 acre- ft at elevation 1,559.0 ft, crest of uncontrolled spillway, and 72,400 acre-ft at elevation 1,547.0 ft, crest of controlled spillway. Dead storage, 1,660 acre-ft below elevation 1,517.5 ft, sill of headgate at irrigation canal. Figures given herein represent total contents. Reservoir is used for flood control, municipal water supply for city of Altus, and irrigation of about 48,000 acres. Revised capacity table used since Jan. 1, 1969. From 1927 to 1943, a dam to form reservoir for municipal water supply was at same site. Elevation of crest was 1,514.31 ft. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 170,600 acre-ft, May 19, 1951, elevation 1,562.10 ft; minimum after initial storage, 4,690 acre-ft, Aug. 25, 1944, elevation, 1,520.2 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 151,700 acre-ft, Mar. 19, elevation 1,561.64 ft; minimum, 34,710 acre-ft, Sept. 29, elevation, 1,535.94 ft.

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

1520	3,844	1540	46,780
1525	10,710	1548	76,580
1529	18,130	1559	134,500
1534	29,620	1563	161,000

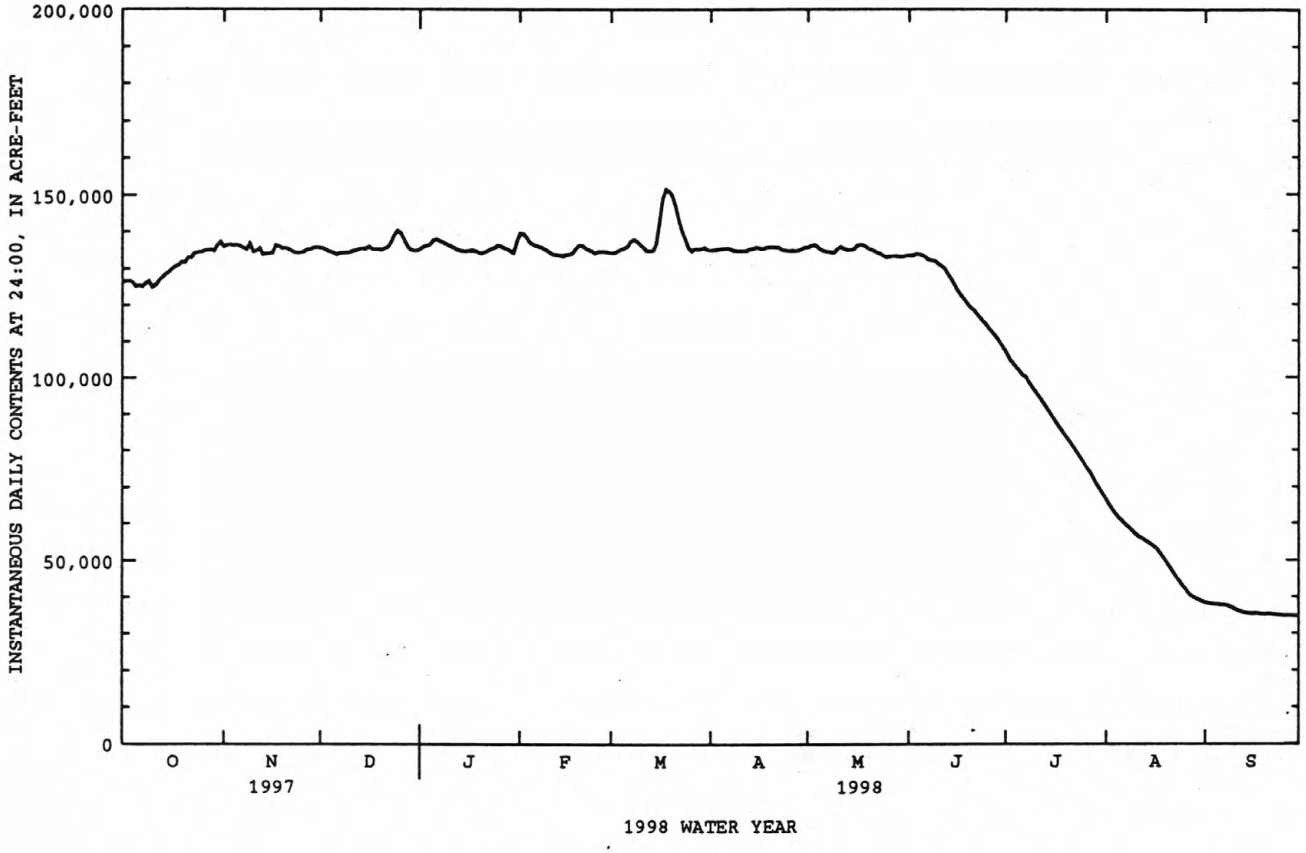
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126400	135800	135400	135100	139400	134100	134900	135600	133400	106800	66430	38440
2	126500	136300	135200	135800	139300	134200	134900	136100	133300	105000	64930	38180
3	126600	136300	134700	136000	138200	134700	135100	136300	133700	103800	63590	38040
4	126300	136200	134400	136200	136900	135100	135200	135600	133700	102700	62450	37980
5	125100	136300	134100	137500	136400	135400	135200	134900	133400	101700	61410	37900
6	125400	136000	133700	137800	135900	135900	135400	134600	132900	100500	60620	37840
7	125100	135400	134000	137300	135800	137300	135300	134300	132100	100100	59700	37750
8	126100	135100	134100	136900	135400	137800	134700	134300	132100	98560	58860	37610
9	126500	136600	134200	136500	134900	137400	134700	134100	131800	97290	58030	37210
10	124900	134400	134200	136000	134300	136400	134700	135200	131100	95930	57200	36730
11	125400	134700	134600	135600	133700	135600	134600	135700	130500	94680	56380	36370
12	126600	135400	134700	135200	133600	134700	134600	135200	129700	93490	55990	35920
13	127500	133700	135100	134600	133600	134600	135200	134900	128300	92120	55380	35700
14	128400	134000	135300	134600	133300	134700	135200	134800	127000	90850	54860	35530
15	129000	134000	135100	134500	133500	136600	135600	135100	125400	89370	54260	35420
16	129900	134200	135800	134700	133800	142300	135400	136100	123800	88030	53560	35420
17	130400	136200	135100	134800	133900	148800	135200	136400	122500	86720	52740	35450
18	130900	135900	135000	134700	135200	151400	135600	136100	121500	85510	51640	35390
19	131800	135300	135100	134200	136100	150900	135800	135500	120100	84270	50400	35230
20	131600	135400	134900	134000	136100	149700	135800	135000	119100	83030	49170	35120
21	133000	135100	135300	134300	135400	147000	135600	134700	118400	81770	47920	35370
22	132900	134600	135600	134700	134900	143100	135600	134200	117300	80470	46520	35170
23	134200	134100	137000	135200	134600	140100	134900	133900	116200	79240	45250	35060
24	134400	134100	139100	135400	134000	138000	134900	133300	115200	77840	44060	34980
25	134400	134200	140100	136100	134500	135400	134700	132900	114200	76410	42950	34790
26	134800	134500	139500	135900	134500	134600	134800	133300	113000	75040	41850	34810
27	134900	135100	137800	135400	134500	135200	134700	133200	112000	73940	40610	34870
28	135100	135100	135900	135100	134300	135100	134700	133300	110900	72310	40020	34870
29	134700	135600	134900	134500	---	135200	135200	133100	109500	70670	39580	34710
30	136300	135600	134700	134100	---	135600	135600	133100	108200	69330	39170	34790
31	137100	---	134600	137400	---	134900	---	133300	---	67930	38730	---
MAX	137100	136600	140100	137800	139400	151400	135800	136400	133700	106800	66430	38440
MIN	124900	133700	133700	134000	133300	134100	134600	132900	108200	67930	38730	34710
(‡)	1559.41	1559.18	1559.02	1559.46	1558.97	1559.07	1559.18	1558.81	1554.51	1545.91	1537.37	1535.97
(‡‡)	+11,000	-1,500	-1,000	+2,800	-3,100	+600	+700	-2,300	-25,100	-40,270	-29,200	-3,940

CAL YR 1997 MAX 156000 MIN 105300 (‡‡) -1,300
WTR YR 1998 MAX 151400 MIN 34710 (‡‡) -91,310

(‡) ELEVATION, IN FEET, AT END OF MONTH
(‡‡) CHANGE IN CONTENTS, IN ACRE-FEET

07302500 LAKE ALTUS AT LUGERT, OK--Continued



07303000 NORTH FORK RED RIVER BELOW ALTUS DAM, NEAR LUGERT, OK

LOCATION.--Lat 34°53'26", long 99°18'22", in SW ¼ sec.22, T.5 N., R.20 W., Greer County, Hydrologic Unit 11120303, on right bank at State Highway 44A bridge, 3,500 ft downstream from Altus Dam, 1.9 mi upstream from Elm Fork of North Fork, 2.0 mi west of Lugert, and at mile 72.8.

DRAINAGE AREA.--2,515 mi^2, of which 399 mi^2 is probably noncontributing.

PERIOD OF RECORD.--March 1930 to December 1932 (published as "at Lugert Dam"), December 1943 to September 1950 (pub- lished as spill from Lake Altus), October 1950 to September 1962, August 1964 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1311: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,471.81 ft above sea level. Mar. 19, 1930 to Dec. 21, 1932, nonrecording gage at former Lugert Dam, 0.7 mi upstream at datum 1,504.31 ft National Geodetic Vertical Datum of 1929, unadjusted.

REMARKS.--No estimated daily discharges. Records fair. Some regulation at low flow by Lugert Lake prior to December 1943, capacity 13,500 acre-ft and completely regulated thereafter by Lake Altus (station 07302500). Diversions at Lake Altus bypass most of streamflow. Seepage from Altus Dam not included for period February 1953 to September 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft^3/s, May 18, 1951, gage height, 12.70 ft, maximum gage height, 16.37 ft, May 21, 1977 (backwater from Elm Fork of the North Fork Red River); no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 16, 1928, reached a stage of 14.5 ft, site and datum in use 1930-32, discharge, 14,300 ft^3/s.

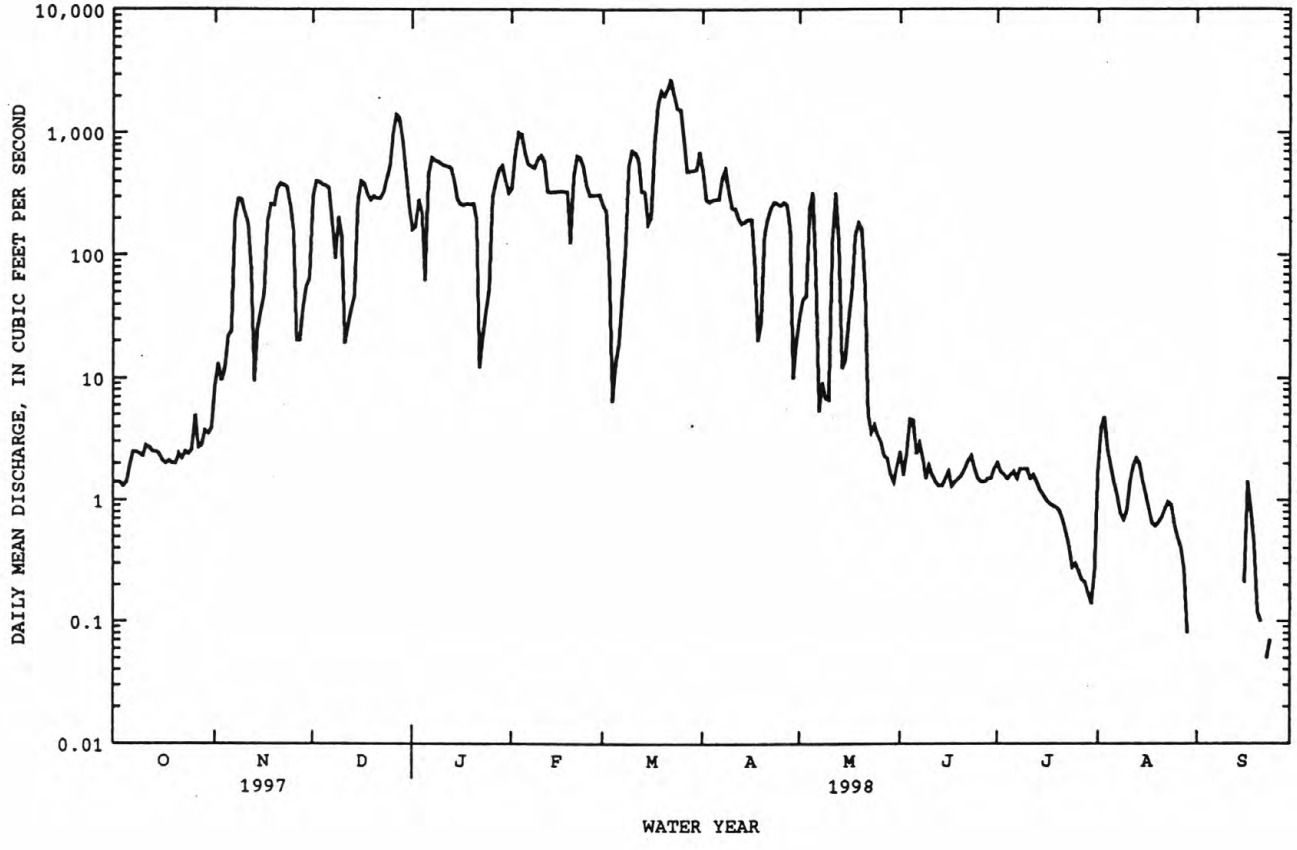
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,180 ft^3/s, Mar. 22, gage height, 10.09 ft; minimum daily discharge, no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	8.6	295	162	348	255	498	32	2.5	2.0	1.8	.00
2	1.4	13	401	170	663	227	281	44	1.6	1.7	4.0	.00
3	1.4	9.5	393	282	999	78	272	46	2.4	1.6	4.8	.00
4	1.3	12	374	225	966	6.4	281	249	4.6	1.5	2.6	.00
5	1.4	22	364	62	694	13	285	323	4.5	1.6	1.9	.00
6	1.9	24	353	458	551	19	285	66	2.4	1.7	1.4	.00
7	2.5	200	190	624	531	47	431	5.3	2.9	1.5	1.1	.00
8	2.5	289	93	597	516	115	497	9.2	2.2	1.8	.77	.00
9	2.4	287	203	578	607	533	331	6.8	1.5	1.8	.69	.00
10	2.3	219	143	555	654	711	239	6.6	1.9	1.8	.81	.00
11	2.8	181	19	536	583	684	240	134	1.6	1.5	1.4	.00
12	2.7	76	26	529	327	600	198	320	1.4	1.6	1.9	.00
13	2.5	9.3	36	515	325	326	180	131	1.3	1.4	2.2	.00
14	2.5	25	46	406	327	326	186	12	1.3	1.2	2.0	.00
15	2.4	35	282	286	329	180	196	14	1.5	1.1	1.4	.00
16	2.1	48	400	258	331	204	196	29	1.7	1.0	1.1	.21
17	2.0	188	382	256	330	810	88	52	1.3	.94	.83	1.4
18	2.1	261	314	261	327	1740	20	147	1.4	.89	.64	.86
19	2.0	255	281	259	124	2190	28	182	1.5	.87	.61	.43
20	2.0	348	302	262	440	2020	147	163	1.6	.81	.66	.12
21	2.4	385	290	192	643	2300	197	54	1.8	.69	.72	.10
22	2.2	370	290	12	627	2760	243	5.1	2.1	.54	.85	.00
23	2.5	357	326	21	522	2050	271	3.6	2.3	.42	.96	.05
24	2.4	252	421	34	364	1580	261	4.1	1.8	.28	.91	.07
25	2.6	156	527	52	305	1550	252	3.4	1.5	.30	.62	.00
26	5.0	20	997	296	309	911	269	3.0	1.4	.26	.49	.00
27	2.7	20	1410	401	307	483	257	2.3	1.4	.22	.41	.00
28	2.8	37	1320	500	310	486	161	2.2	1.5	.21	.27	.00
29	3.7	55	875	535	---	489	9.9	1.6	1.5	.17	.08	.00
30	3.5	64	458	406	---	499	20	1.4	1.8	.14	.00	.00
31	3.9	---	250	321	---	698	---	1.9	---	.26	.00	---
TOTAL	75.3	4226.4	12061	10051	13359	24890.4	6819.9	2054.5	58.2	31.80	37.92	3.24
MEAN	2.43	141	389	324	477	803	227	66.3	1.94	1.03	1.22	.11
MAX	5.0	385	1410	624	999	2760	498	323	4.6	2.0	4.8	1.4
MIN	1.3	8.6	19	12	124	6.4	9.9	1.4	1.3	.14	.00	.00
AC-FT	149	8380	23920	19940	26500	49370	13530	4080	115	63	75	6.4

CAL YR 1997 TOTAL 143804.05 MEAN 394 MAX 5860 MIN .23 AC-FT 285200
WTR YR 1998 TOTAL 73668.66 MEAN 202 MAX 2760 MIN .00 AC-FT 146100

07303000 NORTH FORK RED RIVER BELOW ALTUS DAM, NEAR LUGERT, OK--Continued



07303400 ELM FORK OF NORTH FORK RED RIVER NEAR CARL, OK

LOCATION.--Lat 35°00'42", long 99°54'12", in SW ¼ NW ¼ sec.12, T.6 N., R.26 W., Harmon County, Hydrologic Unit 11120304, near left bank on downstream side of pier of bridge on State Highway 30, 4.0 mi northeast of Carl, and at mile 54.0.

DRAINAGE AREA.--416 mi^2.

PERIOD OF RECORD.--October 1959 to September 1979, October 1994 to current year.

REVISED RECORDS.--WSP 1731: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,714.95 ft above sea level, Oklahoma State Highway Department datum.

REMARKS.--Records good. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)

No other peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	30	34	49	75	63	104	64	31	9.5	7.1	9.6
2	34	29	36	49	63	61	97	60	31	10	7.2	8.7
3	34	29	38	48	57	59	91	56	31	9.8	8.3	7.7
4	33	31	38	221	55	59	85	53	31	9.3	11	7.3
5	33	32	36	119	60	60	84	52	32	9.7	19	7.2
6	33	31	35	83	57	59	84	51	33	10	15	7.3
7	33	31	36	77	55	77	85	49	33	9.6	13	7.5
8	34	33	37	72	56	77	79	56	34	9.0	11	7.4
9	37	34	37	66	54	67	77	169	33	8.7	10	7.4
10	32	35	35	64	51	60	74	146	31	8.4	9.5	7.1
11	48	35	34	62	49	59	72	85	31	8.4	11	7.2
12	95	35	e30	61	49	59	72	66	29	8.4	15	7.1
13	78	45	e29	57	50	59	71	58	27	8.7	15	6.8
14	54	50	32	56	50	60	70	58	24	8.6	14	7.0
15	47	46	33	54	50	87	70	449	23	8.1	14	6.9
16	40	41	33	54	65	374	69	153	23	8.7	14	7.1
17	38	41	32	52	85	355	70	87	23	8.7	13	7.5
18	36	41	33	50	87	253	69	67	22	8.3	12	8.0
19	36	40	32	49	84	243	70	59	22	8.2	12	7.9
20	35	38	33	48	80	210	72	51	21	7.5	13	7.3
21	30	37	53	48	78	183	70	46	19	7.2	13	7.1
22	28	37	60	47	79	169	68	44	18	7.2	12	6.8
23	34	36	74	45	78	158	66	42	18	7.4	11	7.5
24	36	36	121	45	74	147	65	39	16	7.4	11	8.1
25	34	35	89	45	71	139	62	39	15	7.1	11	8.2
26	31	35	75	44	69	133	69	47	13	6.8	11	7.9
27	30	35	66	43	67	133	78	41	11	6.6	10	7.7
28	31	36	60	43	64	128	76	37	11	6.8	12	7.6
29	32	36	56	44	---	121	71	37	10	6.9	10	7.6
30	32	35	52	41	---	118	67	35	10	6.6	10	7.6
31	33	---	51	66	---	111	---	33	---	6.6	9.8	---
TOTAL	1196	1085	1440	1902	1812	3941	2257	2329	706	254.2	364.9	226.1
MEAN	38.6	36.2	46.5	61.4	64.7	127	75.2	75.1	23.5	8.20	11.8	7.54
MAX	95	50	121	221	87	374	104	449	34	10	19	9.6
MIN	28	29	29	41	49	59	62	33	10	6.6	7.1	6.8
AC-FT	2370	2150	2860	3770	3590	7820	4480	4620	1400	504	724	448

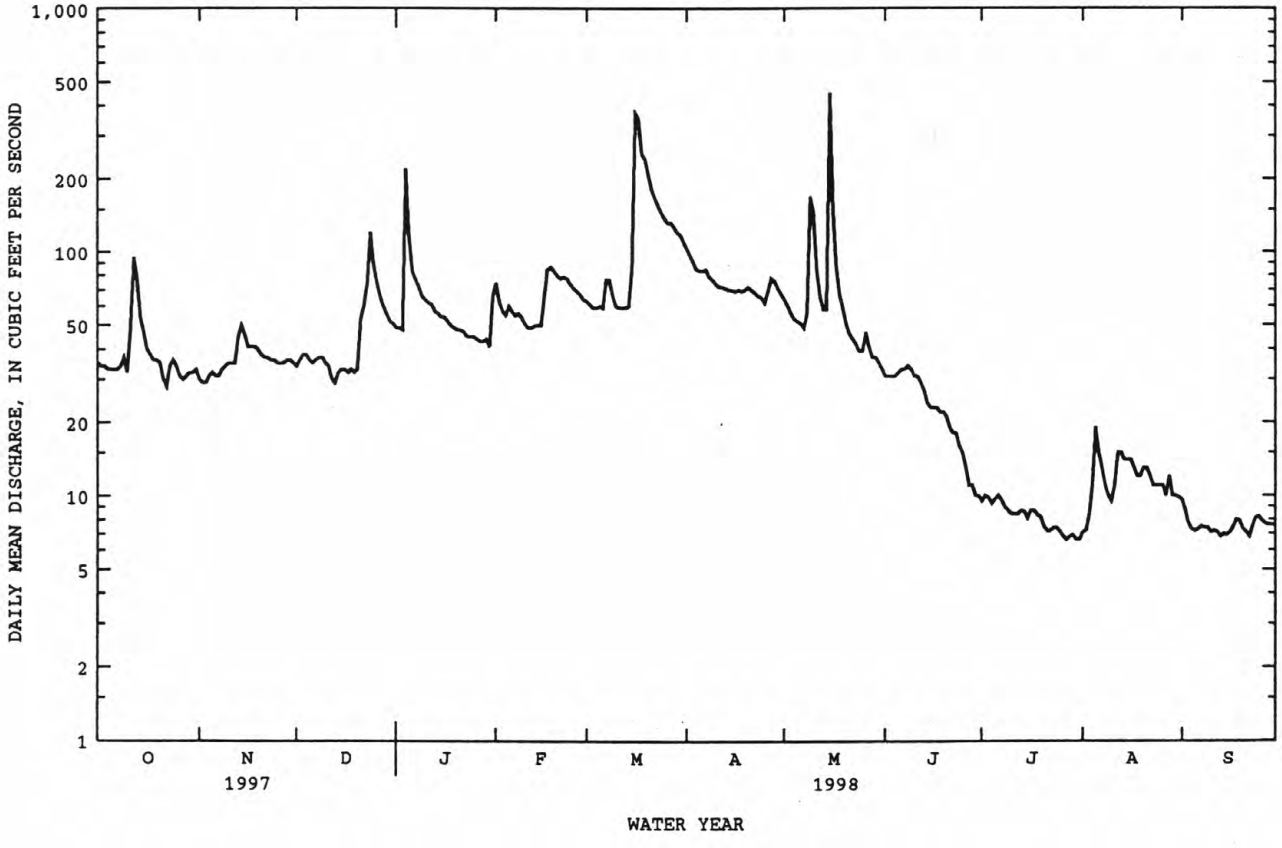
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1998, BY WATER YEAR (WY)

MEAN	37.7	27.6	22.9	21.9	24.8	32.3	65.4	94.4	114	29.3	39.3	51.5
MAX	208	91.0	54.9	61.4	64.7	127	351	662	844	133	171	125
(WY)	1961	1975	1960	1998	1998	1998	1997	1977	1995	1968	1995	1962
MIN	2.61	5.97	7.95	10.0	8.97	7.29	5.77	7.39	4.11	.30	.48	.98
(WY)	1971	1971	1971	1971	1972	1972	1971	1965	1970	1970	1976	1970

e Estimated

07303400 ELM FORK OF NORTH FORK RED RIVER NEAR CARL, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1960 - 1998	
ANNUAL TOTAL	33254		17513.2			
ANNUAL MEAN	91.1		48.0		46.7	
HIGHEST ANNUAL MEAN					107	1995
LOWEST ANNUAL MEAN					10.6	1970
HIGHEST DAILY MEAN	1670	Apr 25	449	May 15	17100	Jun 3 1995
LOWEST DAILY MEAN	26	Jan 15	6.6	Jul 27, 30, 31	.02	Jul 17 1971
ANNUAL SEVEN-DAY MINIMUM	29	Sep 15	6.8	Jul 25	.02	Jul 16 1971
INSTANTANEOUS PEAK FLOW			677	May 15	62300	Jun 3 1995
INSTANTANEOUS PEAK STAGE			3.12	May 15	18.80	Jun 3 1995
ANNUAL RUNOFF (AC-FT)	65960		34740		33830	
10 PERCENT EXCEEDS	175		84		62	
50 PERCENT EXCEEDS	41		36		17	
90 PERCENT EXCEEDS	31		7.7		5.3	



07305000 NORTH FORK RED RIVER NEAR HEADRICK, OK

LOCATION.--Lat 34°38'04", long 99°05'47", in NW ¼ NE ¼ sec.21, T.2 N., R.18 W., Tillman County, Hydrologic Unit 11120303, near left bank on downstream side of pier of bridge on old U.S. Highway 62, 2.5 mi east of Headrick, 12.9 mi upstream from Otter Creek, and at mile 33.0.

DRAINAGE AREA.--4,244 mi^2, of which 399 mi^2 is probably noncontributing.

PERIOD OF RECORD.--April 1905 to March 1908, October 1937 to current year. Monthly discharge only for some periods, pub- lished in WSP 1311. Prior to July 1905, published as near Snyder.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1241: 1905-07.

GAGE.--Water-stage recorder. Datum of gage is 1,294.83 ft above sea level. Prior to July 18, 1905, nonrecording gage at site 0.2 mi downstream at different datum. July 18, 1905, to Mar. 30, 1908, nonrecording gage at Navajo damsite 10.4 mi upstream at dif- ferent datum. Oct. 1, 1937, to Jan. 29, 1969, water-stage recorder at present site at datum 5.0 ft higher.

REMARKS.--Records fair. Flow regulated since December 1943 by storage and diversion at Lake Altus, 39.5 mi upstream from sta- tion (station 07302500). Diversions for irrigation of about 48,000 acres upstream from station; some return flow may re-enter at Stinking Creek, 16 mi downstream from station. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 21.1 ft, present datum, occurred sometime prior to 1927, from informa- tion provided by Oklahoma State Highway Department.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	419	411	381	857	3330	768	1320	390	225	e88	41	35
2	386	409	498	760	3770	733	1080	377	204	e85	40	36
3	366	414	614	748	2250	706	887	370	190	e83	42	36
4	347	406	611	835	1840	625	838	370	178	e81	43	35
5	333	394	608	856	1590	536	826	473	178	99	48	35
6	323	378	596	779	1260	536	797	584	176	79	48	34
7	323	376	583	1080	1120	612	785	413	174	e75	47	34
8	319	451	503	1180	1080	1130	905	316	171	e72	46	33
9	336	563	382	1100	1050	1490	954	308	168	e69	47	33
10	343	565	460	1040	1110	1380	808	339	170	e67	49	33
11	363	533	450	998	1110	1240	717	386	162	e65	55	35
12	389	499	348	964	1040	1130	697	543	151	e63	53	33
13	688	461	335	941	847	1030	647	653	145	e61	66	34
14	1120	386	330	933	827	833	609	506	137	e59	56	36
15	801	404	330	831	820	1080	599	357	133	e57	53	81
16	604	443	436	743	822	7030	584	322	130	e55	55	339
17	526	443	561	716	858	10700	588	559	127	e54	53	55
18	491	488	560	708	937	9320	512	557	122	e52	49	41
19	459	552	516	697	1340	7280	424	493	120	e51	47	38
20	438	547	491	693	957	6990	420	496	116	e50	47	33
21	440	593	600	678	1090	5070	491	459	111	e48	45	31
22	438	635	810	638	1150	4600	557	383	107	e46	44	30
23	434	625	990	501	1110	4510	575	294	105	e44	42	33
24	454	604	3140	481	1010	e4000	594	268	103	e43	41	33
25	503	540	3890	475	884	e3500	573	251	101	e43	40	31
26	477	470	2450	480	831	2920	564	269	99	e42	40	28
27	441	374	2240	630	809	1600	570	331	98	e42	39	29
28	426	362	2260	754	785	1330	583	635	e96	e41	47	28
29	401	355	1990	817	---	1300	559	399	e94	e41	40	26
30	387	370	1470	858	---	1200	421	298	e90	40	37	23
31	410	---	1060	807	---	1150	---	250	---	40	36	---
TOTAL	14185	14051	30493	24578	35627	86329	20484	12649	4181	1835	1436	1361
MEAN	458	468	984	793	1272	2785	683	408	139	59.2	46.3	45.4
MAX	1120	635	3890	1180	3770	10700	1320	653	225	99	66	339
MIN	319	355	330	475	785	536	420	250	90	40	36	23
AC-FT	28140	27870	60480	48750	70670	171200	40630	25090	8290	3640	2850	2700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

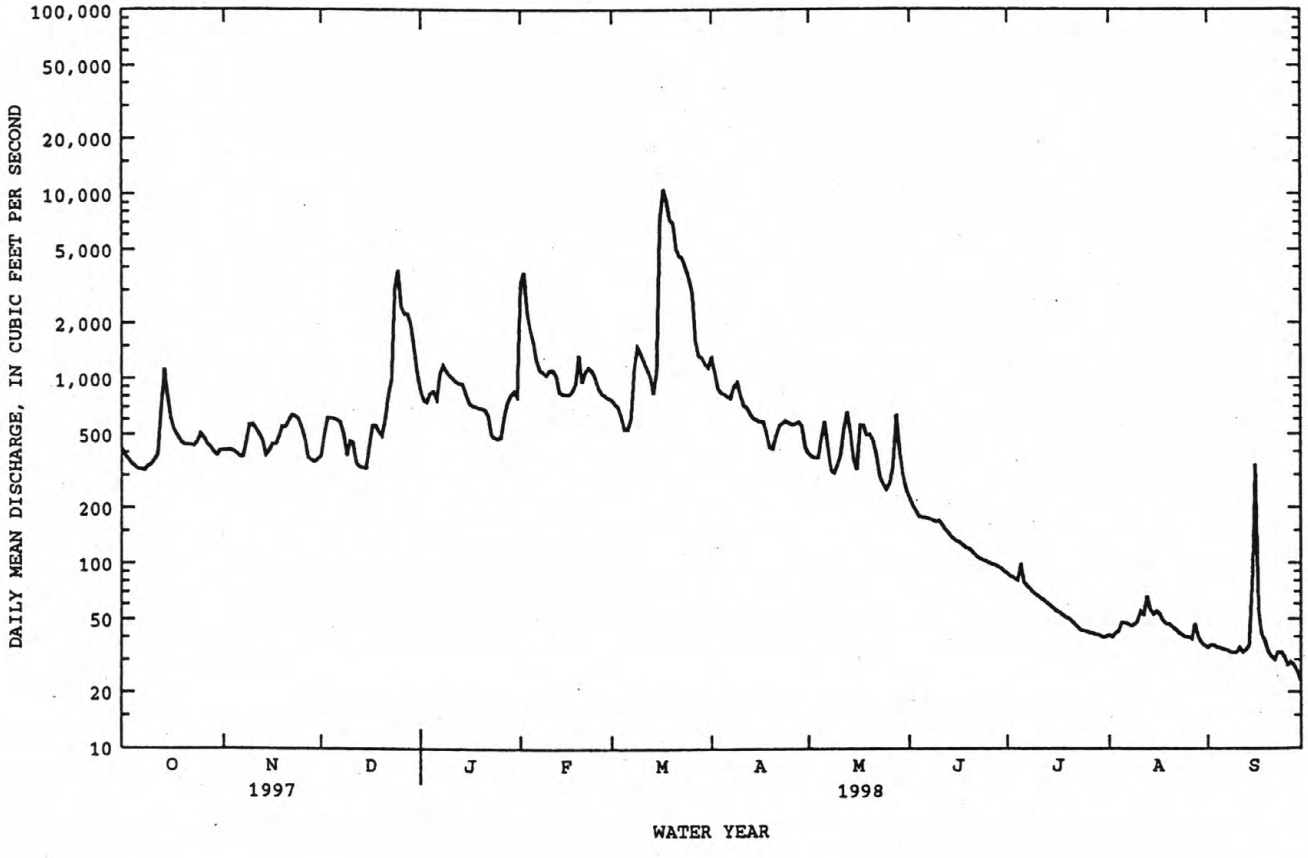
MEAN	373	158	140	120	179	244	345	1011	814	244	183	280
MAX	5608	1743	984	793	1375	2785	5366	6104	4659	2016	2522	1675
(WY)	1987	1987	1998	1998	1997	1998	1997	1977	1995	1950	1995	1965
MIN	.000	.000	.20	.84	4.06	4.27	.64	.31	10.3	.25	.000	.000
(WY)	1953	1953	1955	1953	1953	1955	1971	1953	1966	1970	1952	1952

e Estimated

07305000 NORTH FORK RED RIVER NEAR HEADRICK, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1945 - 1998	
ANNUAL TOTAL	464992		247209			
ANNUAL MEAN	1274		677		[a]341	
HIGHEST ANNUAL MEAN					1562	1987
LOWEST ANNUAL MEAN					50.0	1970
HIGHEST DAILY MEAN	21200	Apr 28	10700	Mar 17	41600	May 10 1993
LOWEST DAILY MEAN	184	Aug 6	23	Sep 30	[b].00	Aug 2 1946
ANNUAL SEVEN-DAY MINIMUM	192	Aug 2	28	Sep 24	.00	Aug 2 1946
INSTANTANEOUS PEAK FLOW			11400	Mar 17	59000	Oct 4 1986
INSTANTANEOUS PEAK STAGE			13.40	Mar 17	19.07	Oct 4 1986
ANNUAL RUNOFF (AC-FT)	922300		490300		247400	
10 PERCENT EXCEEDS	2570		1140		607	
50 PERCENT EXCEEDS	530		438		62	
90 PERCENT EXCEEDS	291		41		6.2	

[a]Prior to regulation water years 1906-07, 1938-43 455 ft^3/s.
[b]No flow at times in most years.



07305500 WEST OTTER CREEK AT SNYDER LAKE, NEAR MOUNTAIN PARK, OK

LOCATION.--Lat 34°44'02", long 98°59'10", in SE ¼ sec.16, T.3 N., R.17 W., Kiowa County, Hydrologic Unit 11120303, near east end of Snyder Dam, 0.8 mi upstream from small tributary, 3 mi northwest of Mountain Park, and at mile 26.0.

DRAINAGE AREA.--132 mi^2.

PERIOD OF RECORD.--April 1903 to March 1908, October 1951 to September 1971, July 1972 to current year. Published as Otter Creek near Mountain Park 1903-8 and as Otter Creek at Snyder Lake, near Mountain Park 1951-60. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1731: 1960 (M). WSP 1920: 1959-60. WDR OK-78-2: 1977.

GAGE.--Water-stage recorder and broad-crested masonry spillway. Datum of gage is 1,361.06 ft above sea level. April 1903 to March 1908, nonrecording gage at site 1.8 mi downstream at different datum. October 1951 to September 1971 at intake tower at same site and datum. July 1972 to August 1976, 700 ft downstream at datum 1,344.00 ft.

REMARKS.--Records fair. The city of Snyder diverted about 130 acre-ft annually prior to October 1958 and none thereafter. Flow completely regulated since June 1975 by Tom Steed Reservoir.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.00	.00	.00	.00	.00	351	.00	.00	.00	.00	.00
2	e.00	.00	11	.00	.00	.00	286	.00	.00	.00	.00	.00
3	e.00	.00	.00	.00	.00	.00	175	.00	.00	.00	.00	.00
4	e.00	.00	.00	.00	.00	.00	152	.00	.00	.00	.00	.00
5	e.00	.00	.00	.00	.00	.00	154	.00	.00	.00	.00	.00
6	e.00	.00	.00	.00	.00	.00	69	.00	.00	.00	.00	.00
7	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	e.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
10	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
11	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
12	e.00	e.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
13	e.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	e.00	9.8	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	e.00	19	e.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.38	e.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.01	e.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	28	e.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	86	e.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	87	.00	.00	.00	.00	.00	.00
23	.00	.00	.58	.00	.00	175	.00	.00	.00	.00	.00	.00
24	.00	.00	.79	.00	.00	278	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	326	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	310	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	103	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	220	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	273	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	272	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	320	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	12.37	0.00	0.00	2507.19	1187.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.40	.000	.000	80.9	39.6	.000	.000	.000	.000	.000
MAX	.00	.00	11	.00	.00	326	351	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	25	.00	.00	4970	2350	.00	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1998, BY WATER YEAR (WY)

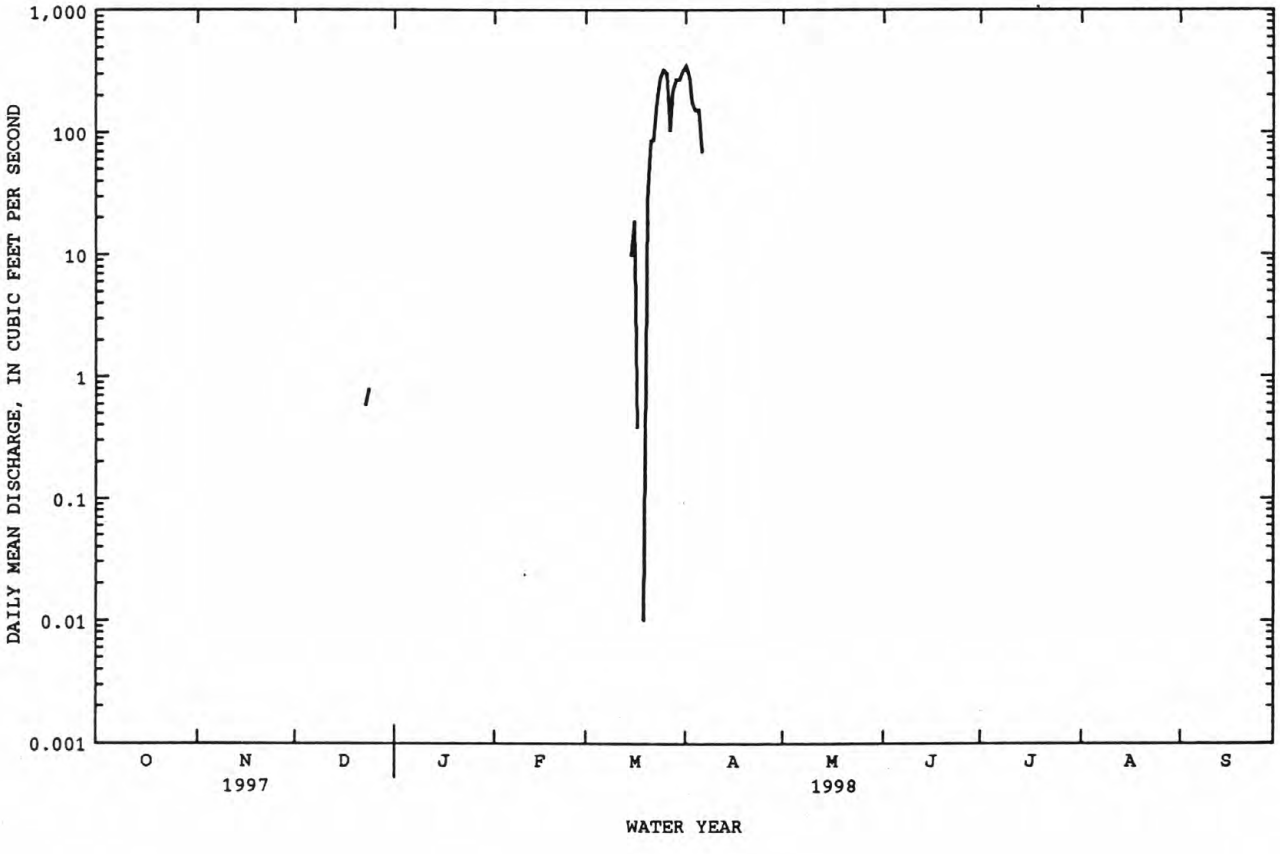
MEAN	9.45	15.6	10.7	3.20	10.8	14.2	5.39	39.7	45.9	5.03	5.62	4.62
MAX	105	252	143	61.9	180	165	39.6	384	421	71.6	123	65.6
(WY)	1987	1987	1993	1993	1987	1988	1998	1987	1987	1982	1995	1995
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1976	1976	1976	1976	1977	1977	1977	1979	1988	1976	1976	1976

e Estimated

07305500 WEST OTTER CREEK AT SNYDER LAKE, NEAR MOUNTAIN PARK, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1976 - 1998	
ANNUAL TOTAL	3392.47		3706.56			
ANNUAL MEAN	9.29		10.2		[a]14.2	
HIGHEST ANNUAL MEAN					125	1987
LOWEST ANNUAL MEAN					.000	1994
HIGHEST DAILY MEAN	285	May 15	351	Apr 1	3480	May 28 1987
LOWEST DAILY MEAN	.00	Jan 1	.00	at times	.00	at times
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1975
INSTANTANEOUS PEAK FLOW			387	Mar 25	[b]4300	May 29 1987
INSTANTANEOUS PEAK STAGE			13.07	Mar 25	[c]15.44	May 29 1997
ANNUAL RUNOFF (AC-FT)	6730		7350		10270	
10 PERCENT EXCEEDS	.00		.00		2.8	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

[a]Prior to regulation water years 1904-07, 1951-71, 1973-74, 23.0 ft^3/s.
[b]Maximum discharge for period of record, 14,200 ft^3/s, June 6, 1953, from rating curve extended above 1,600 ft^3/s on basis of contracted opening and flow over dam measurements of peak.flow.
[c]Maximum gage height for period of record, 19.50 ft, from flood marks, June 6, 1953.



07307028 NORTH FORK RED RIVER NEAR TIPTON, OK

LOCATION.--Lat 34°30'25", long 99°12'28", in NW ¼ NE ¼ sec.5. T.1 S, R.19 W., Tillman County, Hydrologic Unit 11120303, near left bank on downstream side of bridge pier on State Highway 5, 3.8 mi west of intersection of State Highways 5 and 5C in Tipton, 4.8 mi downstream from Otter Creek, and at mile 15.3.

DRAINAGE AREA.--4,691 mi^2, of which 399 mi^2 is probably noncontributing.

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

GAGE.--Water-stage recorder. Datum of gage is 1,234.45 ft above sea level.

REMARKS.--Records poor. Flow regulated since December 1943 by storage and diversion at Lake Altus 54.2 mi upstream (station 07302500). Diversions for irrigation of about 48,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	630	450	435	1490	2060	e1020	2170	650	290	135	78	69
2	550	450	456	1260	4650	e970	2250	530	243	141	80	61
3	500	430	577	1100	3140	e930	1870	490	227	137	78	56
4	450	420	704	1070	2520	e890	1610	480	225	129	93	53
5	420	409	685	1620	2180	e870	1470	470	223	129	157	50
6	400	403	655	1620	1890	e770	1420	630	226	152	126	50
7	390	397	630	1330	1670	e735	1360	690	225	130	85	50
8	390	392	602	1610	1560	e730	1270	470	220	116	76	50
9	400	530	528	1780	1470	1900	1300	440	223	111	68	50
10	420	580	432	1620	1400	1790	1320	425	238	109	72	49
11	450	600	470	1490	1400	1720	1160	450	224	108	144	49
12	472	570	453	1390	1410	1600	1070	550	217	110	140	48
13	512	500	357	1300	1340	1480	1030	600	215	134	110	48
14	1190	450	348	1240	1190	1350	950	670	197	130	130	49
15	1590	410	344	1210	1140	1500	890	675	199	115	160	48
16	1080	434	341	1120	1100	7640	820	550	194	114	137	252
17	839	462	587	1020	1130	10800	800	420	186	112	124	174
18	690	462	586	947	1210	11100	790	520	166	111	128	99
19	584	521	571	930	3110	8190	740	620	164	110	120	79
20	533	586	537	880	2470	7590	700	625	157	108	119	73
21	529	575	578	870	1710	5480	670	570	153	107	106	64
22	516	626	695	850	1700	4770	700	520	151	108	108	46
23	512	675	1040	800	1660	4630	730	465	133	109	99	41
24	454	663	2960	740	1580	3990	740	337	118	110	96	40
25	476	635	4950	690	1450	3540	745	335	114	107	85	35
26	560	598	3370	685	1270	3470	710	300	106	95	80	32
27	480	546	2580	685	1150	2940	700	346	113	92	72	30
28	450	468	2730	870	1090	2310	705	550	115	98	452	29
29	445	430	2420	850	---	2230	700	720	120	106	145	28
30	440	420	2080	885	---	2240	680	430	131	83	77	26
31	440	---	1750	939	---	2140	---	330	---	78	72	---
TOTAL	17792	15092	35451	34891	49650	101315	32070	15858	5513	3534	3617	1828
MEAN	574	503	1144	1126	1773	3268	1069	512	184	114	117	60.9
MAX	1590	675	4950	1780	4650	11100	2250	720	290	152	452	252
MIN	390	392	341	685	1090	730	670	300	106	78	68	26
AC-FT	35290	29930	70320	69210	98480	201000	63610	31450	10940	7010	7170	3630

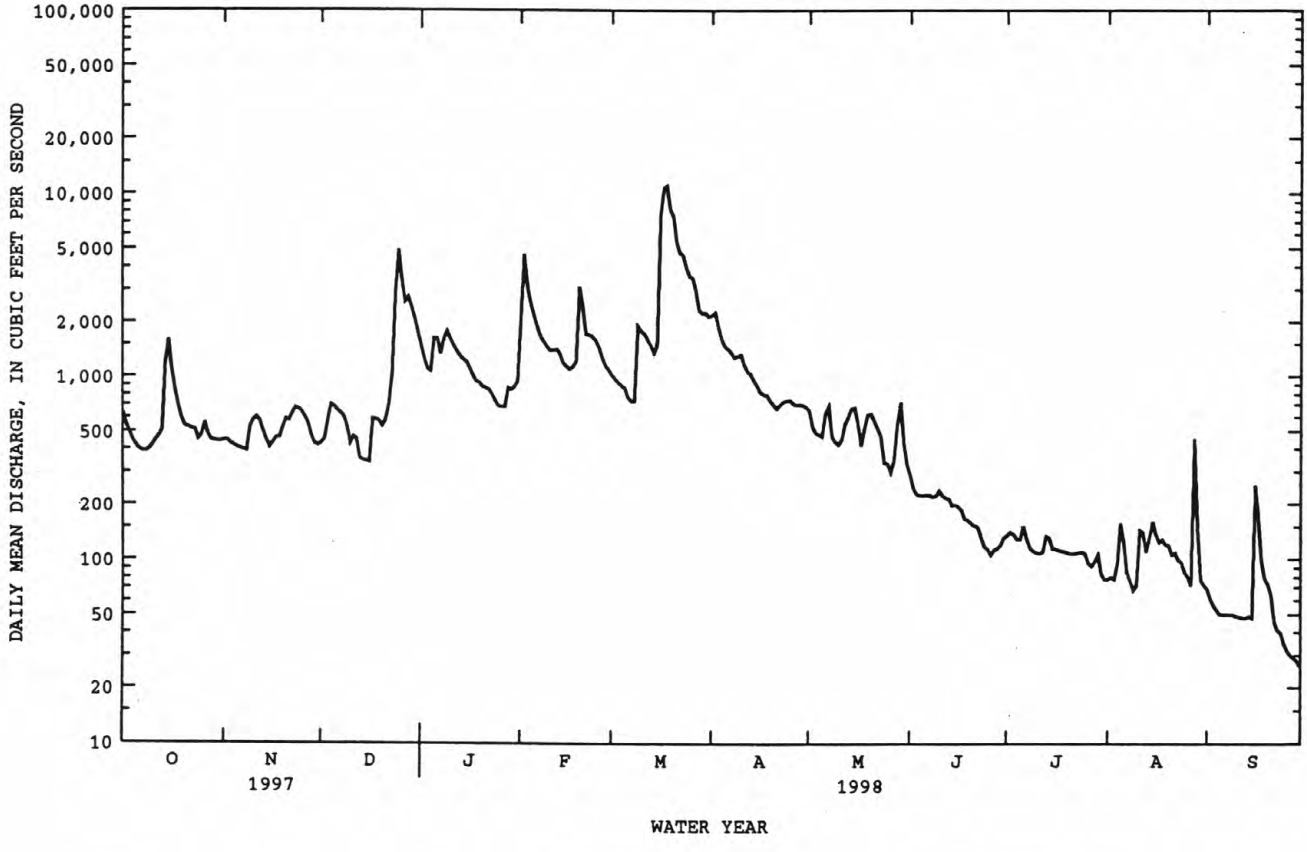
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1998, BY WATER YEAR (WY)

MEAN	807	448	428	328	471	758	751	1261	1570	331	574	673
MAX	5784	2276	1287	1126	1773	3268	5020	5347	5560	738	3932	1796
(WY)	1987	1987	1992	1998	1998	1998	1997	1993	1995	1993	1995	1995
MIN	15.1	30.8	84.6	68.2	70.1	54.8	49.3	62.6	115	49.3	39.5	13.5
(WY)	1985	1985	1986	1986	1995	1986	1986	1984	1994	1984	1985	1984

e Estimated

07307028 NORTH FORK RED RIVER NEAR TIPTON, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1984 - 1998	
ANNUAL TOTAL	496965		316611			
ANNUAL MEAN	1362		867		700	
HIGHEST ANNUAL MEAN					1987	1987
LOWEST ANNUAL MEAN					132	1994
HIGHEST DAILY MEAN	18500	Apr 28	11100	Mar 18	39100	May 30 1987
LOWEST DAILY MEAN	263	Jan 14	26	Sep 30	3.7	Sep 7 1985
ANNUAL SEVEN-DAY MINIMUM	322	Jan 11	31	Sep 24	4.7	Sep 6 1985
INSTANTANEOUS PEAK FLOW			12000	Mar 17	57200	Oct 5 1986
INSTANTANEOUS PEAK STAGE			16.20	Mar 17	19.18	May 10 1993
ANNUAL RUNOFF (AC-FT)	985700		628000		507100	
10 PERCENT EXCEEDS	2730		1780		1390	
50 PERCENT EXCEEDS	585		516		210	
90 PERCENT EXCEEDS	384		80		59	



07308500 RED RIVER NEAR BURKBURNETT, TX

LOCATION.--Lat 34°06'36", long 98°31'53", Cotton County, Okla., Hydrologic Unit 11130102, on downstream guardrail of downstream bridge on U.S. Highways 277 and 281, 2.5 mi northeast of Burkburnett, and at mile 933.

DRAINAGE AREA.--20,570 mi^2, of which 5,936 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Jul 1924 to Aug 1925 (monthly discharge only), Dec 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 952.57 ft above sea level. Jul 11, 1924, to Aug 31, 1925, nonrecording gage at site 1,000 ft downstream at same datum. Dec 16, 1959, to Jan 11, 1960, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. No known regulation. There are many small diversions upstream from station for irrigation, but total amounts are unknown.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jun 3, 1957, reached a stage of 13.54 ft, from floodmarks. According to local residents, higher stages occurred in 1891 and Jun 1941.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 25	1700	13,900	6.70	Feb 20	1030	21,900	7.75
Jan 4	1930	12,400	6.52	Mar 17	unknown	59,800	10.80

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1250	431	447	2730	3700	2130	3440	1490	712	165	87	221
2	e850	411	482	2390	e4560	2060	3020	1450	524	169	88	145
3	597	393	536	2420	e5180	2010	3180	1370	438	173	88	111
4	467	371	547	5710	e4600	1950	2980	1350	380	174	100	94
5	386	355	796	7380	e3890	1890	2620	1330	347	247	124	87
6	332	357	832	3500	3510	2440	2500	1330	344	399	133	83
7	297	376	802	2680	3290	3190	2860	1350	344	388	143	74
8	310	383	812	2550	3070	3210	2850	1580	399	216	171	65
9	307	375	800	3200	3070	3320	2760	1530	395	214	170	57
10	286	385	753	2690	3180	4600	2650	1300	392	191	121	51
11	307	481	561	2370	3080	3590	e2500	1250	537	154	112	45
12	472	588	461	2140	3070	2910	e2350	1220	589	137	109	41
13	791	658	543	2040	3530	2620	e2070	1120	457	140	104	42
14	1730	690	493	1990	3920	2820	1910	1200	381	135	141	44
15	1790	682	417	1960	3620	5040	1940	1350	342	135	195	51
16	2230	598	390	2070	3320	31100	1850	1430	317	149	163	60
17	1770	529	390	2010	4020	e53000	1780	1370	299	142	140	78
18	1030	556	522	1880	7720	40900	1690	1070	286	144	125	73
19	718	614	783	e1760	10000	33700	1680	1050	284	151	118	113
20	559	610	868	e1650	19900	24400	1730	1220	315	155	130	165
21	532	679	1220	e1560	11800	e17200	1580	1170	270	151	112	114
22	516	730	1480	e1480	5860	e13400	1410	984	243	134	101	93
23	546	752	3230	e1410	5110	9940	1330	e890	239	129	107	89
24	659	852	4590	e1310	4260	8050	1340	e780	235	125	110	71
25	786	855	12100	e1240	3720	6840	1300	e700	231	111	110	61
26	737	805	11300	1180	3330	5810	1830	625	215	99	103	58
27	716	762	6570	1160	2860	5860	2180	620	189	99	105	53
28	661	695	4700	1180	2450	5510	1810	633	178	92	106	48
29	577	609	4410	1290	---	4050	1570	705	172	97	104	43
30	512	485	3680	1720	---	3980	1430	845	169	90	107	39
31	465	---	3510	2440	---	3950	---	1020	---	84	317	---
TOTAL	23186	17067	69025	71090	139620	311470	64140	35332	10223	4989	3944	2369
MEAN	748	569	2227	2293	4986	10050	2138	1140	341	161	127	79.0
MAX	2230	855	12100	7380	19900	53000	3440	1580	712	399	317	221
MIN	286	355	390	1160	2450	1890	1300	620	169	84	87	39
AC-FT	45990	33850	136900	141000	276900	617800	127200	70080	20280	9900	7820	4700

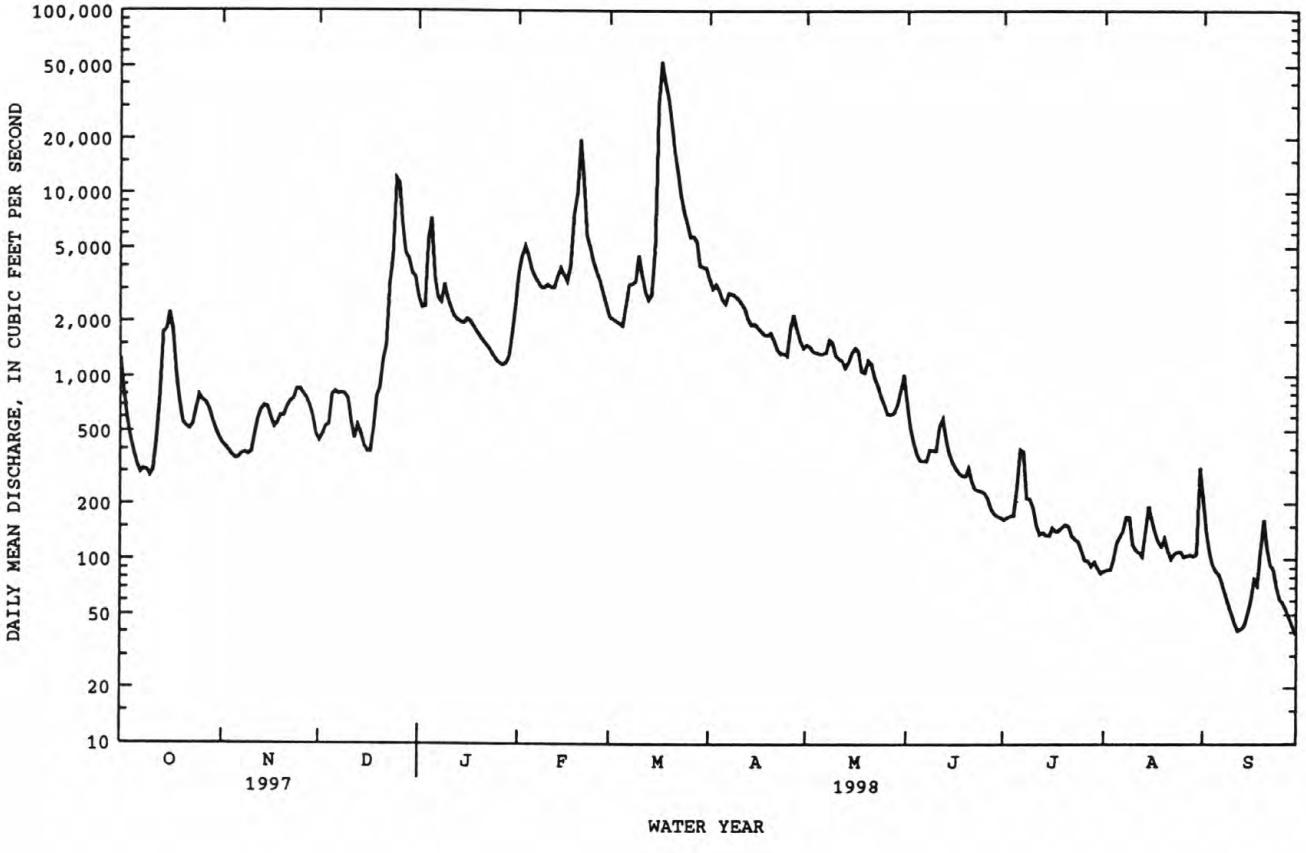
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1998, BY WATER YEAR (WY)

MEAN	1581	692	595	517	734	965	1150	2381	3505	874	918	1426
MAX	14900	4960	4435	2293	4986	10050	13040	12470	24780	5947	10540	6381
(WY)	1987	1987	1992	1998	1998	1998	1997	1977	1995	1975	1995	1996
MIN	21.9	.96	2.98	5.53	8.37	7.97	.15	11.4	148	.058	1.29	32.2
(WY)	1971	1971	1971	1971	1971	1971	1971	1971	1970	1970	1964	1983

e Estimated

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1960 - 1998	
ANNUAL TOTAL	1272713		752455			
ANNUAL MEAN	3487		2062		1283	
HIGHEST ANNUAL MEAN					4424	1987
LOWEST ANNUAL MEAN					178	1964
HIGHEST DAILY MEAN	62800	Apr 27	53000	Mar 17	144000	Jun 6 1995
LOWEST DAILY MEAN	196	Jan 14	39	Sep 30	.00	Jul 19 1964
ANNUAL SEVEN-DAY MINIMUM	305	Jul 31	47	Sep 9	.00	Jul 19 1964
INSTANTANEOUS PEAK FLOW			59800	Mar 17	174000	Jun 6 1995
INSTANTANEOUS PEAK STAGE			10.80	Mar 17	16.90	Oct 21 1983
INSTANTANEOUS LOW FLOW					.00	Jul 19 1964
ANNUAL RUNOFF (AC-FT)	2524000		1492000		929400	
10 PERCENT EXCEEDS	7700		3960		2540	
50 PERCENT EXCEEDS	855		716		310	
90 PERCENT EXCEEDS	377		104		53	



07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: May 1968 to current year. Biochemical analyses: Oct 1974 to Aug 1994. Pesticide analyses: Oct 1973 to Sep 1982, Oct 1996 to Sep 1997.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Jul 1968 to Sep 1981, Oct 1994 to current year.
WATER TEMPERATURE: Jul 1968 to Sep 1981, Oct 1994 to to current year.

INSTRUMENTATION.--From Dec 1968 to Sep 1979, specific conductance was continuously recorded at this station. From Oct 1994 to current year, specific conductance and water temperature were continuously recorded at this station.

REMARKS.--Mean monthly and annual concentrations and loads for selected chemical constituents have been computed using the daily (or continuous) records of specific conductance and regression relationships between each chemical constituent and specific conductance. Regression equations developed for this station may be obtained from the Geological Survey District Office upon request.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 17,400 microsiemens, Jul 30, 1972; minimum, 462 microsiemens, Feb 24, 1997.
WATER TEMPERATURE: Maximum, 36.0°C, Jul 3, 1996; minimum, 0.0°C, on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 8,070 microsiemens, May 19; minimum, 1,450 microsiemens, Jul 7.
WATER TEMPERATURE: Maximum, 36.5°C, Jul 14, 18; minimum, 0.5°C, Dec 13.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB DISSOLVFLD. AS CACO3 (MG/L) (00904)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)
NOV											
10...	1135	380	6110	8.1	7.3	9.8	85	1400	1200	370	112
25...	1015	860	5610	8.2	9.9	10.1	93	1200	1000	310	101
JAN											
15...	1210	1960	5210	8.4	3.5	14.1	111	1200	1000	310	106
FEB											
17...	1225	3930	5460	8.3	9.5	13.0	121	1100	910	280	100
MAR											
18...	1430	39900	2470	7.8	12.0	10.3	100	470	400	130	37
APR											
30...	1040	1350	5250	8.2	16.0	10.0	107	1200	1100	300	114
MAY											
20...	1105	1310	7110	8.1	23.5	8.5	106	1300	1200	340	115
28...	1020	604	5570	8.3	24.5	7.3	92	1300	1200	310	117
JUN											
30...	1055	175	6650	8.1	27.5	5.7	76	1400	1400	340	144
JUL											
28...	1240	90	6680	8.2	30.0	5.8	81	1400	1300	330	141
AUG											
12...	1025	111	5460	8.0	26.0	7.4	96	1200	1100	270	118
25...	1350	110	5870	8.3	33.0	7.1	104	1200	1100	280	122

DATE	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT DIS FIX END FIELD CAC03 (MG/L) (39036)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)
NOV											
10...	827	10	7.7	170	1100	1400	.47	8.5	3950	10	1.25
25...	739	9	6.8	180	1100	1200	.45	11	3560	67	1.09
JAN											
15...	713	9	6.8	210	930	1100	.49	15	3310	192	1.40
FEB											
17...	724	10	7.1	190	890	1200	.45	9.1	3280	198	--
MAR											
18...	338	7	6.9	72	370	550	.28	8.4	1480	2320	.457
APR											
30...	696	9	6.9	130	1100	1100	.43	5.4	3390	98	.646
MAY											
20...	994	12	8.9	100	1200	1500	.48	8.4	4320	312	.439
28...	740	9	8.1	71	1200	1200	.42	6.8	3550	46	.161
JUN											
30...	928	11	9.3	83	1300	1300	.51	11	4100	28	--
JUL											
28...	937	11	9.9	91	1300	1500	.49	13	4190	23	--
AUG											
12...	742	9	9.1	81	1100	1200	.40	10	3440	29	--
25...	808	10	8.7	72	1100	1300	.48	13	3640	33	--

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4) (00660)	ARSENIC TOTAL (UG/L AS AS) (01002)
NOV											
10...	.032	1.29	.103	1.8	.46	.56	.053	<.010	.021	.06	2
25...	.011	1.10	<.020	1.7	--	.63	.050	<.010	.026	.08	3
JAN											
15...	.013	1.42	.024	2.1	.69	.72	.111	.032	.035	.11	3
FEB											
17...	<.010	1.13	<.020	2.1	--	.98	.150	.035	.043	.13	3
MAR											
18...	.023	.480	.143	4.1	3.5	3.7	1.49	.014	.022	.07	9
APR											
30...	.010	.656	.026	1.6	.91	.94	.089	<.010	.015	.05	<5
MAY											
20...	.027	.466	<.020	2.0	--	1.5	.200	.010	.019	.06	3
28...	.020	.181	.022	1.3	1.1	1.1	.111	.069	<.010	--	3
JUN											
30...	<.010	<.050	.040	--	1.0	1.1	<.010	<.010	<.010	--	4
JUL											
28...	<.010	.109	.046	.97	.81	.86	.041	.011	.011	.03	5
AUG											
12...	.010	<.050	.059	--	.85	.91	.031	<.010	.015	.05	5
25...	<.010	<.050	<.020	--	--	1.0	.044	<.010	<.010	--	5

DATE	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)
NOV											
10...	2	<100	85	<1	<4.0	<1	<1.0	<1	<40	310	<12
25...	2	<100	87	<1	<5.0	2	<1.0	2	<50	580	<15
JAN											
15...	3	100	120	<1	<32	3	<1.0	5	<40	2000	<40
FEB											
17...	2	<100	123	<1	<32	3	<2.0	4	<40	1900	<40
MAR											
18...	2	700	163	<1	<24	27	<1.0	36	<30	6300	<30
APR											
30...	1	<100	88	<1	<32	2	<1.0	2	<40	660	<40
MAY											
20...	2	<100	93	<2	<40	3	<2.0	5	<50	1900	<50
28...	2	<100	89	<1	<32	4	<2.0	2	<40	300	<40
JUN											
30...	4	<100	98	<1	<40	<1	<2.0	1	<50	160	<50
JUL											
28...	5	100	92	<1	<40	2	3.7	<1	<50	130	<50
AUG											
12...	3	<100	84	<1	<24	2	<2.0	2	<30	180	250
25...	4	<100	91	<1	<24	<1	<2.0	<1	<30	80	<30

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)
NOV											
10...	<1	<40	24	8.5	<.10	<.1	<100	<40	5	6	<1
25...	<1	<50	32	7.4	<.10	<.1	<100	<50	4	5	<1
JAN											
15...	<1	<400	80	<16	<.10	<.1	<100	<160	4	4	<1
FEB											
17...	<1	<400	84	<16	<.10	<.1	<100	<160	3	4	<1
MAR											
18...	24	<300	1100	24	<.10	<.1	100	<120	2	1	<1
APR											
30...	<1	<400	53	<16	<.10	.1	<100	<160	6	5	<1
MAY											
20...	4	<500	190	<20	<.10	<.1	<100	<200	4	5	<1
28...	<1	<400	58	<16	<.10	<.1	<100	<160	4	4	<1
JUN											
30...	<1	<500	62	<20	<.10	.1	<100	<200	6	6	<1
JUL											
28...	<1	<500	48	<20	<.10	<.1	<100	<200	4	<1	<1
AUG											
12...	<1	<300	58	15	.11	1.4	<100	<120	3	4	<1
25...	<1	<300	11	<12	<.10	<.1	<100	<120	3	3	<1

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR-DANE, TECH-NICAL TOTAL (UG/L) (39350)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	TOX-APHENE, TOTAL (UG/L) (39400)
NOV											
10...	<1.0	<10	<12	--	--	--	--	--	--	--	--
25...	<1.0	<10	24	--	--	--	--	--	--	--	--
JAN											
15...	<1.0	<10	<80	--	--	--	--	--	--	--	--
FEB											
17...	<1.0	10	<80	--	--	--	--	--	--	--	--
MAR											
18...	<1.0	90	<60	--	--	--	--	--	--	--	--
APR											
30...	<1.0	<10	<80	<.040	<.100	<.020	<.060	<.030	<.800	<.030	<2.00
MAY											
20...	<1.0	10	<100	--	--	--	--	--	--	--	--
28...	<1.0	<10	<80	<.040	<.100	<.020	<.060	<.030	<.800	<.030	<2.00
JUN											
30...	<1.0	<10	<100	--	--	--	--	--	--	--	--
JUL											
28...	<1.0	<10	<100	<.040	<.100	<.020	<.060	<.030	<.800	<.030	<2.00
AUG											
12...	<1.0	<10	<60	--	--	--	--	--	--	--	--
25...	<1.0	<10	<60	--	--	--	--	--	--	--	--

MONTHLY AND ANNUAL MEANS AND LOADS FOR OCTOBER 1997 TO SEPTEMBER 1998

MONTH	YEAR	DISCHARGE (CFS-DAYS)	SPECIFIC CONDUCT-ANCE (MICRO-SIEMENS)	DIS-SOLVED SOLIDS (MG/L)	DIS-SOLVED SOLIDS (TONS)	DIS-SOLVED CHLORIDE (MG/L)	DIS-SOLVED CHLORIDE (TONS)	DIS-SOLVED SULFATE (MG/L)	DIS-SOLVED SULFATE (TONS)	HARDNESS (CA,MG) (MG/L)
OCT.	1997	23186	5360	3370	211300	1200	74490	950	59780	1100
NOV.	1997	17067	5640	3550	163700	1300	58250	990	45760	1100
DEC.	1997	69025	4070	2570	478600	870	162600	760	142100	880
JAN.	1998	71090	4580	2890	554900	990	190900	840	162200	970
FEB.	1998	139620	4620	2910	1097500	1000	375900	860	322400	990
MAR.	1998	311470	3060	1930	1624100	630	525700	610	510300	700
APR.	1998	64140	4830	3050	527400	1100	182500	880	153000	1000
MAY	1998	35332	5730	3610	344500	1300	123200	1000	95590	1200
JUNE	1998	10223	5240	3300	91130	1200	32120	930	25800	1100
JULY	1998	4989	5740	3620	48720	1300	17460	1000	13480	1200
AUG.	1998	3944	5790	3640	38810	1300	13890	1000	10760	1200
SEPT	1998	2369	5370	3380	21650	1200	7700	950	6060	1100
TOTAL		752455.00	**	**	5202400	**	1764600	**	1547200	**
WTD.AVG.		2060	4060	2560	**	870	**	760	**	880

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	e3950	5950	5890	5930	---	---	e5920	4510	4070	4280
2	---	---	e4400	5980	5900	5930	6130	5890	5970	4880	4500	4650
3	---	---	e4860	6010	5940	5980	6210	5910	6000	5100	4880	4960
4	5130	4920	5020	6000	5890	5950	6330	6200	6250	5280	2900	4730
5	5240	5130	5200	5930	5730	5810	6390	5940	6250	2900	2350	2450
6	5130	4340	4560	5830	5670	5750	6010	5590	5790	3650	2660	3330
7	5280	4150	4640	5770	5640	5710	5590	5370	5470	3770	3580	3660
8	5410	4800	5240	---	---	e5640	5520	5390	5420	4710	3770	4100
9	5440	4680	5230	---	---	e5810	5710	5520	5610	5060	4710	4860
10	5580	5430	5490	---	---	e5930	5700	5640	5670	5010	4200	4490
11	5610	5430	5540	6060	5920	6010	5930	5600	5710	4570	4060	4330
12	5540	5010	5330	5970	5600	5860	6320	5930	6180	4610	3860	4390
13	5700	5040	5270	5600	5210	5300	6580	5960	6160	4800	4500	4700
14	5830	5420	5590	5370	5090	5230	6600	6270	6400	4930	4790	4850
15	5420	5040	5150	5600	5320	5440	6700	6450	6610	5160	4920	4960
16	6230	5190	5710	5890	5600	5770	6700	4350	6490	---	---	e5230
17	6150	5020	5460	6390	5890	6210	6660	6410	6550	---	---	e5330
18	5020	4800	4870	6320	5200	5480	6690	6560	6620	---	---	e5380
19	5070	4830	4950	6020	5060	5760	6630	6120	6500	---	---	e5420
20	5250	5070	5170	6180	6020	6130	6120	5040	5640	---	---	e5460
21	5360	5220	5280	6180	5860	6060	5040	4380	4660	---	---	e5510
22	5550	5350	5450	5860	5480	5700	4740	4330	4450	---	---	e5600
23	5600	5350	5480	5480	5280	5360	5430	4740	4920	---	---	e5640
24	5390	5200	5310	5590	5390	5470	6470	5430	6160	---	---	e5680
25	6030	5310	5500	---	---	e5200	---	---	e2650	---	---	e5720
26	6320	6010	6160	---	---	e5280	---	---	e3110	---	---	e5770
27	6450	6320	6390	---	---	e5360	---	---	e3350	5630	5530	5580
28	6460	6340	6390	---	---	e5420	---	---	e3510	5670	5600	5630
29	6610	6220	6470	---	---	e5540	---	---	e3810	5700	5650	5680
30	6220	6070	6120	---	---	e5700	---	---	e3920	5770	5690	5730
31	6130	5900	6010	---	---	---	---	---	e4060	6150	1800	4570
MONTH	---	---	5360	---	---	5690	---	---	5350	---	---	4920

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4480	4200	4350	4380	4310	4340	4420	4210	4320	5220	4850	5050
2	4330	4060	4220	4340	4300	4320	4460	4170	4390	5310	4910	5090
3	4150	3420	3640	4340	4300	4320	4490	1540	4200	5720	5240	5660
4	3510	3400	3460	4300	4220	4270	4310	4180	4230	6000	5660	5810
5	3680	3460	3560	4250	4210	4230	4490	4290	4340	6020	5900	5960
6	4090	3570	3750	4360	4100	4190	4690	4490	4590	5970	5820	5900
7	4040	3810	3930	4610	3900	4200	4740	4470	4650	5860	5680	5780
8	4200	3990	4100	---	---	e4000	4800	4540	4680	5770	5450	5670
9	---	---	e4300	---	---	e3800	5060	4790	4920	6130	3590	5210
10	---	---	e4700	---	---	e3600	4960	4770	4840	5470	3570	4280
11	5220	5010	5110	---	---	e4000	---	---	e4820	5820	5350	5580
12	5180	5090	5140	---	---	e4300	---	---	e5000	6000	5690	5830
13	5090	4770	4930	---	---	e4580	---	---	e5150	6350	6000	6120
14	4900	4720	4810	5480	4480	4820	---	---	e5320	6360	6260	6320
15	5070	4760	4840	5510	4510	5200	5420	5260	5350	6940	6130	6310
16	5090	4970	5020	4510	1980	2980	5570	5160	5470	7120	6300	6820
17	5330	4930	5150	---	---	e1800	5700	5530	5650	6300	5630	5830
18	5330	4670	5190	---	---	e2500	5730	5550	5640	5640	5090	5530
19	5350	4920	5300	2980	2820	2890	5630	5530	5580	8070	5450	7130
20	5360	3860	4970	3170	2910	3040	5620	5480	5570	8030	5750	6870
21	5090	4230	4900	3260	3120	3200	5680	5450	5590	---	---	e6030
22	4450	4100	4380	3400	3240	3330	5620	5490	5560	---	---	e5190
23	4530	4450	4490	3540	3380	3460	5880	5610	5760	---	---	e5240
24	4470	4410	4430	3620	3430	3520	6050	5880	5950	---	---	e5280
25	4410	4350	4400	3720	3490	3610	5980	5680	5840	---	---	e5320
26	4350	4290	4320	3800	3600	3720	5680	4530	5350	---	---	e5370
27	4360	4260	4280	3900	3740	3820	5240	1960	3890	5510	5060	5310
28	4400	4360	4380	4030	3840	3940	4670	2070	2680	5590	5370	5490
29	---	---	---	4100	3940	4040	5420	2130	3620	5660	5300	5460
30	---	---	---	4200	4080	4140	5370	5030	5200	6350	5430	5730
31	---	---	---	4310	4140	4220	---	---	---	6410	5380	5880
MONTH	---	---	4500	---	---	3820	---	---	4940	---	---	5710

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6030	5700	5890	6700	6610	6670	6610	6250	6500	3920	3320	3450
2	5710	4930	5230	6780	6600	6660	6730	6500	6590	3890	3480	3640
3	5040	4890	4960	6850	6660	6750	6650	6070	6520	4780	3890	4300
4	5210	4940	5080	6660	6540	6600	6590	6030	6260	5290	4780	5060
5	---	---	e5140	6550	4620	5820	6250	5910	6110	5610	5290	5430
6	---	---	e5190	5910	4410	5560	5970	5720	5880	5820	5600	5660
7	5460	4810	5240	4430	1450	3700	5950	5670	5830	5870	5710	5800
8	5330	4160	4880	---	---	e4580	5910	5440	5760	6030	5840	5920
9	---	---	e3680	---	---	e5090	5530	4910	5250	6170	5490	6030
10	---	---	e3700	---	---	e5120	5580	4910	5220	6460	5210	6070
11	---	---	e3800	---	---	e5930	5570	5170	5330	7120	5950	6570
12	---	---	e3300	---	---	e5980	6060	5340	5710	6990	6770	6920
13	---	---	e4200	---	---	e6000	6120	6010	6060	6990	5780	6700
14	---	---	e5700	---	---	e6020	6140	6040	6090	7040	6820	6920
15	---	---	e5900	6240	6020	6130	6230	5500	5890	7100	6740	6950
16	---	---	e6200	6340	6240	6280	5730	5340	5520	7140	6870	7070
17	---	---	e6180	6260	6020	6160	5690	5350	5450	7080	6440	6690
18	---	---	e6000	6100	5950	6020	5980	5690	5810	6490	5850	6060
19	---	---	e5800	6090	5850	5980	6040	5880	5950	6400	5690	5980
20	---	---	e6000	6130	5920	6020	5930	5420	5730	6740	4420	5870
21	---	---	e6050	6010	5490	5820	5760	5400	5600	4420	3830	4020
22	---	---	e6080	5980	5820	5880	5980	5700	5800	4330	3930	4090
23	---	---	e6100	5910	5710	5790	6070	5540	5900	4410	4200	4300
24	---	---	e6050	6090	5800	5980	5910	5750	5830	5220	4250	4720
25	---	---	e6010	6040	5700	5930	5890	5710	5800	6300	5220	5740
26	---	---	e6040	6130	4730	5450	5800	5630	5740	6780	6300	6520
27	6150	5820	5970	6580	5270	6230	5920	5720	5780	6850	6740	6790
28	6380	6150	6240	6700	4600	6480	6030	5880	5970	6910	6760	6830
29	6610	6380	6480	6620	4640	6060	5950	5820	5880	6790	6570	6680
30	6690	6570	6630	6390	6000	6190	5950	5650	5800	6850	6610	6800
31	---	---	---	6500	6060	6250	6200	3920	5430	---	---	---
MONTH	---	---	5460	---	---	5910	6730	3920	5840	7140	3320	5790

e Estimated

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	27.1	22.8	24.8	17.5	14.5	15.9	10.5	9.7	10.1	8.7	4.3	6.4
2	---	---	---	15.3	12.1	13.5	9.9	9.4	9.6	13.7	8.4	10.9
3	---	---	---	14.5	9.3	12.0	9.5	6.3	8.3	14.9	12.4	13.6
4	26.4	20.9	23.3	16.8	10.7	13.6	9.2	4.5	6.7	14.5	10.2	12.4
5	26.3	20.5	23.2	17.3	13.0	15.0	7.4	3.9	5.7	10.2	9.4	9.8
6	25.3	21.8	23.4	15.1	10.6	12.7	6.6	4.3	5.5	9.9	8.1	9.5
7	24.0	21.8	22.7	14.4	9.3	11.7	6.7	5.1	5.3	8.1	4.7	6.1
8	26.0	21.7	23.5	14.7	9.4	11.9	8.4	5.4	6.7	5.5	3.5	4.6
9	26.2	22.6	24.2	12.0	8.9	10.6	9.9	5.0	7.5	7.0	3.3	5.3
10	25.6	23.0	24.2	9.4	7.0	8.0	6.8	4.1	5.2	5.9	4.4	4.8
11	24.0	22.3	23.0	9.7	5.3	7.5	4.1	2.6	3.2	5.1	4.2	4.6
12	22.4	18.8	21.5	9.3	6.8	8.1	4.6	1.9	3.0	8.9	5.1	6.5
13	20.0	15.8	17.9	8.9	7.1	8.3	5.4	.5	2.8	6.6	4.2	5.1
14	20.2	15.6	17.8	8.6	4.8	7.0	7.0	1.8	4.2	4.6	3.9	4.2
15	20.9	16.1	18.3	6.9	3.3	5.0	8.6	3.0	5.6	6.4	2.3	4.3
16	21.5	16.9	18.9	8.0	2.7	5.2	9.1	4.5	6.6	8.1	4.5	6.1
17	19.0	16.1	17.1	7.0	3.5	5.2	9.3	4.4	6.9	9.5	5.8	7.5
18	19.9	14.8	17.0	9.8	3.8	6.6	9.7	4.9	7.2	10.4	6.8	8.4
19	20.8	15.2	17.7	11.1	5.9	8.4	10.8	5.8	8.2	8,9	6.3	7.5
20	17.7	15.6	16.5	12.1	7.4	9.7	8.8	5.0	6.6	10.0	6.9	8.2
21	16.9	14.5	15.5	12.3	8.2	10.2	5.1	4.5	4.8	8.9	7.2	7.9
22	15.9	12.5	14.2	13.4	9.1	11.0	5.2	3.9	4.5	7.2	6.0	6.7
23	16.7	13.5	15.0	13.4	8.8	11.0	4.9	4.5	4.6	6.9	5.7	6.0
24	20.4	15.2	17.4	13.9	9.1	11.4	5.2	3.6	4.5	6.9	5.1	5.8
25	18.3	10.4	15.8	14.8	8.7	12.2	5.2	4.2	4.8	8.4	6.6	7.2
26	10.4	6.2	8.3	14.6	11.7	12.9	5.3	3.5	4.3	12.0	8.0	9.6
27	12.7	6.5	9.4	14.7	11.2	12.9	5.1	2.7	3.9	10.9	6.8	8.8
28	14.9	9.1	11.7	17.1	13.8	15.0	4.8	3.0	3.9	9.6	8.0	8.8
29	17.3	10.9	14.0	14.0	9.8	11.2	5.3	2.0	3.7	11.6	8.4	9.7
30	19.7	14.4	16.7	11.0	8.1	9.6	7.0	3.6	5.2	12.9	8.6	10.7
31	20.0	14.1	16.9	---	---	---	6.9	4.2	5.6	12.5	11.1	11.6
MONTH	---	---	---	17.5	2.7	10.4	10.8	.5	5.6	14.9	2.3	7.7

07308500 RED RIVER NEAR BURKBURNETT, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	13.4	10.9	11.7	10.6	9.7	10.0	---	---	---	25.7	17.0	21.2
2	13.3	9.5	11.2	9.7	8.9	9.3	---	---	---	27.1	19.3	22.7
3	11.1	8.5	9.1	9.4	8.6	9.0	---	---	---	26.1	18.9	22.3
4	8.5	6.0	7.4	9.8	9.0	9.4	17.2	11.8	14.2	25.8	19.2	22.4
5	6.8	4.4	5.6	10.0	9.8	9.9	18.4	12.7	15.3	28.8	20.3	24.0
6	6.6	2.9	4.7	9.8	8.0	9.2	18.8	14.7	16.7	29.7	22.6	25.4
7	8.3	4.2	6.1	9.0	8.0	8.8	19.0	14.2	16.4	29.8	21.2	25.2
8	10.4	6.1	8.0	---	---	---	18.7	14.5	16.4	26.0	19.8	23.0
9	12.8	7.2	10.1	---	---	---	19.3	13.9	16.4	23.1	18.7	20.3
10	11.2	8.9	10.3	---	---	---	20.8	14.7	17.5	27.4	17.8	22.3
11	11.8	7.0	9.4	---	---	---	---	---	---	27.7	19.9	23.3
12	10.0	7.9	8.7	---	---	---	---	---	---	29.2	19.0	23.9
13	10.7	7.4	8.9	---	---	---	---	---	---	28.8	21.9	24.8
14	11.4	8.3	9.7	12.3	7.2	9.6	---	---	---	28.9	22.3	25.3
15	11.2	9.9	10.5	13.1	11.4	12.2	24.9	18.6	21.2	26.5	22.4	24.4
16	9.9	8.4	9.1	---	---	---	20.3	15.1	17.5	27.4	20.6	23.7
17	10.5	7.9	9.0	---	---	---	18.1	13.8	16.0	28.0	22.0	24.5
18	10.9	8.2	9.6	---	---	---	21.3	13.4	17.1	29.3	22.1	25.6
19	11.5	9.2	10.3	---	---	---	22.6	15.4	18.9	29.7	22.6	25.8
20	12.4	9.4	10.9	---	---	---	19.1	13.4	16.0	28.6	22.7	25.4
21	11.7	10.0	10.5	---	---	---	19.5	11.4	15.5	---	---	---
22	10.3	9.8	10.0	---	---	---	22.7	14.4	18.3	---	---	---
23	12.9	10.3	10.4	---	---	---	23.4	15.9	19.4	23.8	21.7	22.6
24	10.8	10.5	10.6	---	---	---	22.8	15.5	19.1	28.6	20.9	24.4
25	11.5	10.8	11.1	---	---	---	24.5	16.5	20.1	28.0	22.8	25.2
26	11.7	11.5	11.6	---	---	---	20.5	15.6	18.6	29.0	22.6	25.8
27	11.7	11.6	11.7	---	---	---	19.3	13.8	16.7	29.4	24.0	26.6
28	11.7	10.6	11.3	---	---	---	16.1	13.0	14.0	31.6	23.7	27.4
29	---	---	---	---	---	---	17.6	12.4	14.6	31.2	25.4	28.0
30	---	---	---	---	---	---	23.1	13.3	17.9	28.5	24.5	26.6
31	---	---	---	---	---	---	---	---	---	29.9	23.4	26.4
MONTH	13.4	2.9	9.6	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	30.9	24.9	27.7	35.2	27.0	30.8	34.5	25.1	29.2	33.0	25.1	28.7
2	29.4	23.4	26.2	34.5	26.7	30.1	34.0	23.4	28.7	33.1	24.5	28.8
3	30.9	23.1	26.7	33.5	25.4	29.1	34.7	23.8	28.6	32.2	25.0	28.5
4	27.9	23.8	26.1	31.7	25.7	28.4	32.4	23.7	27.7	32.5	24.0	27.9
5	23.8	18.1	20.8	28.7	25.0	26.6	29.3	25.4	27.4	33.0	24.1	28.0
6	26.7	17.2	21.6	34.4	26.1	30.0	32.1	24.0	28.0	33.6	23.8	27.8
7	24.5	19.1	21.6	35.9	28.6	31.9	34.6	25.0	29.1	34.4	23.4	28.3
8	27.7	19.7	23.3	33.9	26.7	30.1	32.0	24.2	27.6	33.7	24.2	28.5
9	---	---	---	34.8	27.9	31.0	32.6	24.4	28.2	31.5	23.8	26.9
10	---	---	---	35.2	27.0	30.9	32.9	23.5	26.8	29.3	19.8	24.3
11	---	---	---	34.7	26.2	30.2	29.7	24.2	26.5	28.0	21.9	24.6
12	---	---	---	35.5	26.9	30.6	33.2	24.7	28.3	25.5	21.6	23.1
13	---	---	---	36.2	27.6	31.0	34.0	24.4	28.6	27.7	21.7	23.9
14	---	---	---	36.5	27.1	31.4	31.7	25.5	28.6	32.4	22.8	26.8
15	---	---	---	36.3	27.4	31.3	35.0	25.5	29.6	30.7	23.8	26.4
16	29.4	23.5	26.3	34.8	25.7	29.9	33.5	25.4	29.1	28.9	23.1	25.3
17	30.1	22.8	26.1	35.7	25.9	30.3	33.6	25.1	28.8	31.4	23.4	26.3
18	32.2	24.3	27.6	36.5	27.2	31.3	32.1	24.7	27.9	31.6	23.5	27.1
19	32.8	24.5	28.1	34.9	26.8	30.6	31.9	25.5	28.3	31.0	23.6	27.0
20	32.0	25.1	28.3	35.1	26.3	30.2	32.8	25.1	28.7	30.8	23.0	26.4
21	30.7	25.0	27.6	34.2	25.8	29.5	32.8	25.4	28.8	30.7	23.2	26.4
22	32.4	23.4	27.2	35.3	25.4	29.7	32.4	25.1	28.5	25.4	20.6	23.4
23	32.0	23.9	27.3	35.8	25.1	29.9	33.7	24.9	28.8	27.9	19.9	22.9
24	31.2	23.2	26.7	35.4	25.4	30.0	33.3	25.1	28.9	31.2	22.5	26.2
25	31.2	23.4	26.8	34.6	26.0	30.0	35.5	25.8	29.9	30.4	22.2	25.4
26	32.0	23.4	27.3	34.7	24.7	29.2	34.6	26.3	29.9	30.0	21.7	25.2
27	33.9	24.8	28.7	34.7	24.2	28.9	32.8	25.2	28.8	32.5	23.1	27.1
28	34.2	25.7	29.5	34.5	24.8	29.0	31.5	24.7	27.4	35.1	24.6	28.8
29	35.0	25.9	29.9	33.5	24.1	28.3	33.4	23.3	27.8	33.6	24.0	28.1
30	35.2	25.5	29.9	33.5	23.2	28.0	33.4	23.5	28.1	32.0	23.0	27.1
31	---	---	---	34.1	23.3	28.5	32.3	25.1	28.3	---	---	---
MONTH	---	---	---	36.5	23.2	29.9	35.5	23.3	28.4	35.1	19.8	26.5

07308990 LAKE ELLSWORTH NEAR ELGIN, OK

LOCATION.--Lat 34°47'10", long 98°22'07", in NW ¼ NW ¼ sec.28, T.4 N., R.11 W., Comanche County, Hydrologic Unit 11130202, near right end of dam on East Cache Creek, 4 miles west of Elgin and at mile 59.9.

DRAINAGE AREA.--249 mi^2.

PERIOD OF RECORD.--October 1995 to current year.

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

REMARKS.--Reservoir is formed by concrete dam. Storage began in 1964. Capacity, 189,200 acre-ft at elevation 1,250.00 ft, top of dam; and 72,490 acre-ft at elevation 1,235.00 ft, top of gates; 25,730 acre-ft at elevation 1,225.00 ft, top of spillway. Reservoir is used for municipal water supply and recreation. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 81,300 acre-ft, Mar. 17, 1998, elevation 1,236.36 ft; minimum contents, 41,100 acre-ft, Sept. 30, 1998, elevation 1,228.71 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 81,300 acre-ft, Mar. 17, elevation 1,236.36 ft; minimum, 41,100 acre- ft, Sept. 30, elevation, 1,228.71 ft.

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

1225	25,730	1240	104,800
1230	46,450	1245	143,700
1235	72,490	1250	189,200

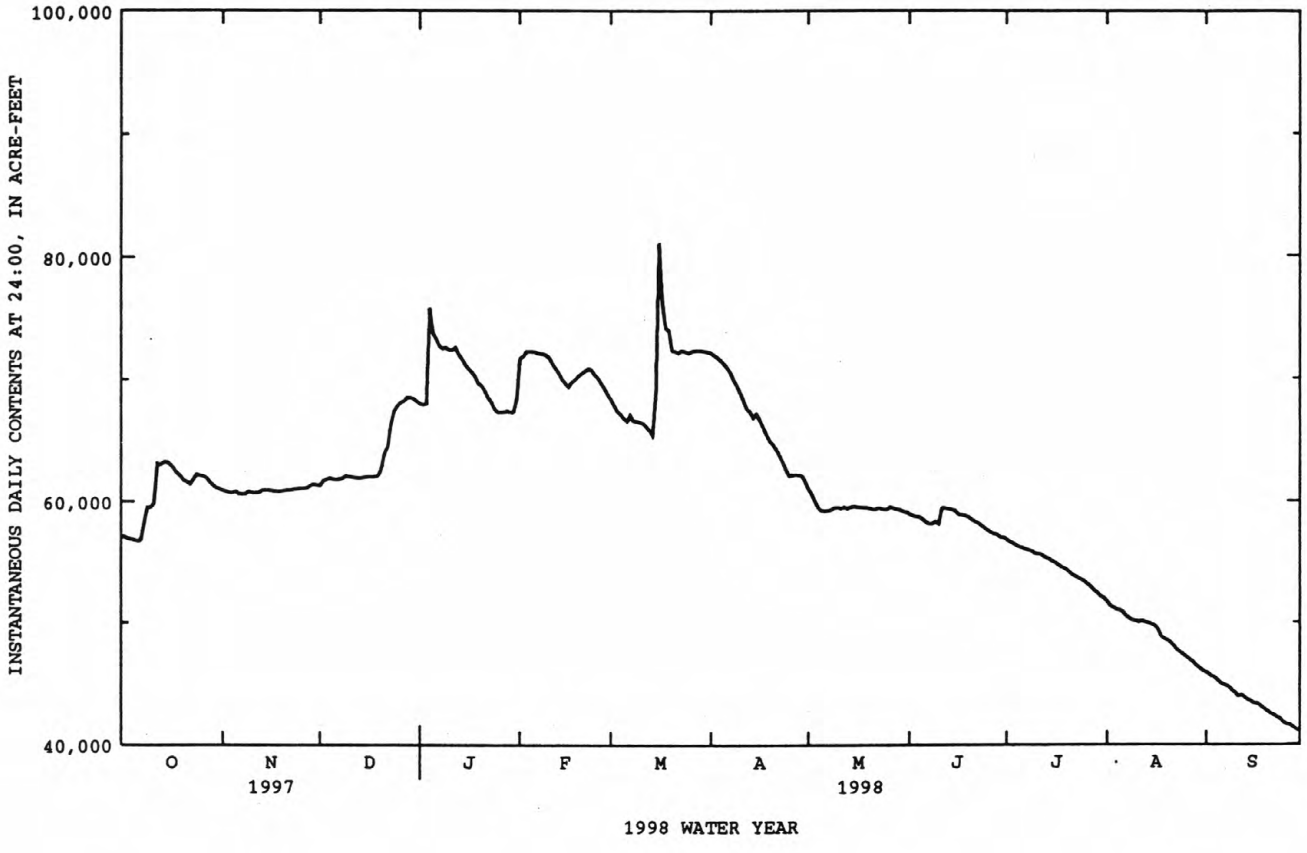
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57100	60900	61300	68000	71700	68400	72200	61000	58900	56800	51700	45900
2	57100	60800	61700	67900	71900	67900	72000	60600	58800	56600	51300	45700
3	56900	60700	61800	68000	72300	67400	71800	60000	58700	56500	51200	45500
4	56900	60700	61900	75800	72300	67200	71600	59500	58700	56300	51000	45400
5	56800	60800	61800	73800	72300	66800	71300	59200	58500	56200	51000	45100
6	56700	60600	61800	73300	72200	66600	71000	59200	58300	56100	50800	44900
7	56800	60600	61800	72700	72100	67100	70600	59200	58100	56000	50500	44800
8	58200	60600	61900	72500	72100	66600	70000	59300	58100	55900	50300	44700
9	59500	60800	62100	72600	72000	66600	69500	59500	58300	55800	50100	44400
10	59500	60700	62000	72400	71800	66500	68900	59500	58100	55600	50100	44200
11	59800	60700	62000	72400	71300	66400	68300	59400	59400	55600	50000	43900
12	63100	60700	61900	72600	70900	66100	67600	59500	59400	55500	50100	44000
13	63000	60900	61900	72000	70500	65800	67400	59400	59300	55300	50000	43800
14	63200	60900	61900	71700	70000	65400	66900	59500	59300	55200	49900	43600
15	63200	60900	62000	71200	69700	68800	67200	59600	59200	55000	49800	43500
16	63000	60900	62000	70900	69400	81100	66700	59500	58900	54900	49700	43300
17	62700	60800	62000	70600	69800	76500	66100	59500	58800	54700	49400	43300
18	62300	60800	62000	70300	70000	74200	65500	59500	58800	54500	48800	43100
19	62100	60800	62100	69700	70300	74000	65000	59400	58700	54400	48600	42900
20	61700	60900	62600	69500	70500	72400	64700	59400	58500	54200	48500	42700
21	61600	60900	63900	69100	70700	72300	64300	59300	58300	53900	48300	42500
22	61400	60900	64400	68500	70900	72200	63800	59400	58200	53800	48000	42400
23	61800	61000	66300	68200	70800	72400	63200	59400	58000	53600	47700	42200
24	62200	61000	67400	67600	70400	72300	62600	59300	57800	53500	47500	42100
25	62100	61000	67800	67300	70100	72200	62100	59300	57600	53300	47300	41800
26	62100	61100	68100	67300	69700	72300	62200	59500	57400	53100	47100	41600
27	61900	61100	68200	67300	69300	72400	62200	59400	57300	52900	46900	41600
28	61600	61300	68500	67400	68800	72400	62200	59300	57200	52600	46700	41400
29	61300	61400	68500	67300	---	72400	62100	59300	57000	52400	46400	41200
30	61100	61300	68400	67300	---	72300	61600	59100	57000	52100	46200	41100
31	61000	---	68200	68400	---	72300	---	59100	---	52000	46000	---
MAX	63200	61400	68500	75800	72300	81100	72200	61000	59400	56800	51700	45900
MIN	56700	60600	61300	67300	68800	65400	61600	59100	57000	52000	46000	41100
(‡)	1232.79	1232.86	1234.17	1234.22	1234.29	1234.96	1232.90	1232.43	1232.02	1231.06	1229.90	1228.71
(‡‡)	+3,800	+300	+6,900	+200	+400	+3,500	-10,700	-2,500	-2,100	-5,000	-6,000	-4,900

CAL YR 1997	MAX 72100	MIN 56000	(‡‡)	+3,600
WTR YR 1998	MAX 81100	MIN 41100	(‡‡)	-16,100

(‡) ELEVATION, IN FEET, AT END OF MONTH
(‡‡) CHANGE IN CONTENTS, IN ACRE-FEET

07308990 LAKE ELLSWORTH NEAR ELGIN, OK--Continued



07309500 LAKE LAWTONKA NEAR LAWTON, OK

LOCATION.--Lat 34°44'10", long 98°30'11", in NE ¼ NW ¼ sec.18, T.3 N., R.12 W., Comanche County, Hydrologic Unit 11130202, near left end of dam on Medicine Creek, northwest of Medicine Park and at mile 12.2.

DRAINAGE AREA.--93 mi^2.

PERIOD OF RECORD.--October 1994 to current year.

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

REMARKS.--Reservoir is formed by concrete dam. Storage began in 1905. Capacity, 85,660 acre-ft at elevation 1,355.55 ft, top of dam; and 59,590 acre-ft at elevation 1,345.55 ft, top of gates; 38,980 acre-ft at elevation 1,335.55 ft, top of spillway. Reservoir is used for municipal water supply and recreation. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 63,600 acre-ft, Mar. 16, 1998, elevation 1,347.27 ft; minimum, 46,500 acre-ft, Sept. 29, 30, 1998, elevation, 1,339.57 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 63,600 acre-ft, Mar. 16, elevation 1,347.27 ft; minimum, 46,500 acre-ft, Sept. 29, 30, elevation, 1,339.57 ft.

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

1300	1,540	1340	47,300
1310	7,190	1345	58,300
1325	22,900	1350	69,800
1335	37,950	1355	83,990

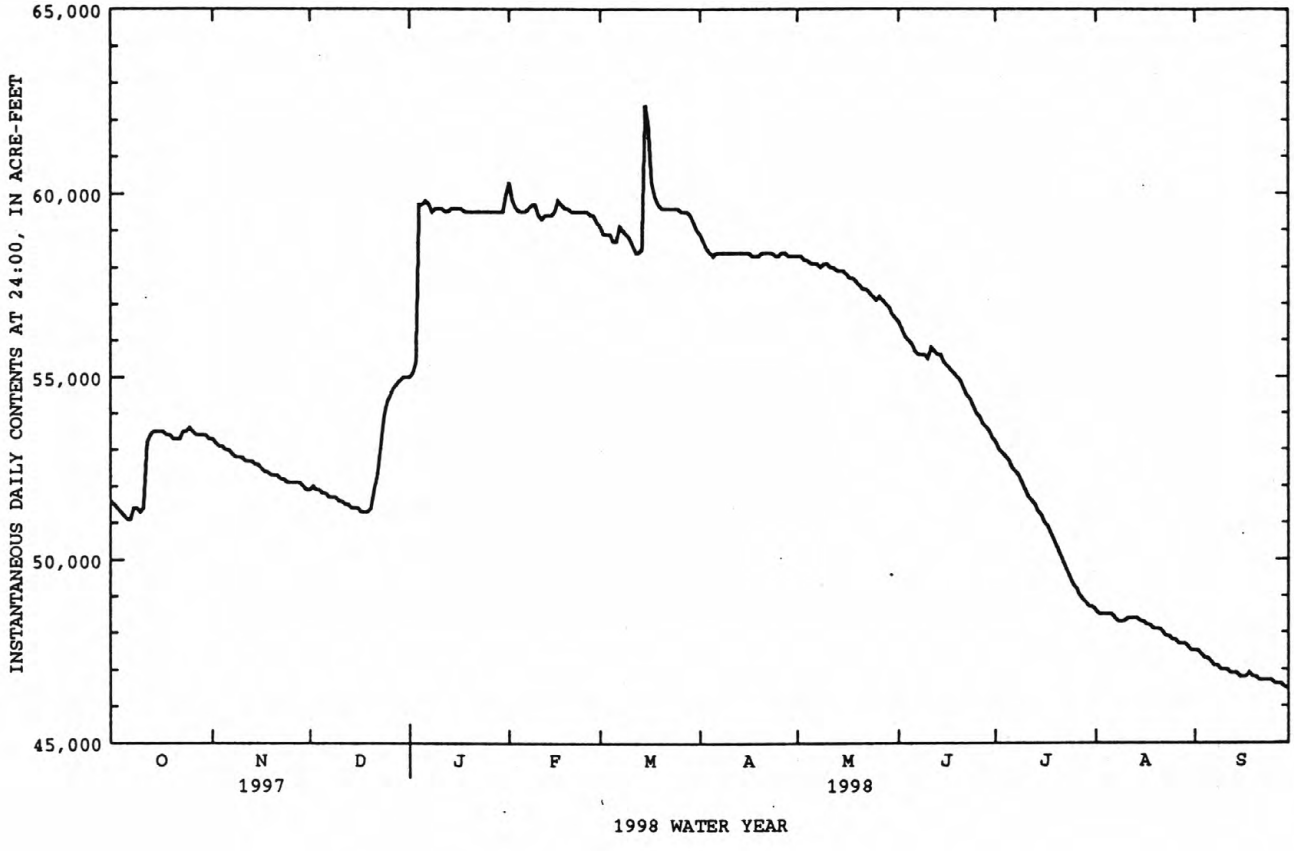
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51600	53300	51900	55000	60300	59100	58900	58300	56500	53200	48600	47500
2	51500	53200	52000	55100	59800	58900	58700	58300	56300	53000	48500	47500
3	51400	53100	51900	55400	59600	58900	58500	58200	56100	52900	48500	47400
4	51300	53100	51900	59700	59500	58900	58400	58200	56000	52800	48500	47300
5	51200	53000	51800	59700	59500	58700	58300	58100	55900	52700	48500	47300
6	51100	53000	51800	59800	59500	58700	58400	58100	55700	52500	48500	47200
7	51100	52900	51700	59700	59600	59100	58400	58100	55600	52400	48400	47100
8	51400	52800	51700	59500	59700	59000	58400	58000	55600	52300	48300	47100
9	51400	52800	51700	59600	59700	58900	58400	58100	55600	52100	48300	47000
10	51300	52800	51600	59600	59400	58800	58400	58100	55500	51900	48300	47000
11	51400	52700	51600	59600	59300	58600	58400	58000	55800	51700	48400	47000
12	53200	52700	51500	59500	59400	58400	58400	58000	55700	51600	48400	46900
13	53400	52700	51500	59500	59400	58400	58400	57900	55600	51500	48400	46900
14	53500	52600	51400	59600	59400	58500	58400	57900	55600	51300	48400	46900
15	53500	52600	51400	59600	59500	62400	58400	57900	55400	51200	48300	46800
16	53500	52500	51400	59600	59800	61900	58400	57800	55300	51000	48300	46800
17	53500	52400	51300	59600	59700	60300	58300	57700	55200	50900	48200	46800
18	53400	52400	51300	59500	59600	59900	58300	57700	55100	50700	48200	46900
19	53400	52300	51300	59500	59600	59700	58300	57600	55000	50500	48100	46800
20	53300	52300	51400	59500	59500	59600	58400	57500	54900	50300	48100	46800
21	53300	52300	51900	59500	59500	59600	58400	57400	54700	50100	48100	46700
22	53300	52200	52300	59500	59500	59600	58400	57400	54500	49900	48000	46700
23	53500	52200	53100	59500	59500	59600	58400	57300	54400	49700	47900	46700
24	53500	52100	53900	59500	59500	59600	58300	57200	54200	49500	47900	46700
25	53600	52100	54300	59500	59500	59600	58300	57100	54000	49300	47800	46700
26	53500	52100	54500	59500	59400	59500	58400	57200	53900	49200	47800	46600
27	53400	52100	54700	59500	59400	59500	58400	57100	53700	49000	47700	46600
28	53400	52100	54800	59500	59200	59500	58300	57000	53600	48900	47700	46600
29	53400	52000	54900	59500	---	59400	58300	56900	53500	48800	47700	46500
30	53400	51900	55000	59500	---	59200	58300	56700	53300	48700	47600	46500
31	53300	---	55000	60000	---	59000	---	56600	---	48700	47500	---
MAX	53600	53300	55000	60000	60300	62400	58900	58300	56500	53200	48600	47500
MIN	51100	51900	51300	55000	59200	58400	58300	56600	53300	48700	47500	46500
(‡)	1342.72	1342.10	1343.48	1345.73	1345.39	1345.31	1344.98	1344.20	1342.79	1340.61	1340.10	1339.57
(‡‡)	+1,600	-1,400	+3,100	+5,000	-800	-200	-700	-1,700	-3,300	-4,600	-1,200	-1,000

CAL YR 1997 MAX 59900 MIN 51100 (‡‡) -500
WTR YR 1998 MAX 62400 MIN 46500 (‡‡) -5,200

(‡) ELEVATION, IN FEET, AT END OF MONTH
(‡‡) CHANGE IN CONTENTS, IN ACRE-FEET

07309500 LAKE LAWTONKA NEAR LAWTON, OK--Continued



07311000 EAST CACHE CREEK NEAR WALTERS, OK

LOCATION.--Lat 34°21'44", long 98°16'56", on south line of SE ¼ SE ¼ sec.19, T.2 S., R.10 W., Cotton County, Hydrologic Unit 11130202, at right bank on downstream side of bridge on State Highway 53, 1.8 mi east of Walters, 12.2 mi upstream from West Cache Creek, and at mile 19.7.

DRAINAGE AREA.--675 mi^2.

PERIOD OF RECORD.--May 1938 to December 1963; October 1969 to current year. Prior to October 1969, published as Cache Creek near Walters.

GAGE.--Water-stage recorder. Datum of gage is 938.2 ft above sea level (Oklahoma State Highway Department). Prior to Jan. 8, 1939, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flow partly regulated by Lake Lawtonka, capacity, 42,300 acre-ft on Medicine Creek prior to late 1953, and 63,000 acre-ft thereafter by Lake Thomas, capacity 8,300 acre-ft on Little Medicine Creek; and since March 1961 by Lake Ellsworth, capacity 94,500 acre-ft on East Cache Creek. Low flow sustained by sewage effluent from cities of Lawton and Walters. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1906 reached an approximate stage of 29.7 ft, information from local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	195	48	249	2050	415	553	292	45	29	7.3	14
2	39	143	47	243	7000	406	493	370	43	29	7.4	13
3	38	70	65	242	3290	404	480	364	35	28	8.3	13
4	36	59	146	644	721	394	479	355	32	29	14	8.4
5	35	55	83	4430	496	383	444	352	32	28	17	5.1
6	35	53	62	7470	510	381	403	345	30	29	20	4.6
7	34	52	57	2840	540	463	563	226	29	32	19	4.6
8	35	50	55	1980	408	1960	681	98	31	31	20	4.4
9	75	47	52	1360	380	1730	533	82	43	28	20	e4.2
10	744	48	52	684	371	446	492	76	80	27	20	7.2
11	189	49	50	525	505	286	484	78	183	27	19	9.9
12	99	49	48	459	505	417	472	80	369	22	31	11
13	1320	48	48	471	474	411	460	76	95	18	25	11
14	1610	53	47	505	447	410	443	76	57	17	20	12
15	279	61	47	490	434	1190	439	74	43	17	19	12
16	155	55	47	491	463	9010	428	70	37	16	14	12
17	200	49	47	472	585	12200	420	64	28	16	12	8.5
18	215	47	47	444	972	11600	420	61	28	18	17	5.6
19	203	46	47	431	906	8740	411	58	28	15	18	15
20	197	47	47	444	1330	4950	404	58	25	14	17	9.7
21	192	46	144	432	535	2540	420	56	24	13	16	13
22	240	48	1310	419	337	1190	410	56	25	13	16	14
23	164	48	560	438	276	954	383	53	24	12	16	14
24	432	48	1500	413	259	697	371	54	23	18	15	14
25	466	45	2340	399	434	647	364	52	23	23	16	14
26	157	45	1190	391	448	600	401	51	27	e21	16	13
27	111	45	363	365	449	573	1160	50	31	e20	15	9.9
28	94	46	232	185	437	629	817	51	31	19	13	6.6
29	154	46	183	128	---	583	266	42	30	15	14	6.4
30	201	56	156	148	---	541	171	47	29	10	14	5.6
31	201	---	196	202	---	561	---	46	---	7.8	14	---
TOTAL	7989	1749	9316	28394	25562	65711	14265	3813	1560	641.8	510.0	295.7
MEAN	258	58.3	301	916	913	2120	476	123	52.0	20.7	16.5	9.86
MAX	1610	195	2340	7470	7000	12200	1160	370	369	32	31	15
MIN	34	45	47	128	259	286	171	42	23	7.8	7.3	4.2
AC-FT	15850	3470	18480	56320	50700	130300	28290	7560	3090	1270	1010	587

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1998, BY WATER YEAR (WY)

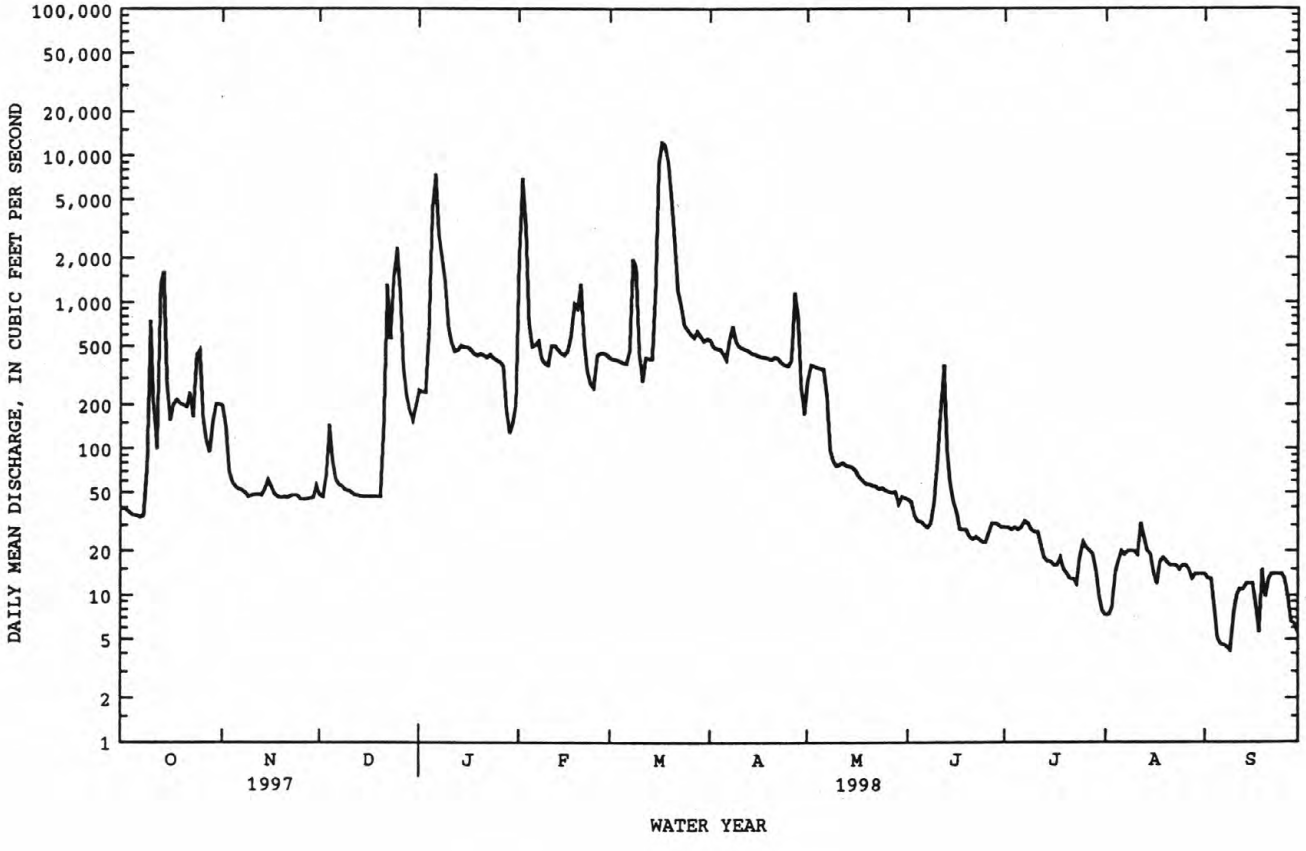
MEAN	240	103	135	105	157	274	251	599	463	98.7	62.6	156
MAX	2738	898	1796	916	1356	2120	1243	2654	2619	483	285	1637
(WY)	1984	1987	1992	1998	1987	1998	1990	1987	1962	1975	1971	1986
MIN	.000	.15	.15	.63	2.20	2.09	7.81	5.13	12.6	9.25	3.75	.000
(WY)	1940	1940	1940	1940	1940	1940	1939	1939	1939	1954	1954	1939

e Estimated

07311000 EAST CACHE CREEK NEAR WALTERS, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1938 - 1998	
ANNUAL TOTAL	119960		159806.5			
ANNUAL MEAN	329		438		222	
HIGHEST ANNUAL MEAN					911	1987
LOWEST ANNUAL MEAN					12.6	1939
HIGHEST DAILY MEAN	7030	Apr 28	12200	Mar 17	34600	Oct 21 1983
LOWEST DAILY MEAN	27	Feb 5	4.2	Sep 9	[a].00	Jul 24 1939
ANNUAL SEVEN-DAY MINIMUM	34	Jan 30	5.5	Sep 4	.00	Aug 1 1939
INSTANTANEOUS PEAK FLOW			12600	Mar 16	50900	Oct 21 1983
INSTANTANEOUS PEAK STAGE			28.32	Mar 16	30.66	Oct 21 1983
ANNUAL RUNOFF (AC-FT)	237900		317000		160700	
10 PERCENT EXCEEDS	522		645		421	
50 PERCENT EXCEEDS	143		61		36	
90 PERCENT EXCEEDS	42		14		11	

[a]No flow at times in 1939-40.



07311200 BLUE BEAVER CREEK NEAR CACHE, OK
(Hydrologic benchmark station)

LOCATION.--Lat 34°37'24", long 98°33'48", in NE ¼ NE ¼ sec.28, T.2 N., R.13 W., Comanche County, Hydrologic Unit 11130203, on downstream side of right bank pier on old U.S. Highway 62, 3,000 ft upstream from St. Louis-San Francisco Railway Co. bridge, 4.0 mi east of Cache, and at mile 12.0.

DRAINAGE AREA.--24.6 mi^2.

PERIOD OF RECORD.--July 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,215.26 ft above sea level.

REMARKS.--Records fair. Minor regulation by Lake Rush, Lake Jed Johnson, and Lake Ketch, combined surface-area 132 acres.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since about 1907, that of Aug. 28, 1977, according to local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 15	2300	2,910	12.78	No other peak above base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	7.9	1.7	18	e270	15	23	7.8	2.0	.16	.00	.00
2	2.2	6.9	2.5	17	100	14	22	7.1	1.8	.15	.00	.00
3	1.7	6.5	4.8	16	54	14	21	6.4	1.5	.13	.00	.00
4	1.3	6.4	4.1	e300	39	13	21	5.8	1.4	.13	.00	.00
5	1.1	5.9	3.9	e160	33	12	21	5.6	1.4	.17	.00	.00
6	1.3	5.3	3.8	100	30	13	21	5.6	1.2	.16	.00	.00
7	2.2	5.1	3.7	74	26	42	20	5.3	.99	.14	.00	.00
8	2.9	4.8	3.9	72	24	58	19	4.9	.69	.12	.00	.00
9	46	4.4	4.0	52	21	33	19	5.0	.47	.10	.00	.00
10	20	4.0	3.9	42	20	25	19	5.0	1.2	.07	.00	.00
11	17	3.9	3.9	36	18	22	18	4.5	3.7	.02	.00	.00
12	130	3.7	3.9	32	16	21	18	4.3	.68	.00	.00	.00
13	110	4.1	3.7	28	14	19	17	4.0	.38	.00	.00	.00
14	56	4.3	4.1	25	14	19	16	4.2	.32	.00	.00	.00
15	32	3.7	3.9	23	16	868	15	3.9	.32	.00	.00	.00
16	22	3.4	3.5	21	18	1470	14	3.6	.29	.00	.00	.00
17	18	3.2	3.2	19	50	329	13	3.4	.25	.00	.00	.00
18	15	3.2	3.2	17	33	206	13	3.3	.24	.00	.00	.00
19	13	3.1	2.9	16	65	213	13	3.3	.24	.00	.00	.00
20	11	2.9	3.5	14	39	196	12	3.4	.24	.00	.00	.00
21	11	2.6	210	13	30	e163	12	3.5	.24	.00	.00	.00
22	9.6	2.6	85	13	27	e130	11	3.7	.24	.00	.00	.00
23	29	2.6	90	12	25	e103	11	3.3	.22	.00	.00	.00
24	28	2.4	e300	11	22	e76	9.8	3.1	.20	.00	.00	.00
25	20	2.3	90	11	21	e68	9.1	3.0	.18	.00	.00	.00
26	16	2.1	55	10	19	e64	9.9	3.5	.16	.00	.00	.00
27	14	2.0	41	9.9	18	e57	11	3.3	.16	.00	.00	.00
28	12	2.3	33	9.1	16	e44	8.5	3.0	.16	.00	.00	.00
29	11	2.2	26	8.4	---	e33	8.3	2.9	.16	.00	.00	.00
30	10	1.9	22	8.2	---	e29	8.0	2.5	.16	.00	.00	.00
31	9.1	---	19	75	---	26	---	2.3	---	.00	.00	---
TOTAL	675.0	115.7	1043.1	1262.6	1078	4395	453.6	130.5	21.19	1.35	0.00	0.00
MEAN	21.8	3.86	33.6	40.7	38.5	142	15.1	4.21	.71	.044	.000	.000
MAX	130	7.9	300	300	270	1470	23	7.8	3.7	.17	.00	.00
MIN	1.1	1.9	1.7	8.2	14	12	8.0	2.3	.16	.00	.00	.00
AC-FT	1340	229	2070	2500	2140	8720	900	259	42	2.7	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1998, BY WATER YEAR (WY)

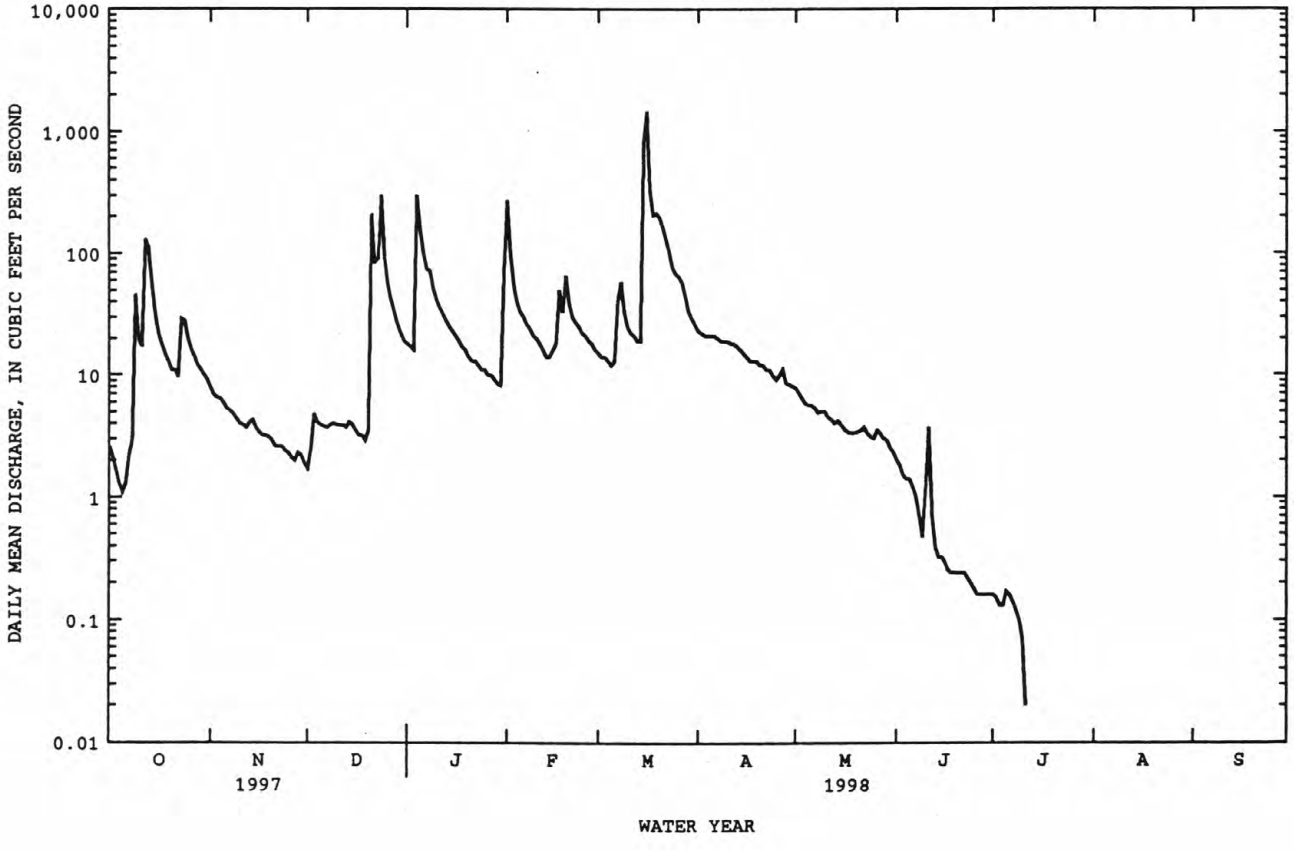
MEAN	15.8	7.74	9.91	8.44	13.0	24.3	19.3	35.1	21.3	1.34	2.23	7.36
MAX	193	61.1	108	53.2	67.1	142	88.0	176	125	12.6	27.5	50.9
(WY)	1987	1987	1992	1973	1987	1998	1990	1982	1989	1975	1977	1991
MIN	.000	.000	.000	.000	.000	.000	.017	.026	.012	.000	.000	.000
(WY)	1965	1966	1966	1966	1966	1966	1971	1971	1971	1964	1964	1964

e Estimated

07311200 BLUE BEAVER CREEK NEAR CACHE, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1964 - 1998	
ANNUAL TOTAL	6948.34		9176.04			
ANNUAL MEAN	19.0		25.1		13.9	
HIGHEST ANNUAL MEAN					47.8	1987
LOWEST ANNUAL MEAN					.48	1966
HIGHEST DAILY MEAN	424	Apr 11	1470	Mar 16	2600	Oct 20 1983
LOWEST DAILY MEAN	.00	Sep 7	[a].00	Jul 12	[a].00	Jul 1 1964
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 9	.00	Jul 12	.00	Jul 1 1964
INSTANTANEOUS PEAK FLOW			2910	Mar 15	[b]13600	Aug 28 1977
INSTANTANEOUS PEAK STAGE			[c]12.78	Mar 15	[c]18.02	Aug 28 1977
ANNUAL RUNOFF (AC-FT)	13780		18200		10040	
10 PERCENT EXCEEDS	33		45		25	
50 PERCENT EXCEEDS	4.2		4.0		1.1	
90 PERCENT EXCEEDS	.48		.00		.00	

[a]Many days.
[b]From rating curve extended above 4,000 ft^3/s on basis of contracted opening.
[c]From high-water mark.



07311500 DEEP RED CREEK NEAR RANDLETT, OK
(Formerly published as Deep Red Run near Randlett)

LOCATION.--Lat 34°13'15", long 98°27'10", in SW ¼ SW ¼ sec.10, T.4 S., R.12 W., Cotton County, Hydrologic Unit 11130203, near right bank on downstream side of pier of bridge on U.S. Highway 277, 2.8 mi north of Randlett, and at mile 4.8.

DRAINAGE AREA.--617 mi^2.

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1993, published as Deep Red Run near Randlett.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1631: 1956. WSP 1920: 1951.

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 924.49 ft above sea level (Oklahoma State Highway Department). Prior to Nov. 10, 1949, nonrecording gage at same site and datum.

REMARKS.--Records fair. Some regulation by numerous flood-retarding structures.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1908 reached a stage somewhat exceeding 27 ft, from information pro- vided by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 6	0530	10,000	24.17	Mar 17	0530	23,300	26.69
Feb 21	0230	2,770	20.76				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	e3.9	2.9	68	1170	116	134	29	e9.5	1.7	.63	.41
2	37	e2.5	4.2	60	651	108	125	25	e8.6	1.7	.57	.36
3	32	e2.0	4.4	58	266	104	118	23	e8.0	1.6	.54	.36
4	27	e1.6	4.9	299	167	99	112	23	e7.5	1.5	.55	.34
5	23	e1.3	5.2	2140	133	96	109	24	e7.4	4.4	.60	.28
6	19	1.1	4.6	7310	134	94	105	e23	e7.3	2.8	.60	.28
7	17	1.0	5.6	2130	139	147	119	e23	e7.2	12	.60	.15
8	14	1.0	6.7	1140	124	736	145	e21	e6.8	16	.58	.01
9	12	2.3	6.6	1360	111	e600	111	e20	6.6	10	.57	e.00
10	10	2.1	5.4	557	102	233	101	e19	6.2	5.4	.61	e.00
11	9.7	1.6	4.4	313	95	143	96	17	9.2	3.4	.67	e.00
12	11	1.5	3.8	237	93	122	91	17	46	2.4	.79	e.00
13	15	1.6	3.5	183	95	113	87	16	38	2.5	.85	e.00
14	23	1.7	3.6	151	120	108	84	16	21	2.1	.80	e.00
15	30	1.7	3.9	129	111	371	82	16	14	1.9	.77	e.00
16	29	1.7	3.9	119	102	7880	80	15	11	1.7	.72	e.00
17	24	1.8	3.9	110	338	18100	78	14	9.8	1.7	.72	e.00
18	17	1.9	3.9	105	878	8040	77	14	8.3	1.6	.72	e.00
19	13	2.1	3.8	98	1040	3050	76	14	5.7	1.7	.74	e.00
20	10	2.7	5.3	95	2540	2160	76	14	4.4	1.7	.96	e.00
21	e8.7	6.5	34	90	2270	1660	74	13	4.6	1.8	.88	e.00
22	e8.0	5.6	e1000	87	556	976	73	14	5.4	1.9	.84	e.00
23	e8.0	3.5	280	84	348	691	74	13	4.2	1.5	.80	.03
24	e9.1	2.2	628	83	255	506	73	12	3.1	1.4	.73	.13
25	e9.2	2.4	1370	81	200	358	75	12	2.4	1.2	.64	.00
26	e10	2.2	702	79	165	255	123	11	2.2	1.1	.58	.00
27	e11	2.1	266	77	144	205	425	11	2.0	.99	.54	.08
28	e12	2.3	161	76	126	e182	80	11	1.9	.88	.50	.28
29	e11	2.4	110	76	---	e170	41	10	1.8	.81	.46	.25
30	e7.0	2.6	91	75	---	164	32	10	1.7	.74	.42	.21
31	e5.2	---	77	136	---	144	---	e9.8	---	.68	.42	---
TOTAL	511.9	68.9	4809.5	17606	12473	47731	3076	509.8	271.8	90.80	20.40	3.17
MEAN	16.5	2.30	155	568	445	1540	103	16.4	9.06	2.93	.66	.11
MAX	40	6.5	1370	7310	2540	18100	425	29	46	16	.96	.41
MIN	5.2	1.0	2.9	58	93	94	32	9.8	1.7	.68	.42	.00
AC-FT	1020	137	9540	34920	24740	94670	6100	1010	539	180	40	6.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1998, BY WATER YEAR (WY)

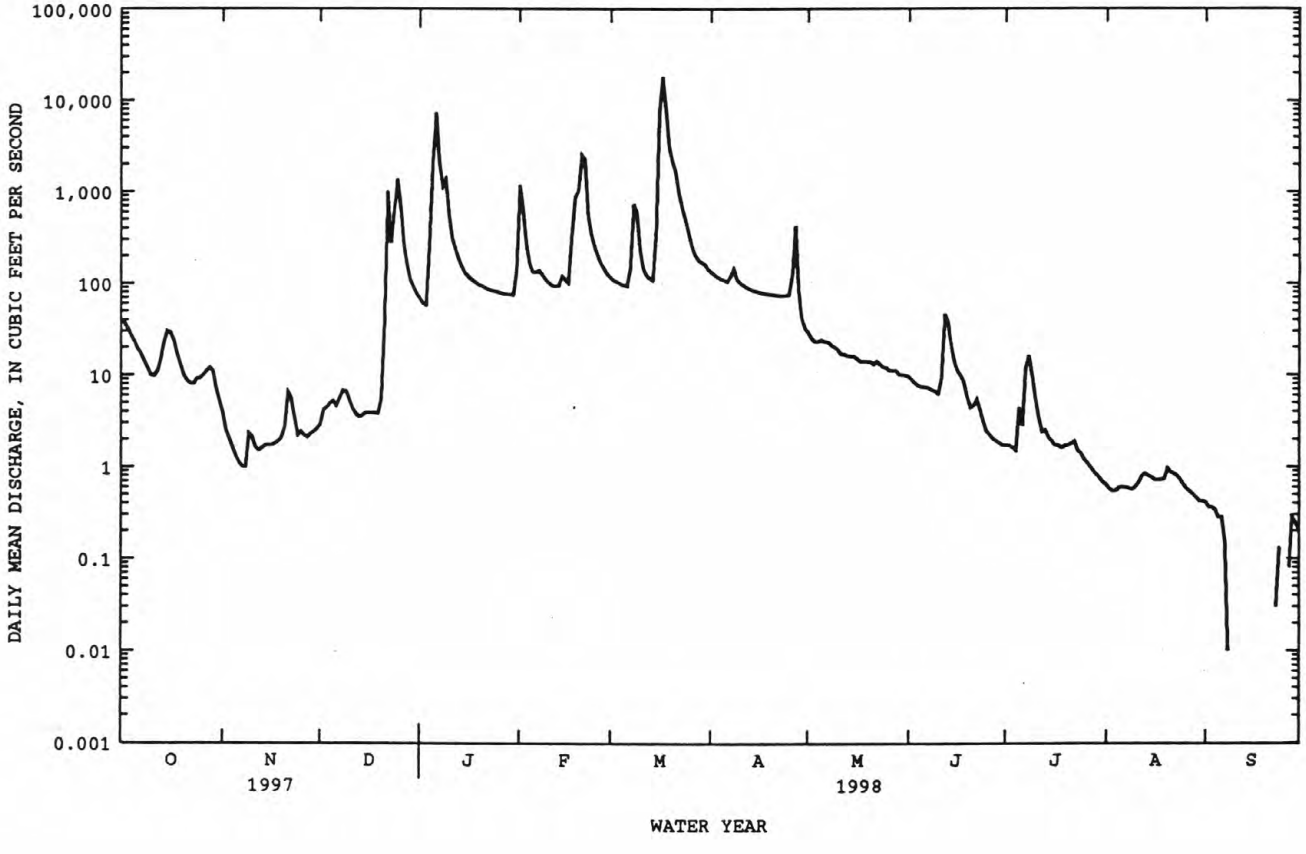
MEAN	260	87.8	73.6	59.1	83.8	143	142	487	453	62.2	70.7	190
MAX	3345	994	1493	568	1020	1540	1398	2800	4654	795	1109	1453
(WY)	1984	1987	1992	1998	1987	1998	1990	1987	1995	1991	1995	1969
MIN	.000	.000	.000	.000	.022	.10	.003	.061	.000	.000	.000	.000
(WY)	1953	1955	1955	1953	1981	1980	1955	1971	1966	1964	1952	1952

e Estimated

07311500 DEEP RED CREEK NEAR RANDLETT, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1950 - 1998	
ANNUAL TOTAL	55098.19		87172.27			
ANNUAL MEAN	151		239		176	
HIGHEST ANNUAL MEAN					904	1987
LOWEST ANNUAL MEAN					15.8	1953
HIGHEST DAILY MEAN	4830	Jun 1	18100	Mar 17	46300	Oct 20 1983
LOWEST DAILY MEAN	.85	Sep 20	.00	at times	.00	at times
ANNUAL SEVEN-DAY MINIMUM	.96	Sep 16	.00	Sep 9	.00	Oct 3 1951
INSTANTANEOUS PEAK FLOW			23200	Mar 17	72300	Oct 20 1983
INSTANTANEOUS PEAK STAGE			26.69	Mar 17	[a]29.58	May 29 1987
ANNUAL RUNOFF (AC-FT)	109300		172900		127700	
10 PERCENT EXCEEDS	254		272		192	
50 PERCENT EXCEEDS	15		11		5.0	
90 PERCENT EXCEEDS	2.1		.55		.00	

[a]Due to backwater from West Cache Creek.



07315500 RED RIVER NEAR TERRAL, OK

LOCATION.--Lat 33°52'43", long 97°56'03", Jefferson County, Hydrologic Unit 11130201, on left bank at downstream side of bridge abutment on U.S. Highway 81, 0.5 mi downstream from Chicago, Rock Island, and Railroad Co. bridge, 1.2 mi south of Terral, 3.6 mi downstream from Little Wichita River, and at mile 872.

DRAINAGE AREA.--28,723 mi^2 of which 5,936 mi^2 probably is noncontributing.

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

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 770.31 ft above sea level. Prior to Jan 12, 1939, nonrecording gage at same site and datum. Satellite telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since installation of gage in Apr 1938, at least 10% of contributing drainage area has been regulated by upstream reservoirs. There are many small diversions upstream from station for irrigation, oil field operations, and for municipal uses.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 19, 1935, reached a stage of 27.2 ft, although floods in 1891 and on May 1, 1908, are reported to have reached about the same stage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2550	1360	1160	4170	3470	6050	6100	3010	1170	e570	188	e231
2	2200	1300	1100	3780	7970	5650	5720	2780	1210	e560	177	e266
3	1920	1220	1120	3410	8940	5250	5400	2830	947	e570	193	e332
4	1780	1140	1200	3320	7820	4940	5490	2710	842	e590	218	e290
5	1670	1050	1290	8050	6190	4720	5450	2460	765	e750	218	e241
6	1470	991	1350	9150	5940	4610	5350	2160	711	e1130	348	e212
7	1410	975	1560	9180	5660	4630	5070	1930	695	e1300	302	e192
8	1250	963	1630	8820	5290	5640	5110	1820	670	e1200	289	e183
9	2580	946	1600	7880	4850	8550	5500	1680	712	e1010	281	180
10	3150	943	1620	6760	4520	8870	5190	1690	1010	710	286	169
11	2010	947	1550	5770	4270	7800	4570	1640	1550	500	340	164
12	2730	971	1470	4950	3990	6800	4330	1430	1920	457	305	156
13	2160	1130	1280	4510	3950	6460	4250	1360	2560	419	291	165
14	2590	1240	1250	4340	4150	6000	3980	1320	2220	376	265	175
15	4150	1290	1290	4250	4490	6180	3490	1290	1340	362	274	166
16	3490	1280	1180	4480	4500	24100	3130	1360	908	370	274	177
17	2780	1260	1080	4600	4400	76800	2950	1540	768	334	295	180
18	2780	1170	1040	4530	5810	84000	2840	1480	730	316	301	182
19	2400	1090	1010	4430	8750	48900	2680	1290	712	303	267	183
20	1920	1130	1140	4340	14700	27900	2650	1340	761	285	e231	191
21	1740	1150	2490	4280	12100	17400	2640	1460	633	279	e192	187
22	1610	1120	4130	4310	8820	11800	2570	1550	614	275	e158	241
23	2110	1200	5060	4300	7800	9310	2410	1370	570	261	e136	276
24	1800	1240	6540	3990	7970	9660	2280	1320	523	246	e108	263
25	1570	1240	7890	3550	7590	9380	2200	1250	521	230	e123	255
26	2040	1310	8090	3560	7370	8410	2290	1180	510	224	e171	232
27	2000	1330	6150	3410	7260	7700	4210	1130	519	214	e241	213
28	1720	1370	4950	3160	6610	7860	7520	1040	536	208	e263	195
29	1540	1320	4560	2900	---	7590	4740	997	531	215	e259	182
30	1420	1230	4630	2650	---	6780	3590	978	589	220	e252	165
31	1380	---	4450	2640	---	6260	---	1000	---	203	e231	---
TOTAL	65920	34906	84860	149470	185180	456000	123700	50395	27747	14687	7477	6244
MEAN	2126	1164	2737	4822	6614	14710	4123	1626	925	474	241	208
MAX	4150	1370	8090	9180	14700	84000	7520	3010	2560	1300	348	332
MIN	1250	943	1010	2640	3470	4610	2200	978	510	203	108	156
AC-FT	130800	69240	168300	296500	367300	904500	245400	99960	55040	29130	14830	12380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1998z, BY WATER YEAR (WY)

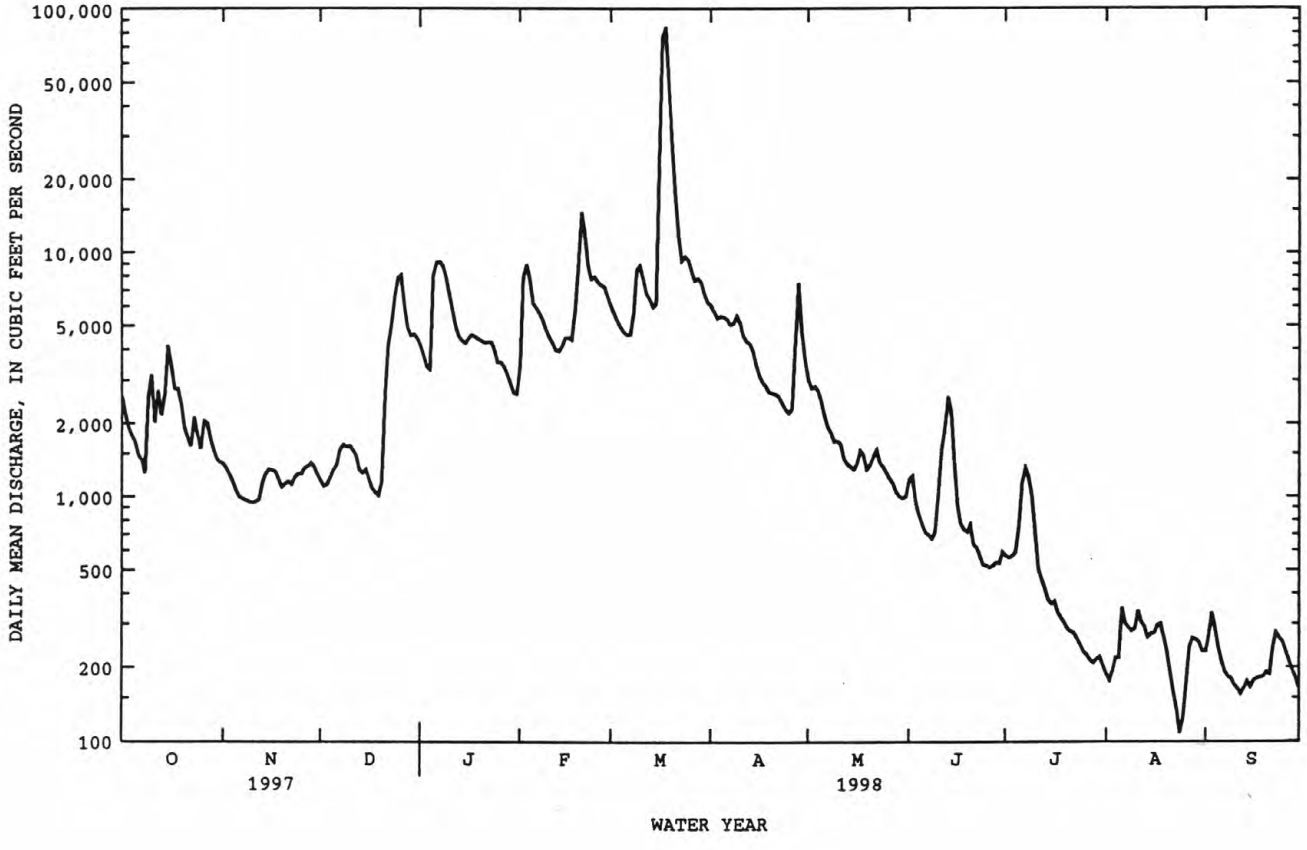
MEAN	3047	1517	1150	956	1373	2030	2665	6675	6351	1670	1356	2069
MAX	23900	9713	11810	5306	9320	14710	18080	43580	37460	8077	14730	9653
(WY)	1987	1987	1992	1992	1987	1998	1990	1957	1941	1950	1995	1986
MIN	108	102	91.2	76.5	136	66.1	142	134	517	158	155	109
(WY)	1953	1940	1939	1940	1953	1940	1971	1971	1966	1964	1970	1956

e Estimated

07315500 RED RIVER NEAR TERRAL, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1938 - 1998z	
ANNUAL TOTAL	1501760		1206586			
ANNUAL MEAN	4114		3306		2571	
HIGHEST ANNUAL MEAN					8925	1987
LOWEST ANNUAL MEAN					523	1953
HIGHEST DAILY MEAN	44200	Apr 28	84000	Mar 18	215000	Jun 7 1995
LOWEST DAILY MEAN	551	Sep 19	108	Aug 24	46	Mar 20 1940
ANNUAL SEVEN-DAY MINIMUM	603	Sep 13	160	Aug 20	47	Mar 18 1940
INSTANTANEOUS PEAK FLOW			99400	Mar 18	236000	Jun 7 1995
INSTANTANEOUS PEAK STAGE			22.32	Mar 18	33.60	Oct 22 1983
ANNUAL RUNOFF (AC-FT)	2979000		2393000		1862000	
10 PERCENT EXCEEDS	9640		7300		5700	
50 PERCENT EXCEEDS	1840		1460		607	
90 PERCENT EXCEEDS	894		222		177	

z Period of regulated streamflow.



07315700 MUD CREEK NEAR COURTNEY, OK

LOCATION.--Lat 34°00'15", long 97°34'00", in NW ¼ SE ¼ sec.25, T.6 S., R.4 W., Jefferson County, Hydrologic Unit, 11130201, on downstream side of bridge on State Highway 89, 4.0 mi downstream from North Mud Creek, 6.0 mi northwest of Courtney, and at mile 11.5.

DRAINAGE AREA.--572 mi^2.

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

REVISED RECORDS.--WDR OK-78-2: Maximum gage height.

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 727.72 ft above sea level. Prior to Oct. 1, 1968, auxiliary water-stage recorder 2.0 mi downstream from base gage.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1957, reached a stage of 30.6 ft.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 25	0415	1,730	22.79	Apr 29	0430	4,750	25.30
Jan 9	0615	4,010	24.89	Jun 20	0815	1,660	22.62
Mar 17	0845	25,200	29.78				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.06	2.9	12	27	87	48	310	430	e12	4.7	e.08	.00
2	e.06	2.2	25	23	309	44	169	152	e11	4.4	e.07	.00
3	e.05	1.8	20	20	203	41	110	106	e10	e4.0	e.06	.00
4	e.06	1.7	12	27	97	39	86	81	e9.6	e3.7	e.05	.00
5	e.06	1.2	17	401	67	39	76	67	e9.0	e3.3	.04	.00
6	e.05	.76	34	1410	54	39	72	59	e8.6	e3.0	.07	.00
7	e.05	.50	24	1740	50	61	70	63	e8.4	e2.7	.04	.00
8	e.06	.41	23	2270	48	692	67	65	e8.2	e2.4	.04	.00
9	1.2	.36	19	3690	45	1040	81	52	7.9	e2.1	.02	.00
10	.92	.32	45	3590	43	520	64	47	7.7	e1.8	.02	.00
11	95	.32	43	1700	42	161	57	46	38	e1.5	.02	.00
12	47	.32	26	240	41	99	55	43	54	e1.3	.02	.00
13	21	.35	17	149	40	75	53	40	30	e1.2	.02	.00
14	14	.33	11	107	39	65	51	37	21	e1.1	.02	.00
15	42	.32	7.3	83	40	209	50	35	14	e1.0	.02	.00
16	25	.30	5.9	70	43	5280	49	33	10	e.95	.02	.00
17	14	e.26	5.0	62	62	21700	48	32	7.6	e.91	.02	.00
18	8.5	e.22	4.0	55	159	9750	46	30	6.6	e.88	.00	.00
19	5.7	e.18	3.2	50	224	4440	44	28	665	e.84	.00	.00
20	4.1	e.14	26	48	878	2280	44	e27	1550	e.80	.00	.00
21	3.2	e.10	249	51	959	915	44	e26	1510	e.72	.00	.00
22	2.5	e.08	798	395	304	376	45	e24	455	e.64	.00	.00
23	4.6	e.06	1000	385	160	268	47	e23	41	e.56	.00	.00
24	3.6	e.06	1340	152	114	223	45	e22	24	e.48	.00	.00
25	1.9	e.04	1620	81	85	188	42	e21	16	e.40	.00	.00
26	3.1	.04	1570	437	69	156	42	e19	11	e.32	.00	.00
27	18	.03	488	437	60	134	613	e17	7.8	e.24	.00	.00
28	13	.29	109	179	53	123	2040	e16	6.4	e.20	.00	.00
29	7.8	.25	70	93	---	121	4180	e15	5.5	e.16	.00	.00
30	5.3	.28	46	63	---	128	2440	e14	5.1	e.12	.00	.00
31	3.9	---	34	53	---	161	---	e13	---	e.10	.00	---
TOTAL	345.77	16.12	7703.4	18088	4375	49415	11140	1683	4570.4	46.52	0.63	0.00
MEAN	11.2	.54	248	583	156	1594	371	54.3	152	1.50	.020	.000
MAX	95	2.9	1620	3690	959	21700	4180	430	1550	4.7	.08	.00
MIN	.05	.03	3.2	20	39	39	42	13	5.1	.10	.00	.00
AC-FT	686	32	15280	35880	8680	98010	22100	3340	9070	92	1.2	.00

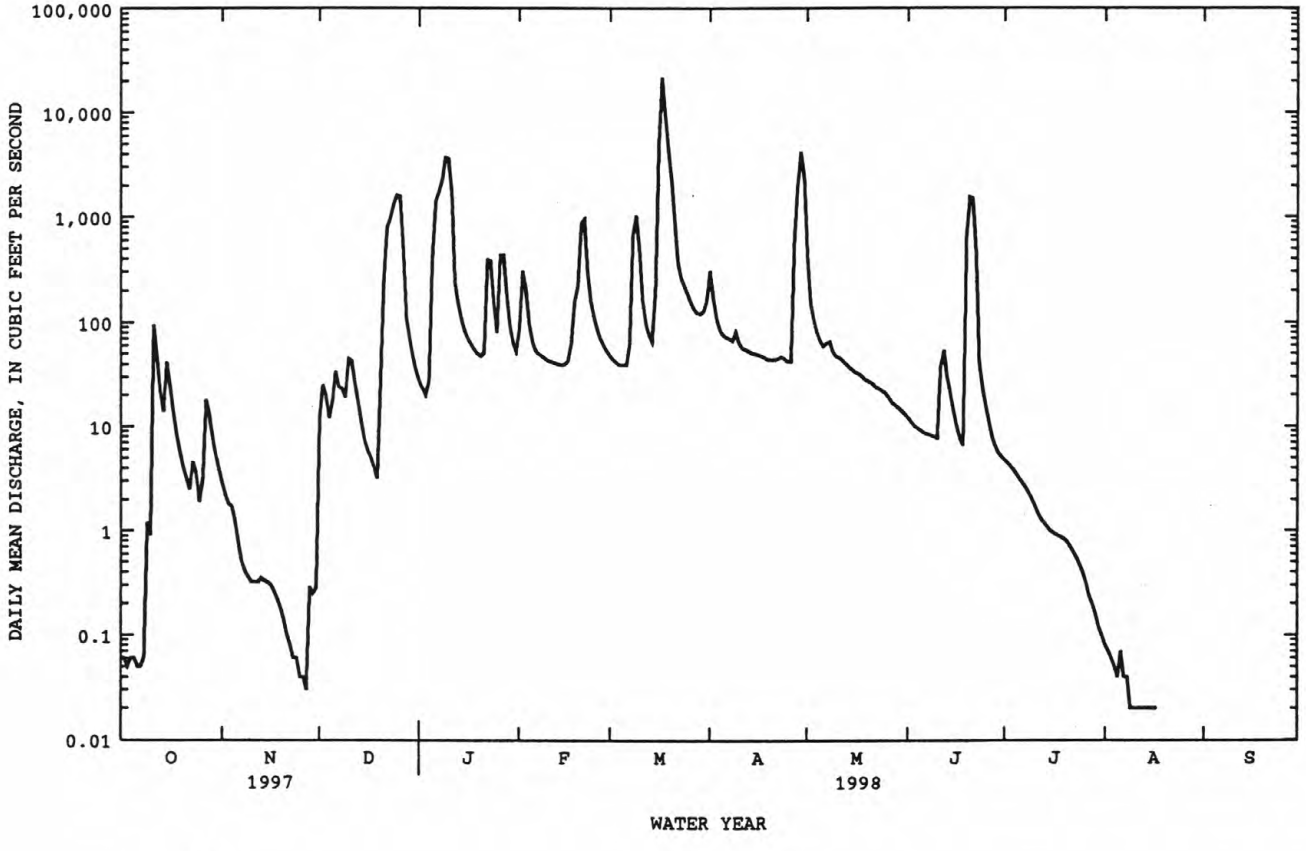
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1998, BY WATER YEAR (WY)

MEAN	98.0	120	163	105	178	305	301	550	379	42.8	24.6	117
MAX	1216	854	1766	898	1251	1594	3075	3670	1859	279	293	571
(WY)	1982	1974	1992	1985	1997	1998	1990	1982	1989	1975	1964	1989
MIN	.000	.000	.009	.000	.16	.001	.16	3.44	.021	.000	.000	.000
(WY)	1964	1978	1979	1964	1967	1980	1980	1971	1972	1964	1980	1963

e Estimated

07315700 MUD CREEK NEAR COURTNEY, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1961 - 1998	
ANNUAL TOTAL	96884.91		97383.84			
ANNUAL MEAN	265		267		198	
HIGHEST ANNUAL MEAN					614	1990
LOWEST ANNUAL MEAN					19.1	1971
HIGHEST DAILY MEAN	11500	Feb 22	21700	Mar 17	37800	May 3 1990
LOWEST DAILY MEAN	.03	Nov 27	.00	Aug 18-Sep 30	.00	at times
ANNUAL SEVEN-DAY MINIMUM	.06	Oct 1	.00	Aug 18	.00	Jul 28 1961
INSTANTANEOUS PEAK FLOW			25200	Mar 17	49600	May 3 1990
INSTANTANEOUS PEAK STAGE			29.78	Mar 17	33.14	May 29 1987
ANNUAL RUNOFF (AC-FT)	192200		193200		143800	
10 PERCENT EXCEEDS	509		389		279	
50 PERCENT EXCEEDS	27		18		8.7	
90 PERCENT EXCEEDS	.18		.00		.01	



07316000 RED RIVER NEAR GAINESVILLE, TX

LOCATION.--Lat 33°43'40", long 97°09'35", in SW ¼ sec.36, T.9 S., R.1 E., Love County, OK, Hydrologic Unit 11130201, on downstream right bank at end of bridge on Interstate 35, 0.2 mi downstream from Gulf, Colorado, and Santa Fe Railway Co. bridge, 5.0 mi downstream from Fish Creek, 4.5 mi southwest of Thackerville, OK, 7.0 mi north of Gainesville, and at mile 791.5.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--30,782 mi^2 of which 5,936 mi^2 probably is noncontributing.

PERIOD OF RECORD.--May 1936 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 627.91 ft above sea level. Prior to Jan. 17, 1939, and Feb. 13, 1965 to Nov. 14, 1966, nonrecording gage at same site and datum.

REMARKS.--Records poor. Flow slightly regulated by Lake Kemp (station 07312000 in Texas), since 1943 by Lake Altus (station 07302500 in Oklahoma), since 1946 by Lake Kickapoo (station 07314000 in Texas), since 1967 by Lake Arrowhead (station 07314800 in Texas) and Moss Lake (station 07315950 in Texas). U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 24,000 ft^3/s.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 19	1030	102,000	29.62	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3250	e1450	e1430	4780	3550	7340	9090	7070	e1250	570	e410	e308
2	e2390	e1400	1440	4270	3410	6810	8450	4340	e1300	e550	e415	e305
3	e2080	e1370	1440	3820	7640	6170	7910	3260	e1290	e490	e420	295
4	e1940	1340	1400	3610	14400	5600	7410	3000	1280	e485	410	e295
5	e1830	e1300	1340	4380	12600	4990	7130	2940	1240	e470	e400	359
6	e1630	e1250	1250	11800	8500	4630	7030	2760	1080	e490	e390	395
7	e1560	e1200	1340	15500	7640	5100	6730	2480	989	e500	e380	339
8	e1400	e1150	1460	19100	7050	6240	6330	2240	e970	e530	e470	302
9	e2700	e1100	1580	16900	6510	7140	e6000	2110	955	e520	e560	276
10	e2800	e1080	1570	14000	5960	9910	e6200	2010	1020	e800	e450	258
11	e3180	e1100	1530	12100	5240	11500	e5800	1970	e1050	e890	371	250
12	e2900	e1200	1550	9430	4860	10200	e5200	1880	e1300	e730	361	e229
13	e2330	e1280	1490	6920	4510	8160	e4900	1810	e1350	e610	398	e224
14	e2860	e1310	1410	6060	4190	7050	e4700	1670	e1500	570	424	e216
15	e2900	e1370	1290	e5600	4140	6650	4510	1630	e1800	e550	408	210
16	e3000	e1360	1240	5410	4370	16400	4010	1600	e1200	e500	384	253
17	e3380	e1350	1240	5290	4730	54300	3480	1580	e1000	e480	359	308
18	e3150	1330	1190	5480	4810	88900	3210	1540	e950	e460	354	e290
19	e2650	e1300	1120	5350	5020	98800	3000	1610	e900	e440	360	e274
20	e2160	e1280	1170	5160	12400	65400	2890	1560	e1500	e420	383	e247
21	1980	e1300	1630	4980	18800	33800	e2750	1470	e1600	e400	376	e233
22	e1760	e1280	2670	6160	13900	24400	e2700	1520	e1800	e390	346	224
23	e2310	e1350	4750	7770	11600	17500	e2600	1590	e1300	380	328	329
24	e1940	e1380	6880	6840	9510	e14800	e2500	1600	e900	e380	320	331
25	e1710	e1400	10300	5450	8550	14500	e2400	1550	e650	e385	324	288
26	e2230	e1450	13500	e5300	8230	14200	e2350	1540	e630	e380	324	e319
27	e2100	e1470	12500	e6000	7810	13600	e2500	e1700	e620	e385	314	310
28	e1800	e1500	9010	5530	7590	12300	e4500	e1800	e610	e390	314	301
29	e1700	e1450	6960	4310	---	11100	10000	e1600	e590	e395	e317	290
30	e1600	e1430	5680	3940	---	10100	9720	e1400	e580	e400	e315	268
31	e1500	---	5050	3750	---	9640	---	e1300	---	e405	e312	---
TOTAL	70720	39530	106410	224990	217520	607230	156000	66130	33204	15345	11697	8526
MEAN	2281	1318	3433	7258	7769	19590	5200	2133	1107	495	377	284
MAX	3380	1500	13500	19100	18800	98800	10000	7070	1800	890	560	395
MIN	1400	1080	1120	3610	3410	4630	2350	1300	580	380	312	210
AC-FT	140300	78410	211100	446300	431500	1204000	309400	131200	65860	30440	23200	16910

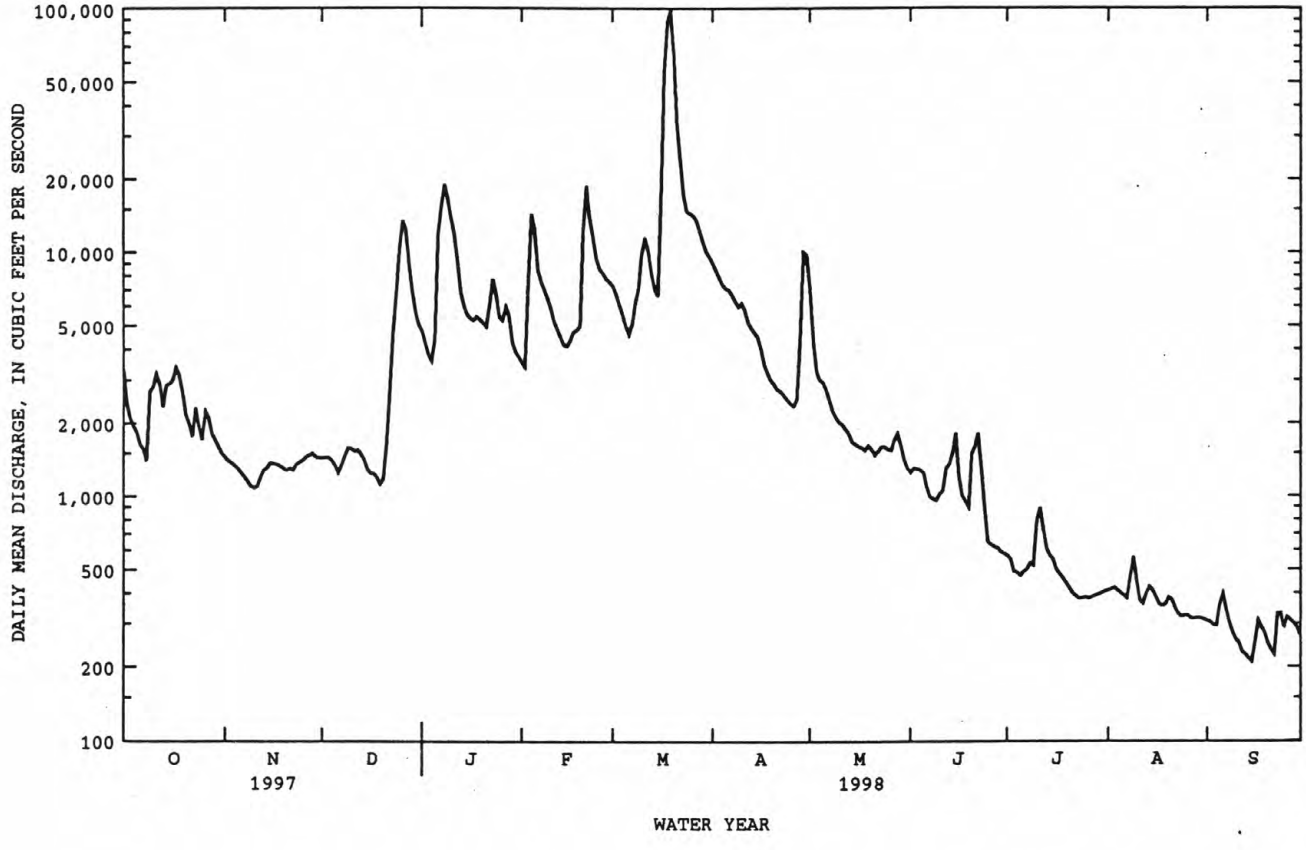
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1998, BY WATER YEAR (WY)

MEAN	3832	1990	1640	1296	1878	2899	3593	8167	8414	2184	1641	2552
MAX	31080	14020	14990	7258	9984	19590	27400	47780	43510	9857	20730	12880
(WY)	1942	1942	1992	1998	1987	1998	1990	1957	1941	1950	1995	1986
MIN	119	137	125	82.4	151	90.5	153	204	640	166	163	108
(WY)	1953	1955	1940	1940	1953	1940	1971	1971	1966	1964	1970	1956

e Estimated

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1937 - 1998	
ANNUAL TOTAL	1962368		1557302			
ANNUAL MEAN	5376		4267		3343	
HIGHEST ANNUAL MEAN					11890	1987
LOWEST ANNUAL MEAN					651	1953
HIGHEST DAILY MEAN	58500	Apr 29	98800	Mar 19	232000	May 31 1987
LOWEST DAILY MEAN	791	Jan 17	210	Sep 15	48	Jan 18 1940
ANNUAL SEVEN-DAY MINIMUM	839	Sep 18	234	Sep 10	48	Jan 18 1940
INSTANTANEOUS PEAK FLOW			102000	Mar 19	265000	May 31 1987
INSTANTANEOUS PEAK STAGE			29.62	Mar 19	40.08	May 31 1987
ANNUAL RUNOFF (AC-FT)	3892000		3089000		2422000	
10 PERCENT EXCEEDS	13000		9560		7400	
50 PERCENT EXCEEDS	2060		1600		869	
90 PERCENT EXCEEDS	1060		336		217	



07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1994 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1994 to current year.
WATER TEMPERATURE: October 1994 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1994.

REMARKS.--Samples were collected monthly, and specific conductance, pH, water temperature, alkalinity and dissolved oxygen were deter- mined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 7,800 microsiemens July 15, 16 1997; minimum, 402 microsiemens Nov. 14, 1994.
WATER TEMPERATURE: Maximum, 36.5°C July 15, 1998; minimum , 0.0°C several days in winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 6,130 microsiemens May 25; minimum, 739 microsiemens Mar. 18.
WATER TEMPERATURE: Maximum, 36.5°C July 15; minimum, 2.0°C Dec. 13.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	GAGE HEIGHT (FEET) (00065)	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)
SEP											
22...	1153	90.0	27.5	752	1028	1028	224	7.55	4520	7.7	7.6
22...	1156	80.0	27.5	752	1028	1028	224	7.55	4330	7.5	7.6
22...	1159	70.0	27.5	752	1028	1028	224	7.55	4510	7.6	7.6
22...	1202	60.0	27.5	752	1028	1028	224	7.55	4510	7.5	7.6
22...	1205	50.0	27.5	752	1028	1028	224	7.55	4510	7.5	7.6
22...	1208	40.0	27.5	752	1028	1028	224	7.55	4510	7.5	7.6
22...	1211	30.0	27.5	752	1028	1028	224	7.55	4510	7.4	7.6
22...	1214	20.0	27.5	752	1028	1028	224	7.55	4510	7.5	7.6
22...	1217	10.0	27.5	752	1028	1028	224	7.55	4510	7.5	7.6
22...	1220	50.0	27.0	752	1028	1028	224	7.55	4520	7.6	7.6
22...	1223	40.0	27.0	752	1028	1028	224	7.55	4510	7.5	7.6
22...	1226	30.0	27.0	752	1028	1028	224	7.55	4510	7.5	7.6
22...	1229	20.0	27.0	752	1028	1028	224	7.55	4510	7.5	7.6
22...	1232	10.0	27.5	752	1028	1028	224	7.55	4510	7.4	7.6

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT												
21...	1430	1028	80020	1980	5070	8.6	13.0	17.5	758	12.1	129	920
NOV												
04...	1430	1028	80020	1340	4920	8.6	22.0	14.0	750	12.2	123	860
DEC												
10...	0830	1028	80020	1570	5000	8.5	6.5	7.0	750	11.5	98	980
JAN												
14...	1200	1028	80020	6070	2290	8.3	4.0	5.5	754	11.6	93	490
FEB												
11...	1600	1028	80020	5120	2430	8.2	18.0	10.5	755	12.0	109	590
MAR												
19...	1530	1028	80020	100000	1090	7.9	6.0	12.0	749	8.7	82	220
APR												
16...	1615	1028	80020	3950	3220	8.4	22.0	21.5	748	11.2	131	720
MAY												
21...	1315	1028	80020	1440	4980	8.0	31.0	26.5	750	7.1	91	1100
JUN												
10...	1400	1028	80020	1020	4260	8.3	26.0	26.5	748	8.3	107	920
JUL												
14...	1930	1028	80020	570	3660	8.1	39.5	35.5	745	9.6	144	640
AUG												
19...	1200	1028	80020	362	4400	8.4	33.0	30.0	754	8.4	114	870
SEP												
03...	0845	1028	80020	295	5080	8.1	24.5	27.0	745	5.3	69	950

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 21...	830	240	79	746	64	11	8.1	105	4	93	740	1200
NOV 04...	770	210	78	664	62	10	8.2	93	5	84	790	1100
DEC 10...	820	250	86	660	59	9	2.1	201	*0	165	820	1100
JAN 14...	350	130	42	285	56	6	6.0	172	0	141	350	430
FEB 11...	420	150	52	285	51	5	5.8	203	0	166	430	420
MAR 19...	130	60	17	124	54	4	5.1	105	0	86	140	190
APR 16...	590	180	66	390	54	6	1.2	151	*0	124	590	620
MAY 21...	970	260	104	637	56	8	8.3	149	0	122	950	1000
JUN 10...	780	230	86	548	56	8	6.7	166	0	136	740	860
JUL 14...	580	140	68	469	60	8	37	65	0	53	550	810
AUG 19...	770	200	87	599	60	9	9.6	110	7	102	730	970
SEP 03...	840	220	97	695	61	10	9.8	140	0	115	810	1100

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2) (71856)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT 21...	.36	4.9	3040	4.13	16200	106	--	--	<.010	--	<.050	<.015
NOV 04...	.34	4.7	2930	3.99	10600	39	--	--	.031	.10	<.050	<.020
DEC 10...	.37	7.3	3030	4.12	12900	85	--	--	<.010	--	1.05	<.020
JAN 14...	.34	9.8	1330	1.81	21800	360	.864	3.8	.016	.05	.880	.027
FEB 11...	.37	8.8	1460	1.98	20100	232	.897	4.0	.013	.04	.910	.059
MAR 19...	.20	7.8	591	.80	160000	1140	--	--	<.010	--	.351	.098
APR 16...	.37	3.5	1920	2.61	20500	231	--	--	<.010	--	<.050	.033
MAY 21...	.39	4.6	3090	4.21	12000	40	--	--	.010	.03	<.050	.068
JUN 10...	.30	7.8	2560	3.49	7060	34	--	--	<.010	--	.102	.023
JUL 14...	.43	2.4	2120	2.88	3260	49	--	--	.011	.04	<.050	.051
AUG 19...	.50	9.9	2670	3.63	2610	--	--	--	.010	.03	<.050	.084
SEP 03...	.53	10	3030	4.12	2410	48	--	--	.011	.04	<.050	.075

*pH of filtered sample <8.3; therefore no carbonate value.

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4) (00660)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)
OCT 21...	--	--	1.4	--	.133	<.010	<.010	--	2	2	200	214
NOV 04...	--	--	.87	--	.062	<.010	<.010	--	2	2	<100	116
DEC 10...	--	--	.75	1.8	.074	<.010	.017	.05	2	2	<100	115
JAN 14...	.03	.52	.55	1.4	.093	.067	.071	.22	4	2	400	169
FEB 11...	.08	.40	.46	1.4	.088	.059	.061	.19	3	2	<100	147
MAR 19...	.13	1.4	1.5	1.9	.503	.015	.017	.05	5	2	500	100
APR 16...	.04	.91	.94	--	.124	<.010	<.010	--	3	1	<100	161
MAY 21...	.09	.68	.75	--	.082	<.010	<.010	--	2	2	<100	172
JUN 10...	.03	1.0	1.1	1.2	.126	<.010	<.010	--	2	2	200	145
JUL 14...	.07	1.2	1.3	--	.200	<.010	.017	.05	3	3	<100	120
AUG 19...	.11	1.3	1.4	--	.106	<.010	.019	.06	5	3	<100	128
SEP 03...	.10	1.5	1.5	--	.124	<.010	.014	.04	5	3	<100	134

DATE	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)
OCT 21...	<1	<4.0	4	<1.0	4	<40	980	<12	1	<40	51
NOV 04...	<1	<3.0	1	<1.0	3	<30	230	<9.0	<1	<30	30
DEC 10...	<1	<4.0	3	<1.0	2	<40	710	<12	1	<40	48
JAN 14...	<1	<24	10	2.2	10	<30	5400	<30	7	<300	220
FEB 11...	<1	<24	8	<1.0	7	<30	3400	<30	55	<300	130
MAR 19...	<1	<8.0	21	<1.0	25	<10	16000	<10	24	<100	700
APR 16...	<1	<24	6	2.4	5	<30	2400	<30	2	<300	150
MAY 21...	<1	<24	5	3.1	4	<30	330	<30	1	<300	77
JUN 10...	<1	<24	2	<1.0	2	<30	290	<30	<1	<300	160
JUL 14...	<1	<8.0	1	<1.0	3	<10	310	<10	2	<100	90
AUG 19...	<1	<24	<1	<1.0	3	<30	440	<30	<1	<300	200
SEP 03...	<1	<24	2	<1.0	3	<30	510	<30	2	<300	240

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT											
21...	<4.0	<.10	<.1	<100	<40	3	2	<1	<1.0	<10	23
NOV											
04...	5.0	<.10	<.1	<100	<30	3	3	<1	<1.0	<10	<9.0
DEC											
10...	7.9	<.10	.1	<100	<40	3	4	<1	<1.0	<10	<20
JAN											
14...	<12	.15	<.1	<100	<120	2	1	<1	<1.0	40	<60
FEB											
11...	<12	<.10	<.1	<100	<120	1	2	<1	<1.0	20	<60
MAR											
19...	4.5	<.10	<.1	<100	<40	<1	<1	<1	<1.0	70	<20
APR											
16...	<12	<.10	<.1	<100	<120	3	2	<1	<1.0	10	<60
MAY											
21...	<12	<.10	<.1	<100	<120	3	4	<1	<1.0	10	<60
JUN											
10...	<12	<.10	<.1	<100	<120	2	2	<1	<1.0	<10	<60
JUL											
14...	<4.0	<.10	<.1	<100	<40	1	<1	<1	<1.0	10	<20
AUG											
19...	<12	<.10	<.1	--	--	<1	1	<1	<1.0	<10	<60
SEP											
03...	<12	<.10	<.1	<100	<120	<1	<1	<1	<1.0	<10	<60

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AROCLOR 1016 PCB TOTAL (UG/L) (34671)	AROCLOR 1221 PCB TOTAL (UG/L) (39488)	AROCLOR 1232 PCB TOTAL (UG/L) (39492)	AROCLOR 1242 PCB TOTAL (UG/L) (39496)	AROCLOR 1248 PCB TOTAL (UG/L) (39500)	AROCLOR 1254 PCB TOTAL (UG/L) (39504)	AROCLOR 1260 PCB TOTAL (UG/L) (39508)
FEB										
11...	1600	1028	80020	<.100	<1.00	<.100	<.100	<.100	<.100	<.100
JUN										
10...	1400	1028	80020	<.100	<1.00	<.100	<.100	<.100	<.100	<.100

DATE	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	CHLORDANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLORDANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	DIELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ENDRIN ALDEHYDE TOTAL (UG/L) (34366)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)
FEB										
11...	<.040	<.100	<.100	<.100	<.020	<.060	<.200	<.030	<.800	<.030
JUN										
10...	<.040	<.100	<.100	<.100	<.020	<.060	<.200	<.030	<.800	<.030

DATE	TOXAPHENE, TOTAL (UG/L) (39400)	BETA BENZENE HEXACHLORIDE TOTAL (UG/L) (39338)	DELTA BENZENE HEXACHLORIDE TOTAL (UG/L) (34259)	ALPHA BHC TOTAL (UG/L) (39337)	P,P' DDT, TOTAL (UG/L) (39300)	P,P' DDD, TOTAL (UG/L) (39310)	P,P' DDE, TOTAL (UG/L) (39320)	ENDOSULFAN-I WATER WHOLE REC (UG/L) (34361)	ENDOSULFAN II TOTAL (UG/L) (34356)	ENDOSULFAN SULFATE TOTAL (UG/L) (34351)
FEB										
11...	<2.00	<.030	<.090	<.030	<.100	<.100	<.040	<.100	<.040	<.600
JUN										
10...	<2.00	<.030	<.090	<.030	<.100	<.100	<.040	<.100	<.040	<.600

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	2320	1970	2140	5040	4720	4900	4350	4270	4310	3660	3460	3600
2	2720	2320	2500	5230	5010	5140	4310	4100	4210	3460	3350	3390
3	2990	2720	2870	5230	5180	5190	4160	4030	4110	3500	3350	3420
4	3260	2990	3120	5180	4760	4980	4060	4000	4020	3500	3140	3370
5	3550	3260	3410	4820	4750	4790	4420	4010	4060	3140	2430	2620
6	3850	3550	3710	4780	4730	4740	4890	4420	4750	3290	1930	2690
7	4090	3850	3950	4780	4710	4730	4990	4790	4920	1930	935	1240
8	4130	4000	4060	4940	4710	4820	4940	4790	4860	1010	914	970
9	4300	4090	4200	5070	4940	5010	5010	4840	4930	986	844	894
10	4450	4300	4370	5140	5040	5090	5250	4850	5070	977	889	937
11	4450	3680	4090	5190	5130	5170	5190	4940	5060	1310	977	1140
12	3680	2140	2470	---	---	e5090	4940	4780	4860	1790	1310	1500
13	2650	2360	2450	5110	4850	4990	4860	4770	4810	2250	1790	2100
14	4080	2650	3390	4980	4860	4910	5130	4850	4980	2380	2240	2310
15	4060	3180	3470	4880	4720	4870	5180	5100	5150	2560	2370	2470
16	4190	3200	3610	5090	4840	4930	5120	4970	5030	2790	2550	2680
17	4180	2450	2930	5220	5060	5170	5320	4950	5080	2930	2790	2870
18	3140	2490	2750	5130	4910	5070	5470	5300	5410	2950	2670	2850
19	3900	3140	3580	4910	4810	4840	5610	5310	5460	2680	2660	2670
20	4580	3900	4220	4850	4800	4830	---	---	e5280	2720	2670	2690
21	5070	4580	4920	4890	4300	4770	4880	4110	4470	2700	2410	2650
22	4980	4270	4610	4520	4290	4380	4140	3420	3830	2420	2110	2300
23	4280	3750	3990	4940	4510	4740	3420	2270	2690	2170	1860	2020
24	3780	3690	3730	5230	4940	5080	2270	2000	2110	2080	1890	1950
25	3830	3700	3770	5540	5230	5380	2130	1340	1610	2440	1940	2260
26	4010	3830	3910	5680	5540	5610	3060	1620	2360	2250	1690	2080
27	4200	4010	4130	5670	5300	5530	3140	2820	2950	2310	2080	2230
28	4420	3980	4140	5300	4860	5090	2840	2610	2730	2300	2080	2170
29	4450	3480	3930	4860	4640	4760	2610	2510	2540	2630	2140	2410
30	4060	3480	3720	4640	4360	4510	3140	2590	2850	2890	2630	2750
31	4720	4080	4420	---	---	---	3590	3140	3390	3070	2890	3010
MONTH	5070	1970	3630	---	---	4970	---	---	4130	3660	844	2330

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3360	3060	3200	4160	3950	4050	2580	2460	2500	1490	1280	1360
2	3590	3360	3510	4180	4100	4150	2830	2580	2710	2240	1490	1840
3	4480	2450	3710	4100	4020	4050	2850	2810	2840	2760	2240	2520
4	2450	1560	1790	4030	3990	4020	2820	2780	2800	2970	2760	2890
5	2520	1900	2290	4120	3950	4010	2820	2780	2800	3120	2970	3070
6	2000	1700	1790	4150	4120	4130	2880	2810	2850	3080	2950	3020
7	1790	1700	1740	4140	1290	2920	2850	2690	2770	3000	2930	2960
8	2050	1790	1910	2800	2500	2620	2740	2690	2720	3250	2990	3140
9	2270	2050	2170	2800	2590	2710	2950	2720	2820	3600	3150	3350
10	2360	2270	2330	2730	2530	2610	3070	2950	3000	3810	3600	3690
11	2490	2350	2420	2710	2170	2340	3090	2870	2980	3870	3800	3850
12	2710	2480	2600	3100	2160	2540	2950	2870	2910	4050	3850	3920
13	2950	2710	2780	3320	3100	3260	3240	2940	3120	4420	4050	4290
14	3380	2950	3160	3340	3060	3190	3330	3240	3280	4410	4250	4340
15	3640	3380	3550	3070	2500	2920	3340	3290	3320	4300	4070	4140
16	3750	3640	3690	2540	832	1590	3290	3180	3230	4170	4050	4100
17	3750	3590	3640	1530	925	1100	3380	3170	3220	4350	4140	4240
18	3610	3500	3580	925	739	800	3640	3380	3540	4500	4320	4410
19	3610	3370	3450	1250	841	1040	3760	3630	3700	4730	4490	4590
20	3630	3190	3360	1370	1250	1320	3780	3660	3750	4770	4660	4730
21	3210	2600	2910	1540	1370	1440	3800	3720	3760	5130	4750	5070
22	2600	2150	2280	1740	1540	1650	3830	3790	3810	5170	4720	5010
23	2230	2170	2210	1770	1720	1740	3820	3780	3800	4720	4600	4650
24	2280	2160	2190	2000	1770	1880	3820	3790	3800	5600	4650	4890
25	2900	2280	2560	2210	1990	2110	3840	3790	3810	6130	5450	5920
26	3320	2900	3170	2290	2210	2240	3850	3310	3740	5530	4610	4940
27	3350	3280	3300	2330	2290	2310	3630	3420	3500	4620	4110	4360
28	3950	3350	3660	2370	2270	2300	3710	3390	3550	4110	3740	3920
29	---	---	---	2540	2370	2480	3680	1380	2050	3820	3720	3750
30	---	---	---	2590	2480	2540	1450	1280	1380	---	---	e3710
31	---	---	---	2560	2480	2510	---	---	---	---	---	e3730
MONTH	4480	1560	2820	4180	739	2530	3850	1280	3140	---	---	3880

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	e3770	4390	4280	4320	4260	4060	4160	4990	4920	4950
2	---	---	e3800	4540	4390	4460	4300	4140	4230	5050	4940	5000
3	---	---	e3840	4620	4530	4560	4460	4240	4350	5230	5040	5130
4	---	---	e3870	4680	4600	4630	4530	3720	4330	5130	5020	5070
5	---	---	e4000	4680	4550	4620	4540	4320	4460	5160	5000	5070
6	---	---	e4030	4590	4530	4560	4640	4520	4560	5320	5150	5230
7	---	---	e4070	4650	4580	4600	4880	4620	4750	5330	5220	5280
8	---	---	e4100	4680	4600	4650	5190	4870	5050	5710	5270	5480
9	---	---	e4130	4660	4390	4570	5220	5000	5100	5760	5310	5620
10	---	---	e4150	4390	3790	4140	5410	5130	5260	5310	4580	4960
11	4120	3140	3610	3790	3220	3600	5510	5380	5460	4580	4120	4350
12	3740	3220	3470	3220	2770	2930	---	---	e5280	---	---	e4000
13	3520	3310	3380	3520	3110	3330	---	---	e4510	---	---	e3870
14	3680	3500	3600	3670	3510	3610	---	---	e4320	---	---	e3730
15	3500	2850	3060	3600	3440	3530	---	---	e4550	---	---	e3590
16	3330	2550	2810	3880	3450	3640	---	---	e4580	3710	3330	3570
17	2910	2780	2830	4100	3870	4020	---	---	e4430	3560	3130	3400
18	2950	2850	2920	4360	4100	4240	---	---	e4430	4110	3250	3680
19	3180	2850	3070	4430	4350	4390	---	---	e4400	4200	4080	4150
20	3160	2150	2390	4480	4400	4460	4650	4470	4540	4420	4170	4270
21	2410	1630	1930	4620	4450	4510	4670	4420	4560	4520	4360	4440
22	1650	1430	1530	4700	4570	4630	4650	4440	4580	4580	3960	4450
23	1660	1440	1530	4620	4460	4530	4960	4650	4780	4530	4170	4380
24	2420	1470	1850	4770	4570	4670	5120	4960	5050	4170	3880	4000
25	3700	2420	3120	4830	4730	4790	5000	4820	4930	4080	3790	3940
26	4110	3700	3940	4920	4780	4860	4920	4700	4800	4740	3870	4310
27	4230	4100	4160	4810	4500	4710	4960	4690	4850	5140	4740	5030
28	4310	4060	4220	4530	4250	4420	5010	4250	4850	5350	5140	5190
29	4160	4060	4130	4320	4070	4230	5020	4880	4950	5450	5350	5400
30	4290	4160	4240	4260	4030	4140	5080	4820	5020	5370	4960	5190
31	---	---	---	4210	4020	4120	5080	4860	4980	---	---	---
MONTH	---	---	3390	4920	2770	4270	---	---	4710	---	---	4560

e Estimated

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

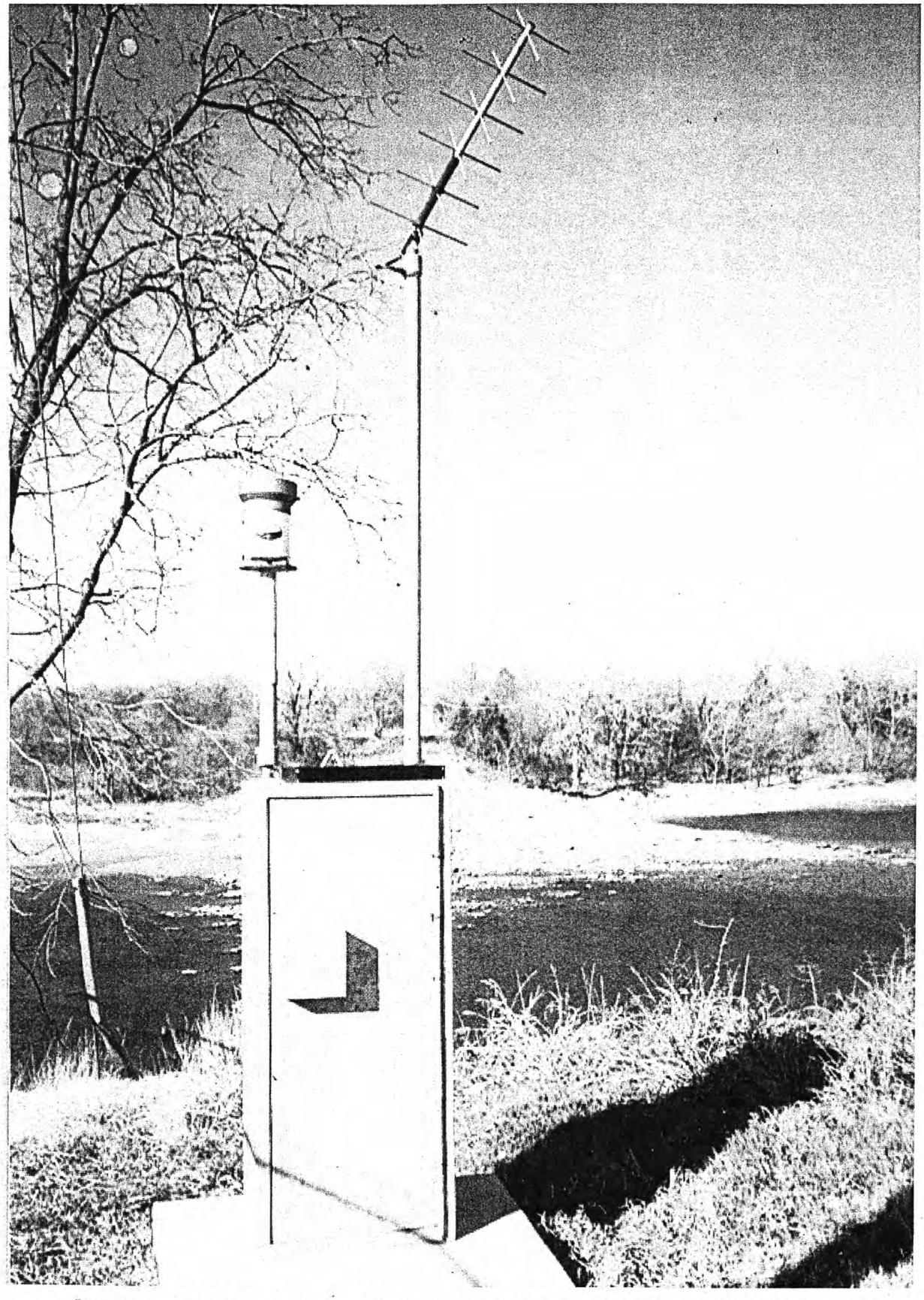
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	26.5	24.5	25.5	18.5	17.0	18.0	11.5	11.0	11.5	7.0	5.0	5.5
2	27.0	24.0	25.5	17.0	15.0	16.0	11.0	11.0	11.0	11.0	7.0	9.0
3	26.5	24.0	25.5	15.5	13.0	14.0	11.0	9.0	10.5	13.5	11.0	12.5
4	26.0	23.0	24.5	15.0	12.5	14.0	10.5	8.0	9.0	14.5	13.5	14.0
5	25.5	22.5	24.0	17.0	14.5	15.5	8.5	7.0	8.0	13.5	12.5	13.0
6	25.5	23.5	24.5	15.0	12.5	14.0	8.0	6.0	7.0	12.5	10.5	11.5
7	25.0	24.0	24.5	14.0	11.0	12.5	7.5	6.5	7.0	10.5	8.0	9.0
8	24.5	23.0	24.0	14.5	11.5	13.0	8.5	6.5	7.5	8.0	6.5	7.0
9	26.0	23.0	24.5	13.5	12.5	13.0	10.0	7.5	8.5	6.5	5.5	6.0
10	26.0	24.5	25.5	12.5	9.0	10.5	8.5	6.5	7.5	5.5	5.0	5.5
11	25.0	23.5	24.5	11.0	8.0	9.5	6.5	5.0	5.5	5.5	5.0	5.0
12	23.5	21.5	23.0	10.5	8.0	9.5	5.0	3.5	4.5	6.5	5.5	6.0
13	21.5	19.5	20.5	10.0	8.5	9.5	4.5	2.0	3.5	6.5	5.5	6.0
14	20.5	17.5	19.0	9.5	7.5	9.0	6.0	3.0	4.5	5.5	5.0	5.5
15	21.0	17.5	19.0	9.0	7.0	8.0	7.0	3.5	5.5	6.0	4.5	5.0
16	20.5	17.5	19.0	9.0	6.0	7.5	8.5	5.5	6.5	6.5	4.5	5.5
17	20.5	18.5	19.5	7.5	6.0	7.0	8.5	6.0	7.0	7.0	5.0	6.0
18	19.5	17.5	18.5	9.5	6.0	7.5	9.0	6.0	7.5	8.5	6.5	7.0
19	20.0	17.0	18.5	10.5	7.5	9.0	11.0	7.5	9.0	8.5	6.5	7.5
20	21.0	18.0	19.5	11.0	9.0	10.0	10.0	7.5	9.0	8.5	7.0	8.0
21	19.5	16.5	18.0	12.0	9.5	11.0	8.5	7.0	8.0	9.0	8.0	8.5
22	16.5	15.0	16.0	13.0	10.5	11.5	7.0	6.0	6.5	8.0	6.5	7.0
23	15.5	14.5	15.0	13.0	10.0	11.5	6.5	6.0	6.0	6.5	5.0	5.5
24	18.5	15.0	16.5	13.0	10.5	11.5	6.0	5.5	5.5	6.0	4.0	5.0
25	19.5	16.5	18.0	14.5	11.5	13.0	6.0	5.5	5.5	6.0	5.0	5.5
26	16.5	11.5	13.0	16.0	14.0	15.0	6.0	5.0	5.5	7.5	6.0	7.0
27	13.5	10.0	11.5	16.5	14.0	15.5	5.5	4.5	5.0	9.0	6.5	7.5
28	14.0	11.0	12.5	16.5	15.0	16.0	5.0	4.0	4.5	10.0	8.0	9.0
29	15.5	12.5	14.0	15.0	12.5	14.0	5.0	3.5	4.5	11.0	8.5	9.5
30	18.5	15.0	17.0	12.5	11.5	12.0	6.0	4.0	5.0	11.0	8.5	10.0
31	20.5	17.5	18.5	---	---	---	6.0	4.5	5.5	11.0	10.0	10.5
MONTH	27.0	10.0	20.0	18.5	6.0	11.9	11.5	2.0	6.8	14.5	4.0	7.7

07316000 RED RIVER NEAR GAINESVILLE, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.0	10.5	11.0	12.0	10.5	11.0	18.5	16.5	17.5	20.5	17.5	18.5
2	12.0	9.5	11.0	11.0	9.5	10.0	18.5	17.0	17.5	23.0	19.0	21.0
3	11.0	9.5	10.5	11.0	9.0	10.0	18.0	16.0	17.0	24.5	21.0	22.5
4	10.5	9.5	10.0	13.0	9.5	11.0	17.0	15.5	16.0	25.0	21.5	23.0
5	9.5	7.5	8.5	13.0	11.5	12.5	17.5	15.0	16.0	25.5	22.0	23.5
6	8.0	6.5	7.0	11.5	10.0	10.5	18.0	16.0	17.0	27.5	23.5	25.0
7	8.0	6.0	7.0	10.5	9.5	10.0	19.0	17.0	18.0	28.5	24.0	26.0
8	8.5	6.5	7.5	10.5	7.0	8.5	19.5	17.5	18.0	27.5	24.5	26.0
9	10.0	7.5	8.5	7.5	5.0	6.5	19.0	17.0	18.0	26.0	23.5	24.5
10	10.0	9.5	10.0	7.0	5.0	6.0	19.5	16.5	18.0	26.5	21.5	24.0
11	10.5	8.5	9.5	7.5	5.5	6.5	20.0	17.5	18.5	27.0	23.0	25.0
12	10.0	9.0	9.5	7.5	5.5	6.5	20.0	17.5	18.5	27.5	23.0	25.0
13	10.0	9.0	9.5	7.5	7.0	7.0	21.5	18.0	19.5	27.0	24.0	25.5
14	10.0	8.5	9.5	9.0	7.5	8.0	22.5	19.5	21.0	27.5	24.5	26.0
15	11.0	10.0	10.5	11.5	9.0	10.0	23.0	20.5	22.0	27.5	25.0	26.0
16	10.5	10.0	10.0	12.5	11.5	12.0	22.5	20.0	21.0	28.5	23.5	26.0
17	10.5	9.5	10.0	12.5	12.0	12.5	20.5	18.5	19.0	27.0	25.0	26.0
18	11.5	9.0	10.0	12.5	11.5	12.0	20.0	17.0	18.5	28.0	24.0	26.0
19	11.5	10.5	11.0	12.5	11.5	12.0	20.5	17.0	18.5	28.5	24.5	26.5
20	12.0	10.5	11.0	11.5	10.0	10.5	19.5	17.5	18.5	29.0	25.0	26.5
21	11.5	10.5	11.0	10.5	9.5	10.0	19.0	16.0	17.5	28.0	25.0	27.0
22	11.5	10.5	11.0	11.5	10.0	10.5	19.5	16.5	18.0	27.0	25.0	26.0
23	12.0	10.5	11.0	13.5	11.0	12.0	21.0	16.5	18.5	26.5	24.0	25.5
24	13.5	11.5	12.5	15.5	13.0	14.0	21.5	18.0	20.0	28.5	24.5	26.0
25	15.5	13.0	14.5	17.0	15.0	16.0	21.5	18.5	20.0	27.0	24.5	26.0
26	15.5	14.5	15.0	18.0	16.5	17.5	21.0	20.0	20.5	27.5	24.5	26.0
27	14.5	13.0	14.0	18.5	17.0	17.5	20.0	19.0	19.5	26.5	24.5	25.5
28	13.5	12.0	12.5	19.0	16.5	17.5	20.0	17.5	18.5	29.5	23.5	26.5
29	---	---	---	19.5	18.0	18.5	17.5	16.0	16.5	31.5	26.5	29.0
30	---	---	---	19.5	18.5	19.0	18.5	15.5	17.0	---	---	---
31	---	---	---	18.5	17.5	18.0	---	---	---	---	---	---
MONTH	15.5	6.0	10.5	19.5	5.0	11.7	23.0	15.0	18.5	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	34.5	29.5	31.5	34.0	27.5	30.5	32.5	26.5	29.5
2	---	---	---	34.5	29.5	32.0	34.5	27.0	30.5	33.5	26.5	30.0
3	---	---	---	34.5	29.0	31.5	33.5	28.5	31.0	33.5	27.0	30.0
4	---	---	---	31.5	28.5	30.0	30.5	25.0	28.0	33.0	27.0	30.0
5	---	---	---	30.5	27.5	29.0	31.0	26.5	28.5	32.0	27.0	29.5
6	---	---	---	33.5	27.5	30.5	33.0	27.0	30.0	32.0	26.5	29.0
7	---	---	---	34.5	28.5	31.5	34.0	27.0	30.0	33.0	26.5	29.5
8	---	---	---	34.5	29.5	32.0	33.0	27.0	29.5	33.5	27.0	30.0
9	---	---	---	34.5	29.5	32.0	33.5	27.5	30.5	31.0	26.5	29.0
10	---	---	---	35.0	29.5	32.0	32.5	27.5	30.0	30.0	23.5	26.5
11	28.5	24.0	26.0	34.5	29.5	32.0	30.0	28.0	29.0	27.0	24.5	25.5
12	31.0	25.0	27.5	35.0	29.5	32.0	34.0	27.5	30.5	---	---	---
13	32.5	28.0	30.0	35.5	30.0	32.5	34.0	28.0	30.5	---	---	---
14	32.5	28.0	30.0	35.5	30.0	33.0	32.0	29.0	30.5	---	---	---
15	31.0	28.0	29.5	36.5	29.5	33.0	34.5	27.0	30.5	---	---	---
16	30.0	26.5	28.5	35.5	30.0	32.5	34.0	28.5	31.0	27.5	25.0	26.0
17	29.5	26.0	27.5	33.0	29.5	31.5	34.5	28.5	31.0	30.5	24.5	27.0
18	30.5	26.0	28.0	35.0	28.5	31.5	33.0	28.0	30.5	32.5	25.5	29.0
19	32.0	25.5	28.5	34.0	29.0	31.5	33.5	29.0	31.0	31.5	26.5	29.0
20	31.0	27.0	29.0	34.0	29.0	31.5	34.5	28.5	31.5	32.0	26.5	29.0
21	30.5	27.0	29.0	33.5	28.5	31.0	34.0	28.5	31.0	32.5	27.0	29.0
22	31.5	27.0	29.5	33.5	28.5	31.0	32.5	28.5	30.5	30.0	26.5	28.0
23	31.5	28.0	30.0	34.0	28.0	31.0	32.5	27.5	30.0	29.5	25.0	27.5
24	32.0	27.5	29.5	34.0	28.0	31.0	33.0	28.5	30.5	30.5	26.0	28.0
25	32.0	27.5	29.5	33.5	28.5	31.0	33.5	28.5	31.0	31.0	26.0	28.0
26	33.0	27.5	30.0	34.0	28.0	30.5	33.5	28.5	31.0	29.5	25.5	27.5
27	34.0	28.0	30.5	34.0	28.0	31.0	33.5	28.5	30.5	31.5	26.0	28.5
28	34.5	28.5	31.5	34.0	28.0	31.0	32.5	28.0	29.5	32.5	27.0	29.5
29	33.5	28.5	31.0	33.5	28.0	30.5	34.0	27.5	30.5	32.5	26.5	29.5
30	33.5	28.5	31.0	33.0	27.5	30.0	33.5	27.5	30.5	31.5	26.5	29.0
31	---	---	---	33.5	27.0	30.0	33.5	28.0	30.5	---	---	---
MONTH	---	---	---	36.5	27.0	31.3	34.5	25.0	30.3	---	---	---



Gage house at Red River blw Dennison Dam nr Dennison, TX 07331600

07316500 WASHITA RIVER NEAR CHEYENNE, OK

LOCATION.--Lat 35°37'35", long 99°40'05", in SE ¼ sec.5, T.13 N., R.23 W., Roger Mills County, Hydrologic Unit 11130301, on left bank on downstream side of bridge on U.S. Highway 283, 0.5 mi downstream from Sergeant Major Creek, 1.0 mi north of Cheyenne, 5.2 mi upstream from Dead Indian Creek, and at mile 543.9.

DRAINAGE AREA.--794 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,900.98 ft above sea level. May 1, 1938, to Nov. 16, 1946, and Oct. 1, 1947, to Jan. 11, 1948, nonrecording gage at site 50 ft upstream and datum 5.00 ft higher. Jan. 12, 1948 to Dec. 31, 1976, at site 50 ft upstream and datum 5.00 ft higher. Jan. 1, 1977, to Dec. 20, 1979, at site 50 ft upstream at same datum.

REMARKS.--No estimated daily discharge. Records good. Flow regulated since 1961 by numerous flood-retarding structures. U.S. Army Corps of Engineers' satellite telemeter at site.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 3, 1934, reached a stage of 1.0 ft lower than that in 1954, at site on upstream side of highway fill (at old bridge site).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	40	46	88	81	57	113	90	42	7.9	3.2	.51
2	29	38	47	86	77	55	109	86	40	7.4	3.1	.49
3	28	37	49	84	73	55	104	83	39	6.6	2.9	.32
4	28	37	49	118	71	56	101	80	34	6.2	3.0	.13
5	26	36	48	122	74	55	101	78	33	6.0	3.5	.08
6	26	36	46	110	74	55	100	72	32	6.1	3.8	.19
7	26	36	46	101	74	60	100	67	31	6.6	2.8	.35
8	47	37	47	94	72	67	97	67	32	56	2.2	.09
9	37	36	47	87	72	67	95	166	28	17	1.9	.00
10	34	41	45	83	74	63	94	196	25	9.2	2.2	.00
11	41	42	45	81	69	61	93	168	25	6.7	3.0	.00
12	101	42	45	80	68	59	93	132	23	6.1	3.1	.00
13	97	48	45	79	66	64	89	113	20	5.6	3.4	.01
14	79	53	45	78	65	68	83	99	19	5.5	2.9	.26
15	62	51	46	78	66	89	81	155	17	5.9	2.5	.33
16	54	49	47	78	66	282	82	132	17	7.6	2.1	.33
17	49	48	46	76	70	388	81	106	16	5.9	1.7	.52
18	47	47	47	75	71	347	78	90	15	5.7	1.6	.40
19	44	51	47	72	71	316	77	81	14	4.9	1.5	.25
20	42	48	46	73	69	273	76	76	15	4.5	1.4	.00
21	42	47	66	70	70	234	74	72	13	4.0	1.4	.00
22	40	47	77	68	67	202	75	69	11	4.0	1.4	.00
23	42	45	104	68	66	177	73	63	11	4.0	1.2	.95
24	45	45	146	67	66	165	71	60	10	4.2	.95	1.4
25	43	44	152	68	67	155	71	57	9.9	3.9	1.1	.85
26	43	45	129	67	64	147	70	59	8.1	3.5	1.4	.51
27	43	45	112	69	61	147	87	60	7.5	3.4	1.0	.41
28	42	48	103	68	59	140	93	56	7.2	5.1	1.2	.57
29	42	47	97	68	---	133	96	53	7.5	4.3	.65	.34
30	43	47	93	68	---	126	91	49	7.7	3.4	.59	.26
31	42	---	90	77	---	118	---	46	---	3.4	.45	---
TOTAL	1395	1313	2098	2501	1943	4281	2648	2781	609.9	230.6	63.14	9.55
MEAN	45.0	43.8	67.7	80.7	69.4	138	88.3	89.7	20.3	7.44	2.04	.32
MAX	101	53	152	122	81	388	113	196	42	56	3.8	1.4
MIN	26	36	45	67	59	55	70	46	7.2	3.4	.45	.00
AC-FT	2770	2600	4160	4960	3850	8490	5250	5520	1210	457	125	19

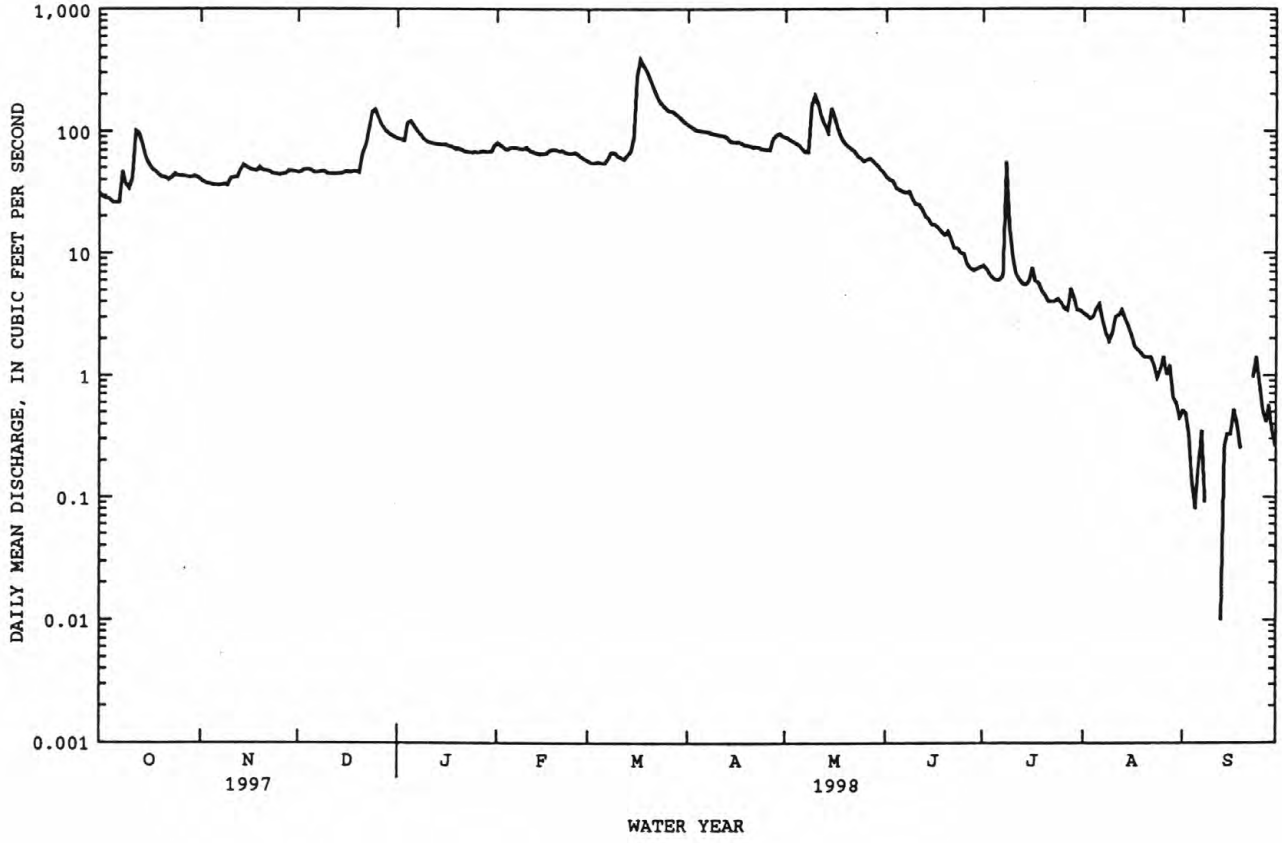
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

MEAN	8.36	8.91	11.3	14.3	18.3	25.1	31.2	50.3	40.7	8.04	4.84	5.82
MAX	72.9	64.3	67.7	80.7	69.4	138	146	348	203	61.7	32.8	44.7
(WY)	1987	1987	1998	1998	1998	1998	1997	1977	1982	1982	1995	1997
MIN	.000	.000	.000	.026	1.50	2.22	1.08	.000	.005	.000	.000	.000
(WY)	1964	1964	1964	1973	1973	1967	1971	1971	1970	1964	1963	1964

07316500 WASHITA RIVER NEAR CHEYENNE, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	26269.9		19873.19			
ANNUAL MEAN	72.0		54.4		[a]18.9	
HIGHEST ANNUAL MEAN					64.0	1997
LOWEST ANNUAL MEAN					2.60	1972
HIGHEST DAILY MEAN	467	May 28	388	Mar 17	1560	Apr 23 1990
LOWEST DAILY MEAN	8.6	Sep 18	.00	Sep 9-12, 20-22	.00	most years
ANNUAL SEVEN-DAY MINIMUM	9.9	Sep 14	.05	Sep 8	.00	Oct 1 1961
INSTANTANEOUS PEAK FLOW			422	Mar 17	[b]7250	Apr 22 1990
INSTANTANEOUS PEAK STAGE			10.76	Mar 17	[c]16.60	Apr 22 1990
ANNUAL RUNOFF (AC-FT)	52110		39420		13700	
10 PERCENT EXCEEDS	165		102		40	
50 PERCENT EXCEEDS	43		47		6.9	
90 PERCENT EXCEEDS	16		1.2		.00	

[a]Prior to regulation, water years 1938-60, 41.7 ft^3/s.
[b]Maximum discharge for period of record 69,800 ft^3/s, Apr. 29, 1954, from rating curve extended above 27,000 ft^3/s on basis of contracted opening.
[c]Maximum gage-height for period of record, 20.24 ft, Apr. 29, 1954.



07324200 WASHITA RIVER NEAR HAMMON, OK

LOCATION.--Lat 35°39'23", long 99°18'21", on west line of sec.26, T.14 N., R.20 W., Custer County, Hydrologic Unit 11130301, on right bank near county road bridge, 2.2 mi downstream from Quartermaster Creek, 4.7 mi northeast of Hammon, and at mile 494.5.

DRAINAGE AREA.--1,387 mi^2.

PERIOD OF RECORD.--October 1969 to September 1987, October 1989 to current year.

REVISED RECORD.--OK-92-2: 1987.

GAGE.--Water-stage recorder. Datum of gage is 1,643.22 ft above sea level.

REMARKS.--Records fair. Flow regulated since 1961 by numerous flood-retarding structures. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	e180	174	374	437	228	508	351	154	66	26	15
2	286	e177	177	371	400	220	494	338	150	66	26	14
3	260	e175	186	365	355	216	481	320	144	64	24	12
4	235	e172	184	419	333	215	463	312	136	61	24	9.4
5	215	168	180	469	324	212	457	315	133	59	25	8.2
6	204	165	176	449	323	209	454	308	131	58	26	8.0
7	200	164	174	418	320	223	458	302	130	56	24	7.3
8	227	165	177	407	317	278	449	291	134	88	23	7.0
9	308	164	177	386	312	260	431	384	130	101	21	5.8
10	235	171	172	366	304	240	417	604	123	83	19	5.7
11	236	178	168	355	295	230	412	529	122	70	18	5.2
12	e391	177	165	354	285	227	404	456	116	63	19	5.2
13	e397	188	165	349	281	228	393	384	111	59	23	5.7
14	378	219	166	343	288	231	380	340	108	56	28	6.5
15	312	216	166	337	287	247	370	416	103	51	23	7.2
16	266	210	166	334	285	1120	364	474	102	84	21	7.4
17	239	206	164	326	292	1340	362	401	100	74	19	10
18	228	201	164	319	295	1300	355	340	98	63	17	9.9
19	219	196	170	309	284	1250	348	300	95	51	16	11
20	211	196	169	307	276	1080	338	272	92	e46	15	9.8
21	204	193	210	302	269	926	332	247	88	e44	15	9.0
22	199	191	290	293	268	830	329	234	85	e40	14	7.8
23	202	176	304	306	270	759	324	223	83	36	13	9.2
24	234	173	599	308	266	709	322	210	79	35	13	12
25	226	171	569	299	266	674	312	200	75	35	12	12
26	203	169	518	294	260	635	302	199	71	33	12	9.6
27	195	168	471	288	247	628	329	201	67	31	12	8.4
28	192	177	434	296	234	611	381	196	63	31	11	7.8
29	187	182	404	287	---	577	376	181	60	31	12	7.4
30	184	178	383	281	---	554	366	172	60	29	12	6.7
31	182	---	381	303	---	532	---	163	---	26	11	---
TOTAL	7573	5466	8003	10614	8373	16989	11711	9663	3143	1690	574	260.2
MEAN	244	182	258	342	299	548	390	312	105	54.5	18.5	8.67
MAX	397	219	599	469	437	1340	508	604	154	101	28	15
MIN	182	164	164	281	234	209	302	163	60	26	11	5.2
AC-FT	15020	10840	15870	21050	16610	33700	23230	19170	6230	3350	1140	516

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1998, BY WATER YEAR (WY)

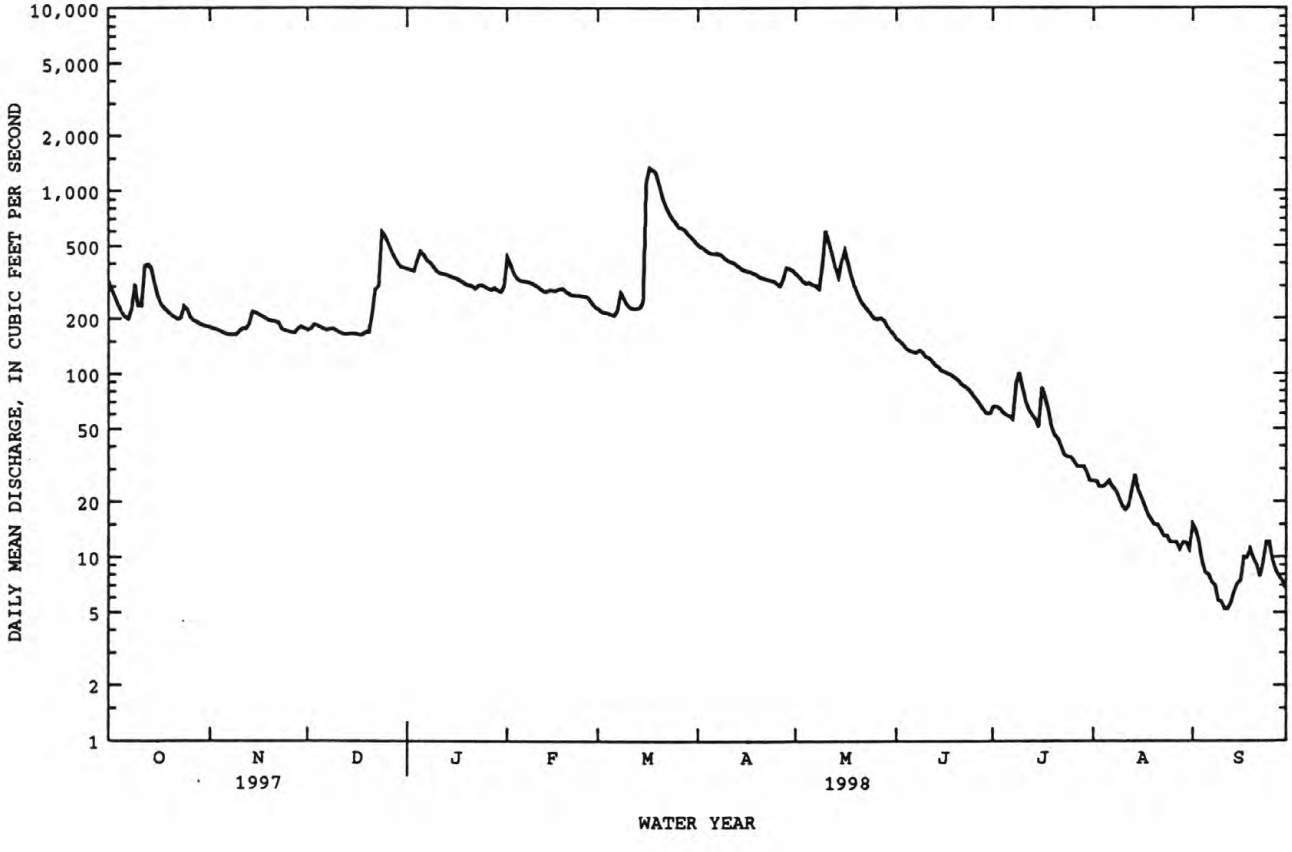
MEAN	35.9	34.4	32.4	40.0	46.1	68.5	87.7	156	127	34.2	30.4	38.6
MAX	384	253	258	342	299	548	528	755	503	158	170	450
(WY)	1987	1987	1998	1998	1998	1998	1997	1982	1997	1997	1997	1997
MIN	.000	.000	.000	.000	.000	.000	.000	.012	.001	.028	.000	.001
(WY)	1973	1972	1973	1973	1972	1972	1972	1971	1972	1970	1972	1976

e Estimated

07324200 WASHITA RIVER NEAR HAMMON, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1970 - 1998	
ANNUAL TOTAL	107439		84059.2			
ANNUAL MEAN	294		230		60.9	
HIGHEST ANNUAL MEAN					262	1997
LOWEST ANNUAL MEAN					.49	1972
HIGHEST DAILY MEAN	4280	Sep 23	1340	Mar 17	4340	May 17 1982
LOWEST DAILY MEAN	77	Jan 13	5.2	Sep 11, 12	.00	at times
ANNUAL SEVEN-DAY MINIMUM	86	Jan 11	5.9	Sep 8	.00	Jul 13 1970
INSTANTANEOUS PEAK FLOW			1390	Mar 17	[a]6000	May 17 1982
INSTANTANEOUS PEAK STAGE			16.91	Mar 17	23.44	May 17 1982
ANNUAL RUNOFF (AC-FT)	213100		166700		44120	
10 PERCENT EXCEEDS	636		432		135	
50 PERCENT EXCEEDS	177		202		18	
90 PERCENT EXCEEDS	95		13		.04	

[a]From rating curve extended above 2,500 ft^3/s on basis of slope-area measurement.



07324300 FOSS RESERVOIR NEAR FOSS, OK

LOCATION.--Lat 35°32'20", long 99°11'09", in S ½ sec.2, T.12 N., R.19 W., Custer County, Hydrologic Unit 11130301, near right end of dam on Washita River, 0.5 mi upstream from Oak Creek, 3.5 mi west of Stafford, 6.0 mi north of Foss, and at mile 474.4.

DRAINAGE AREA.--1,496 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to October, 1961, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earth dam. Outlet consists of four 6- by 7-foot, 6-inch high pressure gates and one uncontrolled spillway. Storage began Feb. 13, 1961. Capacity, 436,500 acre-ft, at elevation 1,668.6 ft, crest of drop inlet and 177,900 acre-ft, at elevation 1,642.0 ft, conservation pool. Dead storage, 12,420 acre-ft below elevation 1,597.2 ft, sill of gated outlet. Figures given herein represent total contents. Reservoir is designed for flood control, municipal water supply, and irrigation release. Revised capacity table used after Sept. 30, 1964. U.S. Army Corps of Engineers' telemeter at station.

COOPERATION.--Elevations and data on diversions provided by Foss Reservoir Master Conservancy District.

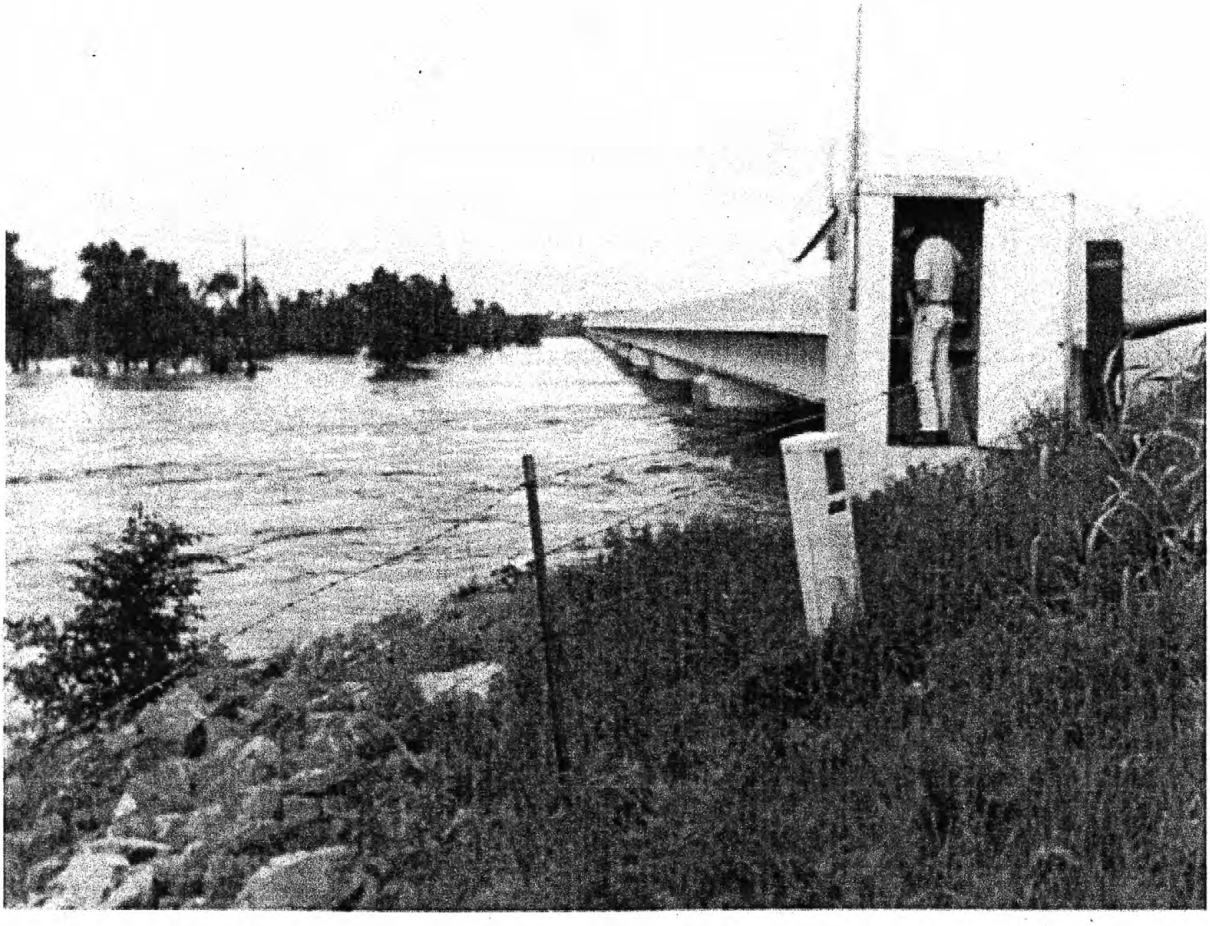
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 226,200 acre-ft, June 16, 1997, elevation, 1,648.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 190,000 acre-ft, Mar. 31, elevation, 1,643.73 ft; minimum, 157,400 acre- ft, Oct. 23, elevation, 1,638.83 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)*	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30	1,642.13	178,800	-	-
Oct. 31	1,639.36	160,700	-18,100	160
Nov. 30	1,639.48	161,500	+800	141
Dec. 31	1,640.51	168,000	+6,500	156
CAL YR 97	-	-	-2,600	1,901
Jan. 31	1,639.22	159,800	-8,200	161
Feb. 28	1,639.08	158,900	-900	155
Mar. 31	1,643.64	189,300	+30,400	187
Apr. 30	1,641.78	176,400	-12,900	172
May 31	1,641.87	177,000	+600	181
June 30	1,642.03	178,100	+1,100	244
July 31	1,641.79	176,500	-1,600	297
Aug. 31	1,641.32	173,400	-3,100	296
Sept. 30	1,640.79	169,900	-3,500	193
WTR YR 98	-	-	-8,900	2,343

* Elevation at 0800 on the following day.



07301481 North Fork Red River near Sayer, OK June 4, 1995. Near peak.

07324400 WASHITA RIVER NEAR FOSS, OK

LOCATION.--Lat 35°32'20", long 99°10'10", in SW ¼ SW ¼ sec.1, T.12 N., R.19 W., Custer County, Hydrologic Unit 11130302, on right bank at downstream side county road bridge, 0.4 mi downstream from Oak Creek, 0.9 mi downstream from Foss Dam, 2.5 mi west of Stafford, 6.0 mi north of Foss, and at mile 473.5.

DRAINAGE AREA.--1,551 mi^2.

PERIOD OF RECORD.--March 1956 to April 1957, February to December 1958, July 1961 to September 1987, October 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,560 ft above sea level, from topographic map.

REMARKS.--Records good. Flow completely regulated since 1961 by Foss Reservoir (station 07324300), except for 55 mi^2 intervening area. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1959 reached a stage of 23.4 ft, from floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	848	144	104	640	654	484	792	305	234	9.2	7.3	6.9
2	848	146	22	642	648	372	844	304	93	9.3	7.2	6.9
3	848	146	23	642	639	234	838	302	14	e9.0	7.3	6.6
4	846	145	23	641	512	201	835	300	13	e8.7	7.3	6.7
5	841	129	132	643	404	200	834	300	13	e8.5	7.4	7.1
6	839	208	211	642	290	95	744	299	12	8.2	7.1	7.1
7	786	207	212	639	179	34	766	297	12	7.9	7.1	7.1
8	665	208	212	639	180	49	829	295	12	10	6.6	6.8
9	663	209	212	637	180	148	821	300	11	8.5	6.6	6.4
10	664	209	211	635	163	216	821	302	11	8.1	6.5	6.4
11	667	208	211	634	151	215	820	299	11	7.9	e6.8	6.3
12	671	208	211	634	149	213	821	295	11	7.9	7.0	6.4
13	670	209	212	632	149	213	821	292	11	8.0	7.0	6.5
14	668	212	212	632	150	213	820	291	10	7.7	6.9	6.6
15	668	213	212	633	150	230	819	292	11	7.9	6.7	6.3
16	768	211	213	633	150	553	720	295	11	8.5	6.3	6.4
17	837	211	212	632	182	425	539	295	10	7.7	6.2	6.8
18	838	210	212	631	210	315	479	293	10	7.9	6.1	6.4
19	836	208	212	630	210	367	480	291	10	7.6	6.0	6.0
20	836	207	212	632	356	304	479	291	10	7.5	6.1	6.2
21	745	207	221	628	488	275	480	289	10	7.5	6.0	6.1
22	674	207	227	628	486	228	364	288	10	7.5	6.1	6.1
23	558	206	240	627	485	307	300	287	10	7.5	6.2	6.0
24	266	207	371	628	485	487	300	287	9.9	7.5	6.2	6.2
25	139	208	311	628	486	563	302	288	9.6	7.3	6.2	6.3
26	143	210	269	628	486	375	303	314	9.5	7.2	6.2	6.1
27	143	210	249	627	483	74	307	320	9.5	7.4	6.1	5.7
28	142	212	239	629	482	69	307	307	9.4	7.5	6.6	5.4
29	142	211	369	627	---	65	306	264	9.2	7.3	6.4	5.7
30	143	211	559	625	---	62	306	234	9.3	7.0	6.4	5.8
31	144	---	640	637	---	393	---	233	---	7.2	6.5	---
TOTAL	18546	5937	7176	19635	9587	7979	18197	9049	626.4	246.9	204.4	191.3
MEAN	598	198	231	633	342	257	607	292	20.9	7.96	6.59	6.38
MAX	848	213	640	643	654	563	844	320	234	10	7.4	7.1
MIN	139	129	22	625	149	34	300	233	9.2	7.0	6.0	5.4
AC-FT	36790	11780	14230	38950	19020	15830	36090	17950	1240	490	405	379

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

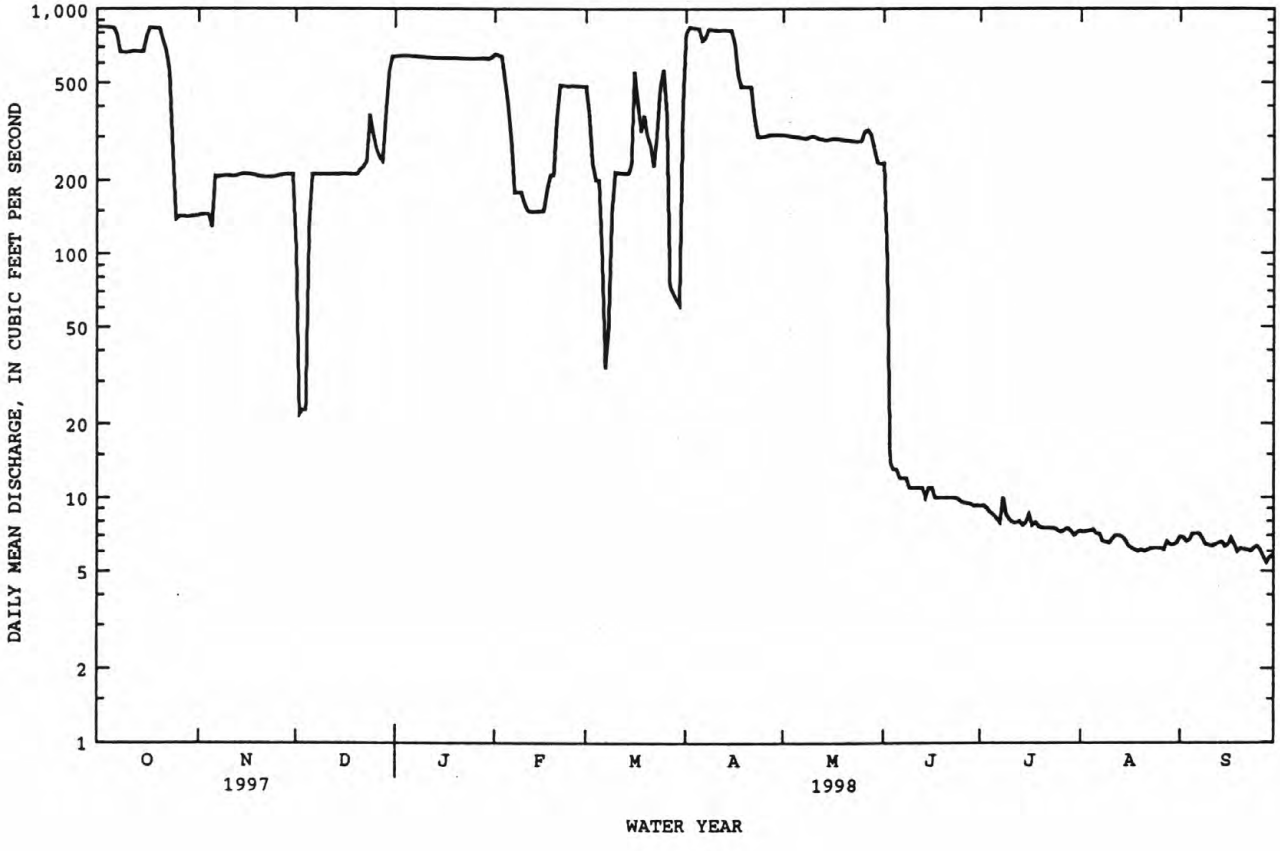
MEAN	57.5	21.9	23.5	40.4	38.3	37.5	57.6	90.4	136	56.1	56.9	33.5
MAX	598	218	298	633	342	268	607	622	763	385	579	444
(WY)	1998	1987	1997	1998	1998	1997	1998	1997	1982	1997	1997	1996
MIN	.15	.28	.36	.56	.60	.57	1.62	1.08	1.28	2.27	3.12	.46
(WY)	1968	1968	1968	1968	1968	1968	1967	1967	1966	1967	1973	1966

e Estimated

07324400 WASHITA RIVER NEAR FOSS, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	142527		97375.0			
ANNUAL MEAN	390		267		54.1	
HIGHEST ANNUAL MEAN					373	1997
LOWEST ANNUAL MEAN					3.87	1963
HIGHEST DAILY MEAN	848	Oct 1	848	Oct 1-3	1370	Sep 15 1996
LOWEST DAILY MEAN	15	Jul 28, 29	5.4	Sep 28	[a].06	Oct 2 1967
ANNUAL SEVEN-DAY MINIMUM	16	Jul 24	5.9	Sep 24	.08	Sep 28 1967
INSTANTANEOUS PEAK FLOW			855	Apr 1	[b]3010	Aug 26 1969
INSTANTANEOUS PEAK STAGE			15.40	Apr 1	21.56	Oct 3 1986
ANNUAL RUNOFF (AC-FT)	282700		193100		39220	
10 PERCENT EXCEEDS	764		664		169	
50 PERCENT EXCEEDS	352		211		7.0	
90 PERCENT EXCEEDS	22		6.6		1.8	

[a]Minimum daily discharge for period of record, no flow at times in 1956.
[b]Maximum discharge for period of record 14,000 ft^3/s, Apr. 19, 1957, from rating curve extended above 3,600 ft^3/s, on basis of velocity-area study.



07325000 WASHITA RIVER NEAR CLINTON, OK

LOCATION.--Lat 35°31'51", long 98°58'00", in SW ¼ NE ¼ sec.11, T.12 N., R.17 W., Custer County, Hydrologic Unit 11130302, on downstream side of pier of bridge on U.S. Highway 183, 0.5 mi north of Clinton, 0.8 mi upstream from Beaver Creek, 4.8 mi downstream from Barnitz Creek, and at mile 447.4.

DRAINAGE AREA.--1,977 mi^2.

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

REVISED RECORDS.--WSP 1221: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,467.44 ft above sea level. See WSP 1920 for history of changes prior to Mar. 19, 1941.

REMARKS.--No estimated dailly discharges. Records good. Flow regulated since February 1961 by Foss Reservoir (station 07324300) and by numerous flood-retarding structures. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 3-4, 1934, reached a stage of 33.9 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	941	286	352	733	1050	586	810	506	359	59	34	24
2	948	277	215	745	906	580	963	495	346	58	34	24
3	941	271	190	756	827	451	974	485	180	54	35	24
4	938	266	193	788	781	379	962	478	130	51	38	23
5	923	270	179	796	621	367	962	475	119	51	39	23
6	923	282	318	772	599	360	953	467	117	51	37	22
7	929	334	357	763	453	286	852	464	114	52	38	22
8	828	337	366	759	425	364	958	465	110	55	36	22
9	774	339	372	753	416	310	952	506	107	77	33	21
10	760	355	381	745	409	398	944	553	104	58	31	21
11	824	356	362	741	376	403	941	510	102	51	32	21
12	896	353	359	743	370	393	944	494	98	50	35	22
13	872	371	357	748	366	396	938	472	93	49	36	22
14	805	406	361	742	367	402	928	461	87	48	35	23
15	786	382	358	733	362	454	925	466	83	46	33	23
16	777	364	357	734	356	1890	909	504	82	65	31	23
17	910	360	355	731	364	1880	753	462	80	80	29	26
18	917	358	350	732	410	1270	629	452	79	56	28	25
19	916	356	349	722	410	1350	618	447	77	51	27	24
20	914	356	342	728	407	1050	614	445	73	48	27	23
21	905	354	460	726	582	852	613	436	71	44	27	22
22	764	363	521	716	608	739	598	432	68	43	27	21
23	748	365	539	722	607	648	502	426	66	42	27	23
24	627	358	945	733	610	722	496	424	62	42	26	24
25	382	353	793	731	617	805	492	418	60	40	25	23
26	367	357	617	722	619	788	496	544	59	40	25	21
27	324	354	534	717	594	532	560	514	57	38	25	21
28	307	361	496	718	589	461	565	470	55	38	25	20
29	302	364	472	716	---	403	533	446	54	38	25	20
30	298	359	589	717	---	385	519	386	54	37	25	19
31	294	---	718	822	---	370	---	368	---	35	24	---
TOTAL	22840	10267	13157	23004	15101	20274	22903	14471	3146	1547	949	672
MEAN	737	342	424	742	539	654	763	467	105	49.9	30.6	22.4
MAX	948	406	945	822	1050	1890	974	553	359	80	39	26
MIN	294	266	179	716	356	286	492	368	54	35	24	19
AC-FT	45300	20360	26100	45630	29950	40210	45430	28700	6240	3070	1880	1330

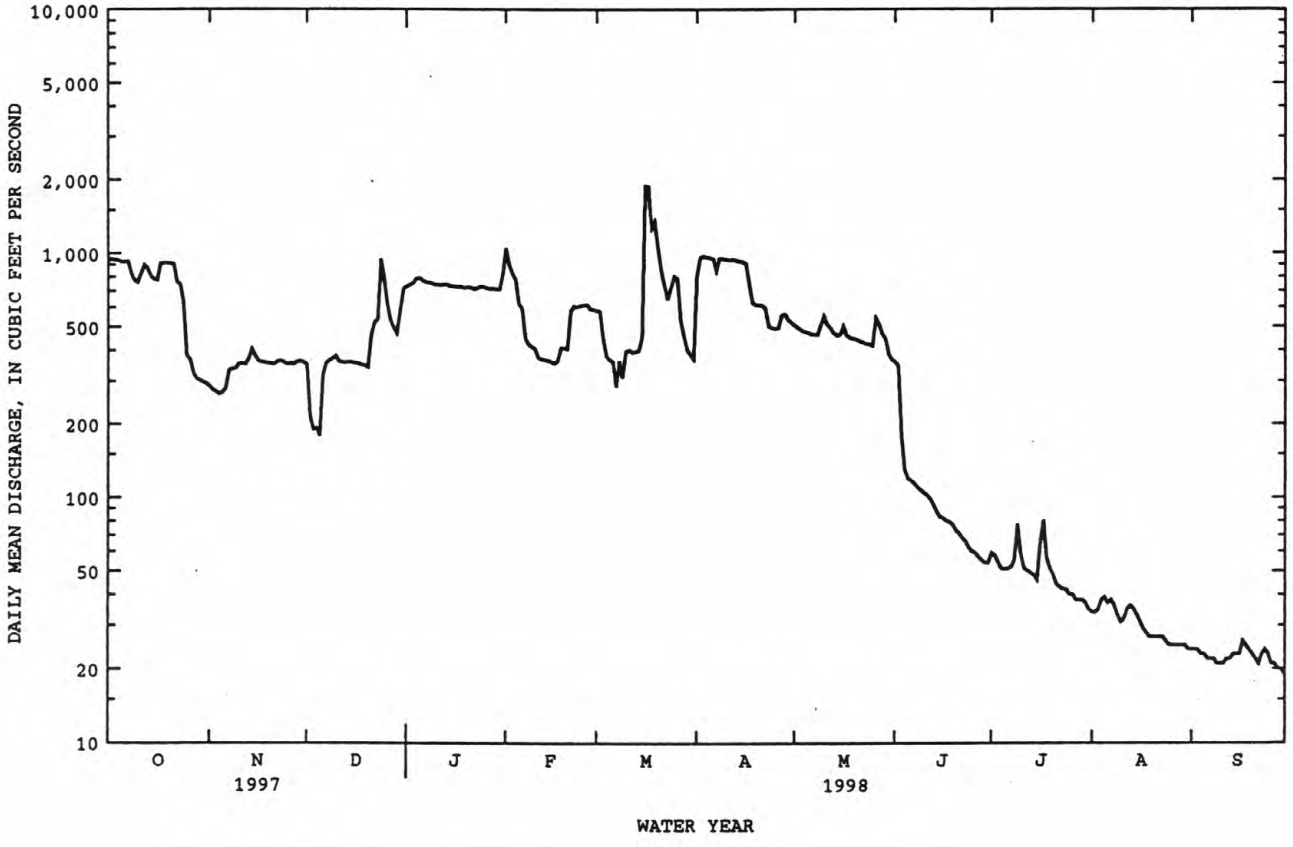
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

MEAN	124	72.9	61.4	75.2	86.0	97.0	125	222	260	113	119	130
MAX	1477	494	504	742	574	654	1112	1256	1190	705	1061	1519
(WY)	1987	1987	1997	1998	1997	1998	1997	1997	1997	1989	1995	1996
MIN	3.30	4.23	5.68	4.78	7.00	6.24	9.64	4.10	4.44	6.42	6.01	5.87
(WY)	1967	1964	1964	1971	1967	1968	1971	1967	1966	1966	1965	1964

07325000 WASHITA RIVER NEAR CLINTON, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	252700		148331			
ANNUAL MEAN	692		406		[a]124	
HIGHEST ANNUAL MEAN					696	1997
LOWEST ANNUAL MEAN					13.8	1967
HIGHEST DAILY MEAN	2900	Apr 11	1890	Mar 16	7710	Oct 3 1986
LOWEST DAILY MEAN	93	Sep 21	19	Sep 30	[b].00	Jul 26 1964
ANNUAL SEVEN-DAY MINIMUM	114	Sep 16	21	Sep 24	.04	Jul 23 1964
INSTANTANEOUS PEAK FLOW			2310	Mar 16	[c]10800	Sep 15 1996
INSTANTANEOUS PEAK STAGE			20.04	Mar 16	[d]26.24	Sep 15 1996
ANNUAL RUNOFF (AC-FT)	501200		294200		89670	
10 PERCENT EXCEEDS	1190		860		362	
50 PERCENT EXCEEDS	611		367		30	
90 PERCENT EXCEEDS	146		26		7.8	

[a]Prior to regulation, water years 1936-60, 146 ft^3/s.
[b]Also occurred at times in 1952-56, 1964, 1966.
[c]Maximum discharge for period of record, 66,800 ft^3/s, May 16, 1951, from rating curve extended above 22,800 ft^3/s, by contracted-opening measurement of peak flow.
[d]Maximum gage height for period of record, 31.09 ft, May 16, 1951.



07325500 WASHITA RIVER AT CARNEGIE, OK

LOCATION.--Lat 35°07'02", long 98°33'49", in NW ¼ NW ¼ sec.3, T.7 N., R.13 W., Caddo County, Hydrologic Unit 11130302, on downstream side of right pier of bridge on State Highway 9, 1,300 ft upstream from Running Creek, 2.7 mi east of Carnegie, and at mile 353.9. Records include flow of Running Creek.

DRAINAGE AREA.--3,129 mi^2, includes that of Running Creek.

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

REVISED RECORDS.--WSP 1087: 1938. WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,244.23 ft above sea level. Prior to October 1942, water-stage recorder at site 8.0 mi upstream at datum 24.57 ft higher. Prior to Aug. 7, 1985, datum 5.00 ft higher.

REMARKS.--Records fair. Some diversion for irrigation upstream from station. October 1942 to May 1949, occasional fluctuation caused by powerplant at Carnegie, 7.5 mi upstream from station. Flow regulated by Foss Reservoir since February 1961 (station 07324300), and by numerous flood-retarding structures. U.S. Army Corps of Engineers' satellite telemeter at site.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 23, 1903, reached a stage of about 29 ft, at former site and datum, from information provided by local resident; flood of May 18, 1949, reached a stage of 20.9 ft, from floodmark, at that site and datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	649	s527	553	967	1690	e820	1210	892	538	161	98	83
2	946	517	551	1050	2360	e810	1170	864	505	169	99	80
3	1170	504	554	1050	1850	804	1460	831	487	238	105	80
4	1160	495	492	1220	1510	825	1550	801	473	180	108	80
5	1150	488	462	1400	1350	714	1530	779	383	166	109	78
6	1150	486	451	1340	1250	649	1510	764	335	164	108	76
7	1130	485	441	1260	1100	688	1510	752	320	158	110	74
8	1140	483	503	1200	1020	1020	1460	744	313	162	104	73
9	1150	519	556	1180	884	1070	1400	768	311	161	100	76
10	1040	527	560	1150	830	880	1450	787	329	158	100	77
11	992	532	559	1140	794	738	1420	819	311	156	109	76
12	1040	545	566	1120	763	754	1410	825	294	163	116	72
13	1240	558	553	1110	721	740	1400	779	280	151	109	74
14	1250	570	549	1110	706	720	1390	746	269	146	121	75
15	1130	604	548	1100	701	784	1530	722	260	140	113	77
16	1050	620	550	1090	692	2630	1430	716	251	135	114	77
17	1030	589	548	1070	701	3500	1360	723	242	132	109	77
18	1040	565	541	1060	744	9700	1280	715	235	130	106	78
19	1150	556	537	1050	756	8260	1150	670	227	145	100	81
20	1160	555	535	1040	768	6530	1060	647	222	142	98	78
21	1170	552	571	1040	747	5050	1040	635	216	131	100	77
22	1170	550	724	1040	740	3460	1040	626	208	129	108	74
23	1140	546	1010	1040	875	3010	1020	624	200	124	106	73
24	1040	545	1900	1030	e850	2630	991	620	189	121	106	70
25	1010	549	2470	1040	e860	2330	898	605	184	117	108	70
26	830	540	1830	1050	e865	2220	877	600	180	116	93	76
27	638	541	1360	1040	e855	2140	891	635	174	114	93	85
28	605	544	1120	1030	e840	2010	925	797	171	114	87	83
29	566	548	1000	1020	---	1650	963	700	173	112	86	81
30	544	554	927	1020	---	1450	945	640	167	106	87	79
31	537	---	882	1050	---	1320	---	596	---	102	84	---
TOTAL	31017	16194	24403	34107	27822	69906	37270	22422	8447	4443	3194	2310
MEAN	1001	540	787	1100	994	2255	1242	723	282	143	103	77.0
MAX	1250	620	2470	1400	2360	9700	1550	892	538	238	121	85
MIN	537	483	441	967	692	649	877	596	167	102	84	70
AC-FT	61520	32120	48400	67650	55180	138700	73930	44470	16750	8810	6340	4580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

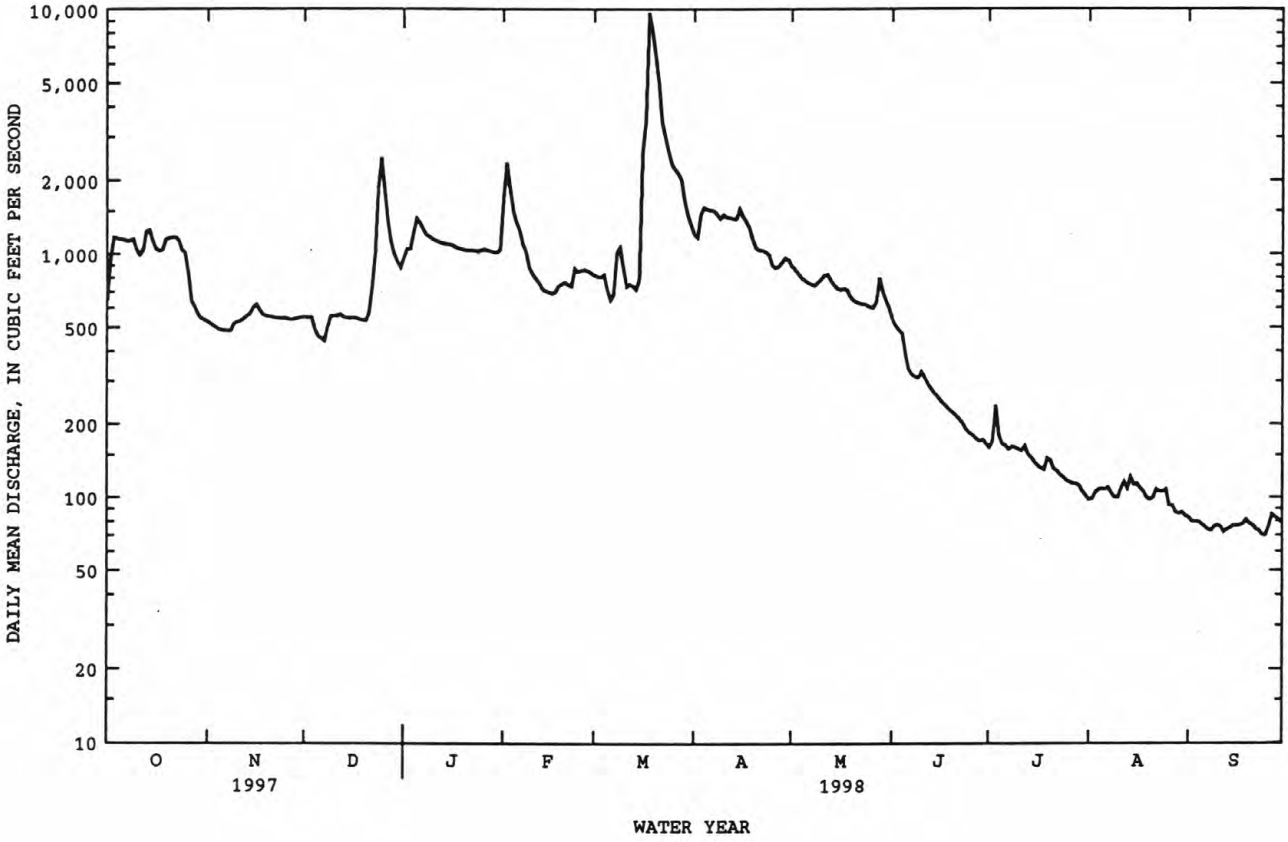
MEAN	450	291	222	215	237	365	386	836	851	280	269	391
MAX	5311	1471	1032	1100	1127	2255	2832	5356	4994	1150	1760	2469
(WY)	1987	1987	1993	1998	1997	1998	1997	1993	1995	1975	1995	1996
MIN	21.8	27.3	33.6	36.0	36.6	34.2	11.1	10.0	94.0	7.10	14.6	15.6
(WY)	1973	1971	1964	1971	1971	1971	1971	1971	1984	1964	1972	1984

e Estimated

07325500 WASHITA RIVER AT CARNEGIE, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	472963		281535			
ANNUAL MEAN	1296		771		[a]400	
HIGHEST ANNUAL MEAN					1432	1987
LOWEST ANNUAL MEAN					72.8	1967
HIGHEST DAILY MEAN	8060	Apr 28	9700	Mar 18	28500	Jun 5 1995
LOWEST DAILY MEAN	364	Sep 22	70	Sep 24, 25	[b].00	Jul 20 1964
ANNUAL SEVEN-DAY MINIMUM	402	Sep 17	74	Sep 20	.00	Jul 20 1964
INSTANTANEOUS PEAK FLOW			11700	Mar 18	[c]40600	Oct 20 1983
INSTANTANEOUS PEAK STAGE			25.44	Mar 18	31.70	Oct 20 1983
ANNUAL RUNOFF (AC-FT)	938100		558400		289700	
10 PERCENT EXCEEDS	2560		1390		892	
50 PERCENT EXCEEDS	992		626		135	
90 PERCENT EXCEEDS	441		96		36	

[a]Prior to regulation, water years 1938-60, 314 ft^3/s.
[b]Also occurred at times 1956 and 1964.
[c]Maximum discharge for period of record, 50,000 ft^3/s, May 18, 1949, from rating curve extended above 35,000 ft^3/s on basis of contracted-opening measurement.



07325800 COBB CREEK NEAR EAKLY, OK

LOCATION.--Lat 35°17'26", long 98°35'38", in NW ¼ NE ¼ sec.5, T.9 N., R.13 W., Caddo County, Hydrologic Unit 11130302, near left downstream abutment of bridge, on State Highway 152, 0.5 mi downstream from Fivemile Creek, 2.4 mi southwest of Eakly, 3.0 mi upstream from Fort Cobb Reservoir, and at mile 22.9.

DRAINAGE AREA.--132 mi^2.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,369.70 ft above sea level. Oct. 29, 1980, to Aug. 11, 1982, gage at site 0.5 mi down- stream at same datum.

REMARKS.--Records fair. Flow regulated since 1957 by numerous floodwater-retarding structures. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	28	36	29	77	26	43	40	26	e11	8.4	8.7
2	24	28	38	29	42	26	42	39	25	12	8.4	8.7
3	22	29	48	29	36	25	41	37	24	e11	11	9.4
4	22	28	39	59	34	25	41	37	21	e10	11	5.5
5	22	28	32	42	33	25	41	36	24	12	12	4.8
6	22	28	30	36	32	26	41	36	24	13	11	4.6
7	23	29	30	33	31	53	41	36	24	12	10	4.7
8	28	29	36	31	31	58	40	35	24	15	10	4.5
9	32	30	36	29	31	43	39	40	28	13	9.7	3.9
10	28	34	34	28	31	36	38	39	36	12	10	4.7
11	31	35	33	27	30	34	37	36	31	e10	12	5.0
12	104	34	31	28	29	32	36	35	28	e9.9	13	5.1
13	55	40	30	28	29	32	35	35	26	e9.8	25	5.7
14	37	46	30	27	28	32	34	34	24	e9.7	14	6.7
15	30	42	29	27	28	91	33	36	23	e9.6	13	6.4
16	27	39	29	27	30	1430	33	35	23	e9.4	12	6.6
17	25	37	28	26	32	657	31	33	21	e9.3	11	6.9
18	25	35	28	26	32	298	31	33	20	e9.2	10	6.9
19	24	35	29	25	35	526	31	32	19	e9.1	10	5.8
20	23	35	29	25	34	165	31	31	18	e9.0	9.9	6.1
21	26	35	79	26	31	91	32	31	17	e9.2	9.7	5.6
22	26	35	56	25	31	71	31	31	16	e9.4	9.5	5.6
23	33	35	200	25	30	62	30	31	15	10	9.5	7.9
24	37	36	e480	26	29	55	29	30	14	12	9.3	7.3
25	31	36	e220	26	29	52	26	29	13	e10	9.8	6.9
26	29	36	e115	28	28	49	30	37	13	e9.8	12	6.6
27	29	36	e85	27	27	57	56	34	11	e9.6	9.5	6.4
28	27	37	e70	26	26	52	48	31	e12	e9.3	9.1	6.4
29	28	37	e60	25	---	48	43	30	e12	8.7	9.3	5.5
30	28	37	40	25	---	45	41	28	e11	8.2	9.1	5.9
31	29	---	30	61	---	44	---	26	---	8.2	8.4	---
TOTAL	952	1029	2090	931	916	4266	1105	1053	623	320.4	336.6	184.8
MEAN	30.7	34.3	67.4	30.0	32.7	138	36.8	34.0	20.8	10.3	10.9	6.16
MAX	104	46	480	61	77	1430	56	40	36	15	25	9.4
MIN	22	28	28	25	26	25	26	26	11	8.2	8.4	3.9
AC-FT	1890	2040	4150	1850	1820	8460	2190	2090	1240	636	668	367

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1998, BY WATER YEAR (WY)

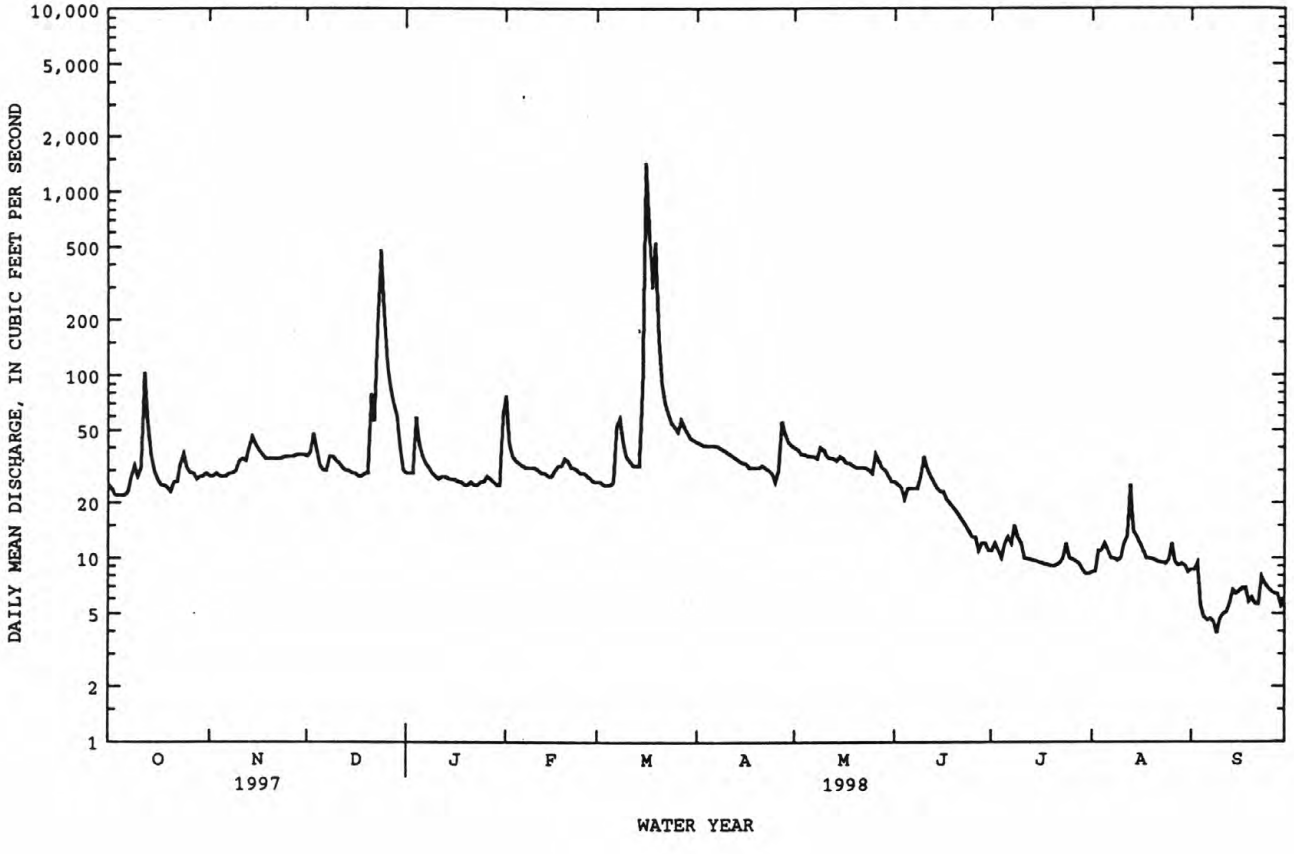
MEAN	29.7	27.3	23.6	20.3	20.5	31.0	27.8	61.7	51.3	15.2	18.8	22.0
MAX	317	104	84.9	50.2	55.1	138	140	303	291	85.1	86.0	161
(WY)	1987	1993	1993	1993	1997	1998	1997	1993	1995	1975	1974	1986
MIN	4.34	6.11	4.88	8.78	8.99	8.38	5.27	2.79	7.84	1.01	.90	2.15
(WY)	1973	1979	1979	1981	1981	1971	1971	1971	1984	1974	1972	1972

e Estimated

07325800 COBB CREEK NEAR EAKLY, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1969 - 1998	
ANNUAL TOTAL	20288		13806.8			
ANNUAL MEAN	55.6		37.8		29.1	
HIGHEST ANNUAL MEAN					91.0	1987
LOWEST ANNUAL MEAN					10.1	1979
HIGHEST DAILY MEAN	1270	Apr 11	1430	Mar 16	3750	Sep 29 1986
LOWEST DAILY MEAN	16	Aug 3	3.9	Sep 9	[a].00	Aug 18 1970
ANNUAL SEVEN-DAY MINIMUM	18	Jul 31	4.6	Sep 5	.04	May 24 1971
INSTANTANEOUS PEAK FLOW			2030	Mar 16	12000	Jun 4 1995
INSTANTANEOUS PEAK STAGE			16.10	Mar 16	24.38	Sep 29 1986
ANNUAL RUNOFF (AC-FT)	40240		27390		21110	
10 PERCENT EXCEEDS	94		44		38	
50 PERCENT EXCEEDS	31		29		14	
90 PERCENT EXCEEDS	22		9.1		4.6	

[a]No flow Aug. 18-19, 1970, and May 26-30, 1971.



07325900 FORT COBB RESERVOIR NEAR FORT COBB, OK

LOCATION.--Lat 35°09'58", long 98°27'23", in SE ¼ NW ¼ sec.22, T.8 N., R.12 W., Caddo County, Hydrologic Unit 11130302, in control house at right center of dam on Cobb Creek, 4.0 mi northwest of Fort Cobb, and at mile 7.5.

DRAINAGE AREA.--304 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Bureau of Reclamation). Prior to October, 1961, nonrecording gage at same datum.

REMARKS.--Reservoir is formed by earth dam. Outlet consists of two sets of controlled 5- by 5-foot steel gates and an uncontrolled concrete spillway. Storage began Mar. 30, 1959. Conservation pool was first filled in June 1962. Capacity, 143,700 acre-ft at elevation 1,354.8 ft, crest of drop inlet, 80,010 acre-ft at elevation 1,342.0 ft, conservation pool, and 1,664 acre-ft at elevation 1,300.0 ft, crest of gated outlet. Figures given herein represent total contents. Reservoir is used for flood control, for municipal and industrial water supply, and for irrigation releases. Revised capacity table used since May 1993. U.S. Army Corps of Engineers' satellite telemeter at station.

COOPERATION.--Elevations and data on diversions provided by Fort Cobb Reservoir Master Conservancy District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 121,400 acre-ft, June 13, 1995, elevation, 1,352.25 ft; minimum since conservation pool was first filled, 54,650 acre-ft, Oct. 19, 1972, elevation 1,335.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 92,760 acre-ft, Mar. 23, elevation, 1,346.51 ft; minimum, 64,120 acre-ft, Sept. 30, elevation 1,339.28 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)*	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30	1,342.17	74,500	-	-
Oct. 31	1,342.03	73,950	-550	1,178
Nov. 30	1,342.15	74,420	+470	923
Dec. 31	1,342.54	75,940	+1,520	1,042
CAL YR 97	-	-	+1,370	11,667
Jan. 31	1,342.25	74,810	-1,130	811
Feb. 28	1,342.06	74,070	-740	578
Mar. 31	1,345.06	86,300	+12,230	687
Apr. 30	1,342.25	74,810	-11,490	739
May 31	1,342.05	74,030	-780	791
June 30	1,341.35	71,420	-2,610	1,276
July 31	1,340.61	68,730	-2,690	1,382
Aug. 31	1,339.88	66,160	-2,570	1,091
Sept. 30	1,339.28	64,120	-2,040	1,185
WTR YR 98	-	-	-10,380	11,683

* Elevation at 2400

07326000 COBB CREEK NEAR FORT COBB, OK

LOCATION.--Lat 35°08'37", long 98°26'33", in NE ¼ NE ¼ sec.27, T.8 N., R.12 W., Caddo County, Hydrologic Unit 11130302, on left bank 10 ft upstream from county road bridge, 0.3 mi upstream from Punjo Creek, 1.2 mi downstream from Fort Cobb Dam, 3.0 mi north of Fort Cobb, and at mile 5.8.

DRAINAGE AREA.--307 mi^2. Area at site used prior to Oct. 1, 1969, 319 mi^2.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1960, published as Pond Creek near Fort Cobb.

REVISED RECORDS.--WSP 1087: 1938. WDR OK-94-2: 1993 (M) drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,254.49 ft above sea level (levels by U.S. Bureau of Reclamation). Oct.1, 1939, to Aug. 29, 1940, nonrecording gage and Aug. 30, 1940, to Sept. 30, 1969, water-stage recorder at site 0.8 mi downstream at datum 1.92 ft lower. Oct. 16, 1969, to Sept. 30, 1982, gage at same site and datum 5.00 ft higher.

REMARKS.--Records fair. Flow regulated since March 1959, by Fort Cobb Reservoir (station 07325900). U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 15, 1937, reached a stage of 19.3 ft, site and datum used in 1939, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	9.8	104	243	80	e44	509	200	4.1	2.7	2.8	e2.3
2	61	9.8	104	244	124	e12	507	199	4.3	2.6	2.9	e2.4
3	60	9.8	103	243	320	8.2	504	200	3.7	2.5	3.0	e2.5
4	61	10	103	250	255	8.3	504	97	4.2	2.5	e2.9	e2.6
5	30	10	54	241	68	7.6	505	8.8	4.8	2.7	e2.6	e2.6
6	e15	10	6.9	280	68	7.5	506	8.2	e4.7	2.9	2.4	e2.6
7	e12	10	6.8	330	68	8.1	505	8.0	e4.6	2.7	2.4	e2.6
8	e11	10	6.8	231	68	e8.0	500	7.5	e4.4	2.6	2.3	e2.6
9	e12	10	11	140	53	74	500	7.8	e4.2	2.6	2.4	e2.6
10	e12	10	e12	73	9.0	105	450	7.3	4.0	2.7	2.5	e2.6
11	e11	10	e12	9.0	24	129	320	7.2	4.5	2.6	2.4	e2.6
12	e11	11	e12	7.9	41	85	320	30	e4.4	2.7	2.2	e2.6
13	e12	11	e12	7.4	41	42	317	56	e4.4	2.6	2.3	e2.5
14	e80	11	11	7.2	41	42	317	56	e4.4	2.5	2.2	e2.6
15	e108	11	e12	7.0	41	e42	216	56	e4.2	2.5	2.6	e2.6
16	107	11	e45	7.0	41	e35	129	55	e4.2	2.4	2.5	2.5
17	109	11	85	7.0	86	e30	103	56	e4.0	2.7	e2.6	2.4
18	110	11	80	6.9	130	26	11	56	4.0	3.1	e2.6	2.5
19	63	11	80	6.8	131	37	9.7	55	3.2	3.2	e2.6	2.7
20	11	11	47	21	130	25	9.4	55	3.2	3.0	e2.5	2.5
21	11	11	7.3	81	129	21	9.1	54	3.3	2.9	e2.3	2.4
22	10	11	6.2	123	130	19	8.9	30	3.3	2.7	e2.4	2.3
23	11	11	8.2	121	66	144	8.9	5.5	3.3	2.7	e2.3	2.3
24	28	11	8.4	121	9.1	396	8.8	5.1	3.2	2.6	e2.3	2.4
25	54	52	6.3	122	22	494	8.5	4.8	2.8	2.5	e2.2	2.4
26	57	106	55	122	42	427	9.1	4.7	2.8	2.7	e2.2	2.3
27	57	106	131	122	44	380	9.0	4.5	3.0	2.6	e2.3	2.6
28	56	106	133	122	e44	514	8.3	4.4	2.7	2.4	e2.1	2.5
29	56	105	233	122	---	514	105	4.4	2.6	2.4	e2.2	2.3
30	34	105	334	92	---	512	199	4.3	2.7	2.5	e2.2	2.4
31	10	---	287	69	---	509	---	4.2	---	2.8	e2.2	---
TOTAL	1340	832.4	2116.9	3579.2	2305.1	4705.7	7116.7	1351.7	113.2	82.6	75.4	74.8
MEAN	43.2	27.7	68.3	115	82.3	152	237	43.6	3.77	2.66	2.43	2.49
MAX	110	106	334	330	320	514	509	200	4.8	3.2	3.0	2.7
MIN	10	9.8	6.2	6.8	9.0	7.5	8.3	4.2	2.6	2.4	2.1	2.3
AC-FT	2660	1650	4200	7100	4570	9330	14120	2680	225	164	150	148

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

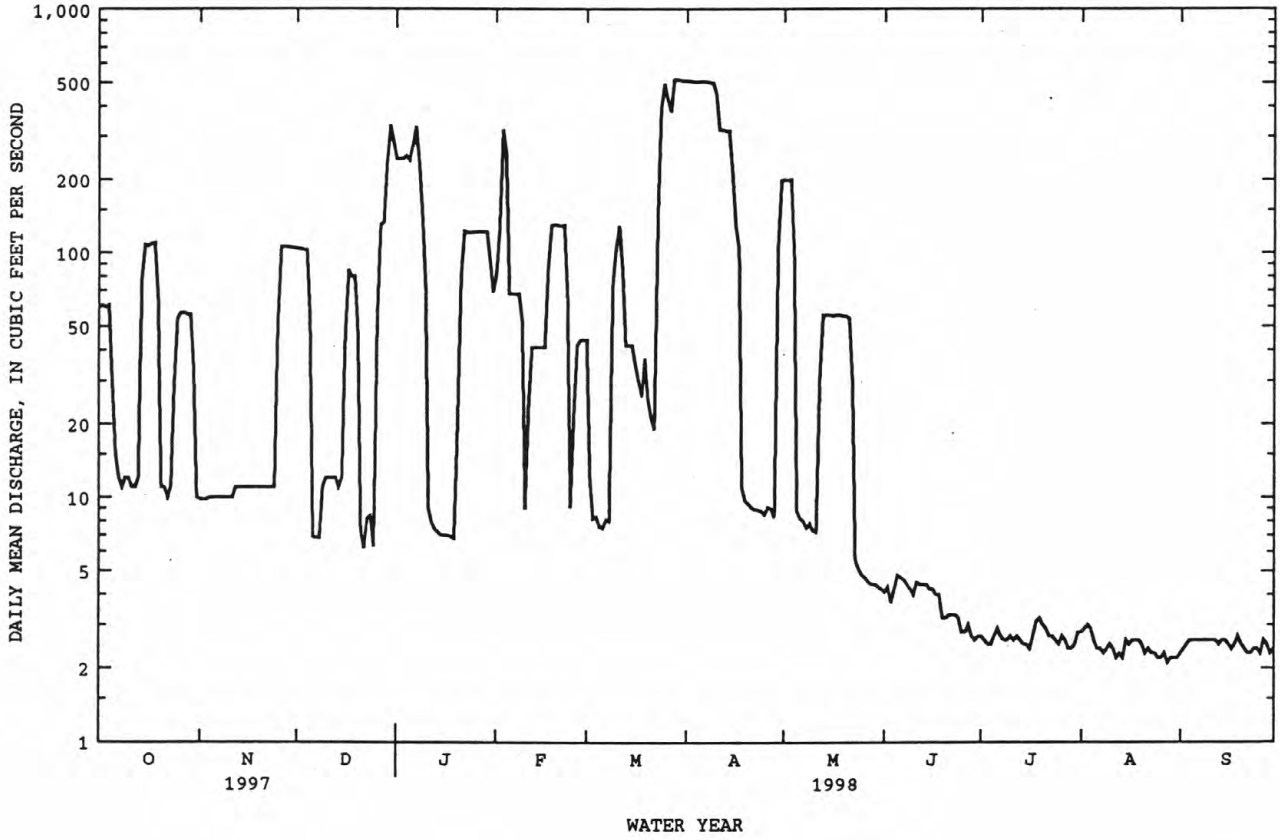
MEAN	27.2	27.9	25.0	28.3	29.1	37.3	46.3	71.4	112	37.1	19.9	20.4
MAX	345	538	194	139	131	312	240	676	779	262	211	157
(WY)	1987	1987	1993	1969	1975	1990	1945	1949	1987	1995	1975	1965
MIN	1.41	1.62	1.57	1.99	2.14	2.12	1.97	1.50	1.49	.78	1.18	.52
(WY)	1985	1973	1973	1977	1981	1977	1959	1985	1959	1985	1956	1956

e Estimated

07326000 COBB CREEK NEAR FORT COBB, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	31194.4		23693.7			
ANNUAL MEAN	85.5		64.9		[a]40.1	
HIGHEST ANNUAL MEAN					176	1987
LOWEST ANNUAL MEAN					2.34	1981
HIGHEST DAILY MEAN	915	Apr 20	514	Mar 28	9840	May 18 1949
LOWEST DAILY MEAN	1.8	Sep 21	2.1	Aug 28	.20	[b]Sep 20 1956
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 16	2.2	Aug 25	.20	Jul 20 1981
INSTANTANEOUS PEAK FLOW			520	Mar 29	[c]1280	Jun 23 1987
INSTANTANEOUS PEAK STAGE			10.75	Mar 29	[d]20.50	Jun 4 1995
ANNUAL RUNOFF (AC-FT)	61870		47000		29050	
10 PERCENT EXCEEDS	278		206		62	
50 PERCENT EXCEEDS	11		10		4.3	
90 PERCENT EXCEEDS	2.6		2.5		2.1	

[a]Prior to regulation by Fort Cobb Reservoir, water years 1940-58, 50.2 ft^3/s.
[b]Also occurred Sept. 20, 24-28, 1956, July 20-27, 1981.
[c]Maximum discharge for period of record, 35,000 ft^3/s, May 17, 1949, from rating curve extended above 4,300 ft^3/s on basis of contracted opening measurement.
[d]Occurred during backwater from Punjo Creek.



07326500 WASHITA RIVER AT ANADARKO, OK

LOCATION.--Lat 35°05'03", long 98°14'35", in NW ¼ sec.15, T.7 N., R.10 W., Caddo County, Hydrologic Unit 11130302 on right downstream bank at bridge on U.S. Highway 281 at north edge of Anadarko, 8.1 mi upstream from Sugar Creek, and at mile 305.2.

DRAINAGE AREA.--3,656 mi^2.

PERIOD OF RECORD.--October 1902 to September 1908; June 1924 to June 1925, published as "near Anadarko", October 1935 to February 1938; October 1963 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1311: 1903, 1907-08, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,150.00 ft above sea level. October 26, 1902, to June 30, 1908, nonrecording gage at former bridge 125 ft downstream at datum estimated to be 2.8 ft higher. May 25, 1924, to June 30, 1925, nonrecording gage at county road bridge 14 mi downstream at different datum. Jan. 10, 1936, to Mar. 7, 1938, non-recording gage on upstream side of bridge on U.S. Highway 281 at datum 1.88 ft higher. October 1963 to March 1989 gage located 100 ft upstream at same datum.

REMARKS.--Records fair. Flow regulated by low-water dams upstream and since March 1959, by Fort Cobb Reservoir (station 07325900), since February 1961, by Foss Reservoir (station 07324300), and by numerous flood-retarding structures. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1949, reached an elevation of 1,176.7 ft, from floodmark, at right bank on downstream side of bridge on U.S. Highway 281.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	803	552	e615	1080	1550	955	1730	1200	701	229	126	103
2	766	533	e645	1130	2260	922	1650	1140	650	224	126	100
3	1090	519	e660	1240	2400	901	1680	1110	614	220	125	99
4	1300	509	e635	1570	2120	883	1970	1080	601	278	126	97
5	1290	501	e595	1800	1640	866	2020	962	582	251	138	97
6	1250	489	e580	1680	1370	774	2020	872	505	225	132	97
7	1200	487	e550	1630	1240	735	2020	874	438	218	130	96
8	1180	489	e567	1540	1090	797	2020	873	426	212	131	95
9	1190	489	e614	1340	1020	1090	1990	882	413	210	128	93
10	1210	535	e665	1260	910	1110	1960	898	400	208	132	92
11	1110	539	e667	1190	857	977	1860	906	642	206	144	88
12	1150	539	e670	1130	867	871	1750	917	522	204	137	e85
13	1190	561	e669	1110	855	838	1750	946	419	204	139	e87
14	1320	584	e650	1090	828	797	1750	928	391	187	140	89
15	1360	583	645	1080	832	837	1840	905	372	e173	140	93
16	1280	616	650	1080	847	2720	1760	879	359	e169	140	94
17	1200	638	645	1050	856	6980	1580	865	346	e166	135	95
18	1160	616	706	1040	904	9010	1470	873	334	e161	131	95
19	1180	596	708	1030	973	12500	1310	881	325	e157	125	95
20	1240	594	710	1030	966	10500	1220	840	314	e154	121	94
21	1210	595	721	1050	961	7260	1140	821	309	e153	118	94
22	1220	e597	726	1110	938	5020	1130	809	297	e152	115	94
23	1240	e593	857	1150	932	3800	1100	776	287	e150	113	95
24	1210	e595	1280	1140	989	3440	1080	733	277	e145	112	95
25	1100	e602	2190	1130	967	3190	1050	725	265	e139	109	92
26	1070	e612	2310	1160	970	2930	984	737	257	e137	107	87
27	889	e601	1810	1170	980	2670	995	723	251	135	106	e86
28	699	e596	1460	1150	971	2630	990	746	243	132	104	87
29	660	e596	1200	1150	---	2480	995	898	236	131	107	90
30	640	e612	1190	1140	---	2080	1140	800	232	128	105	90
31	598	---	1170	1140	---	1850	---	736	---	126	103	---
TOTAL	34005	16968	27760	37590	32093	92413	45954	27335	12008	5584	3845	2794
MEAN	1097	566	895	1213	1146	2981	1532	882	400	180	124	93.1
MAX	1360	638	2310	1800	2400	12500	2020	1200	701	278	144	103
MIN	598	487	550	1030	828	735	984	723	232	126	103	85
AC-FT	67450	33660	55060	74560	63660	183300	91150	54220	23820	11080	7630	5540

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1998, BY WATER YEAR (WY)

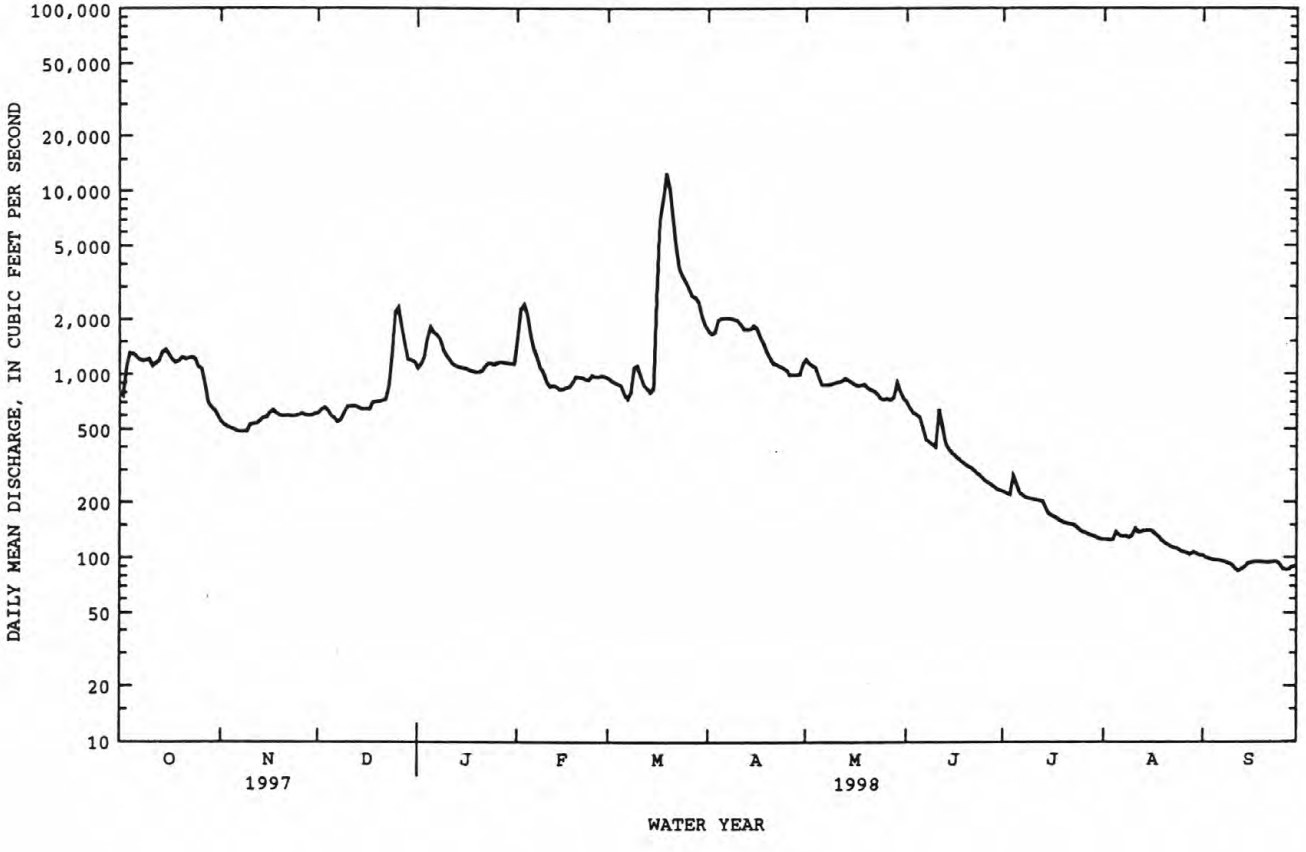
MEAN	521	361	290	285	307	468	483	945	1097	384	338	435
MAX	5480	2205	1352	1213	1269	2981	3003	5601	5843	1459	2223	2654
(WY)	1987	1987	1993	1998	1997	1998	1997	1993	1995	1989	1995	1996
MIN	21.2	37.0	41.6	52.0	55.4	50.6	16.7	9.57	85.7	12.6	19.7	32.2
(WY)	1973	1971	1971	1971	1971	1971	1971	1971	1967	1964	1972	1984

e Estimated

07326500 WASHITA RIVER AT ANADARKO, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1964 - 1998	
ANNUAL TOTAL	530072		338349			
ANNUAL MEAN	1452		927		[a]493	
HIGHEST ANNUAL MEAN					1788	1987
LOWEST ANNUAL MEAN					72.7	1971
HIGHEST DAILY MEAN	7240	Apr 29	12500	Mar 19	37700	Oct 21 1983
LOWEST DAILY MEAN	440	Sep 22	85	Sep 12	.00	Aug 1 1964
ANNUAL SEVEN-DAY MINIMUM	484	Sep 18	90	Sep 9	.77	Jul 19 1964
INSTANTANEOUS PEAK FLOW			13300	Mar 19	52800	Jun 6 1995
INSTANTANEOUS PEAK STAGE			20.13	Mar 19	25.37	Jun 6 1995
INSTANTANEOUS LOW FLOW			85	Sep 12		
ANNUAL RUNOFF (AC-FT)	1051000		671100		357400	
10 PERCENT EXCEEDS	2840		1740		1160	
50 PERCENT EXCEEDS	1150		736		181	
90 PERCENT EXCEEDS	532		108		50	

[a]Prior to regulations, water years 1903-08, 1936-37, 595 ft^3/s.



073274406 LITTLE WASHITA RIVER ABOVE SCS POND NO. 26 NEAR CYRIL, OK

LOCATION.-- Lat 34°54'53", long 98°15'02", in SW 1/4 SW 1/4 sec. 10, T.5N., R.10W., Caddo County, Hydrologic Unit 11130302, on right downstream bank of county road, 3 mi west of Cyril, and at mile 29.6.

DRAINAGE AREA.--3.44 mi^2.

PERIOD OF RECORD.-- February 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,329.98 ft above sea level.

REMARKS.--Records fair. U.S. Geological Survey's satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	1.7	e1.5	1.8	52	2.1	3.8	2.6	1.7	1.1	.48	.29
2	.55	1.7	e1.6	1.8	5.8	2.1	3.7	2.5	1.7	1.1	.47	.28
3	.53	1.7	e1.7	1.9	3.7	2.1	3.6	2.5	1.8	1.1	.48	.27
4	.53	1.7	e1.6	105	3.2	2.1	3.5	2.4	1.8	.94	.49	.25
5	.52	1.7	e1.5	13	3.0	2.0	3.5	2.5	1.8	.95	.51	.25
6	.52	1.7	e1.5	5.3	2.8	2.0	3.6	2.5	1.7	.86	.48	.25
7	.56	1.6	e1.5	5.2	2.7	8.1	3.5	2.5	1.8	.83	.47	.24
8	6.9	1.6	1.5	4.7	2.5	3.2	3.5	2.6	1.8	.81	.54	.24
9	16	1.7	1.5	3.6	2.5	2.5	3.4	4.3	1.8	.78	.49	.24
10	1.0	1.6	1.5	3.2	2.5	2.4	3.5	2.4	1.8	.78	.50	.23
11	1.0	1.6	1.5	3.0	2.4	2.3	3.5	2.4	9.6	.78	.51	.23
12	46	1.6	1.4	2.9	2.4	2.2	3.6	2.4	1.8	.76	3.7	.23
13	4.8	1.7	1.4	2.7	2.3	2.2	3.5	2.3	1.7	.72	.87	.27
14	2.4	1.6	1.5	2.6	2.5	2.2	5.5	2.3	1.6	.71	.49	.24
15	e2.2	1.6	1.4	2.5	2.3	64	4.5	2.3	1.6	.71	.46	.22
16	e2.1	1.5	1.4	2.4	e2.3	113	3.5	2.3	1.5	.70	.43	.22
17	e2.0	1.5	1.4	2.3	e2.5	32	3.4	2.2	1.4	.70	.42	.23
18	e1.9	1.5	1.4	2.3	2.3	19	3.4	2.2	1.4	.66	.41	.23
19	e1.9	1.5	1.4	2.3	2.2	38	3.4	2.2	1.3	.62	.41	.20
20	e1.9	1.5	1.5	2.3	2.3	8.9	3.6	2.1	1.3	.61	.41	.19
21	1.8	1.5	4.2	2.2	2.3	6.9	3.6	2.2	1.2	.55	.38	.19
22	e1.7	1.5	1.9	2.2	2.3	6.1	3.5	2.1	1.2	.53	.38	.22
23	e5.0	1.5	12	2.1	2.3	5.7	3.2	2.0	1.2	.53	.39	.24
24	e2.3	1.5	11	2.1	2.3	5.3	3.1	2.0	1.2	.49	.35	.24
25	e2.1	1.5	3.7	2.1	2.4	5.1	2.9	1.9	1.1	.58	.35	.23
26	e2.0	1.5	2.6	2.1	2.4	4.9	5.0	3.1	1.1	.61	.35	.23
27	e2.0	1.6	2.4	2.1	2.4	4.9	6.8	2.0	1.1	.58	.34	.23
28	2.1	1.6	2.3	2.0	2.2	4.5	2.9	1.9	1.1	.50	.33	.25
29	1.8	1.5	2.2	2.0	---	4.3	2.8	1.9	1.0	.50	.31	.26
30	1.8	1.5	2.1	2.0	---	4.4	2.6	1.8	1.1	.46	.30	.25
31	1.8	---	2.0	31	---	4.1	---	1.8	---	.49	.29	---
TOTAL	118.27	47.5	76.1	222.7	122.8	368.6	109.9	72.2	52.2	22.04	16.79	7.14
MEAN	3.82	1.58	2.45	7.18	4.39	11.9	3.66	2.33	1.74	.71	.54	.24
MAX	46	1.7	12	105	52	113	6.8	4.3	9.6	1.1	3.7	.29
MIN	.52	1.5	1.4	1.8	2.2	2.0	2.6	1.8	1.0	.46	.29	.19
AC-FT	235	94	151	442	244	731	218	143	104	44	33	14

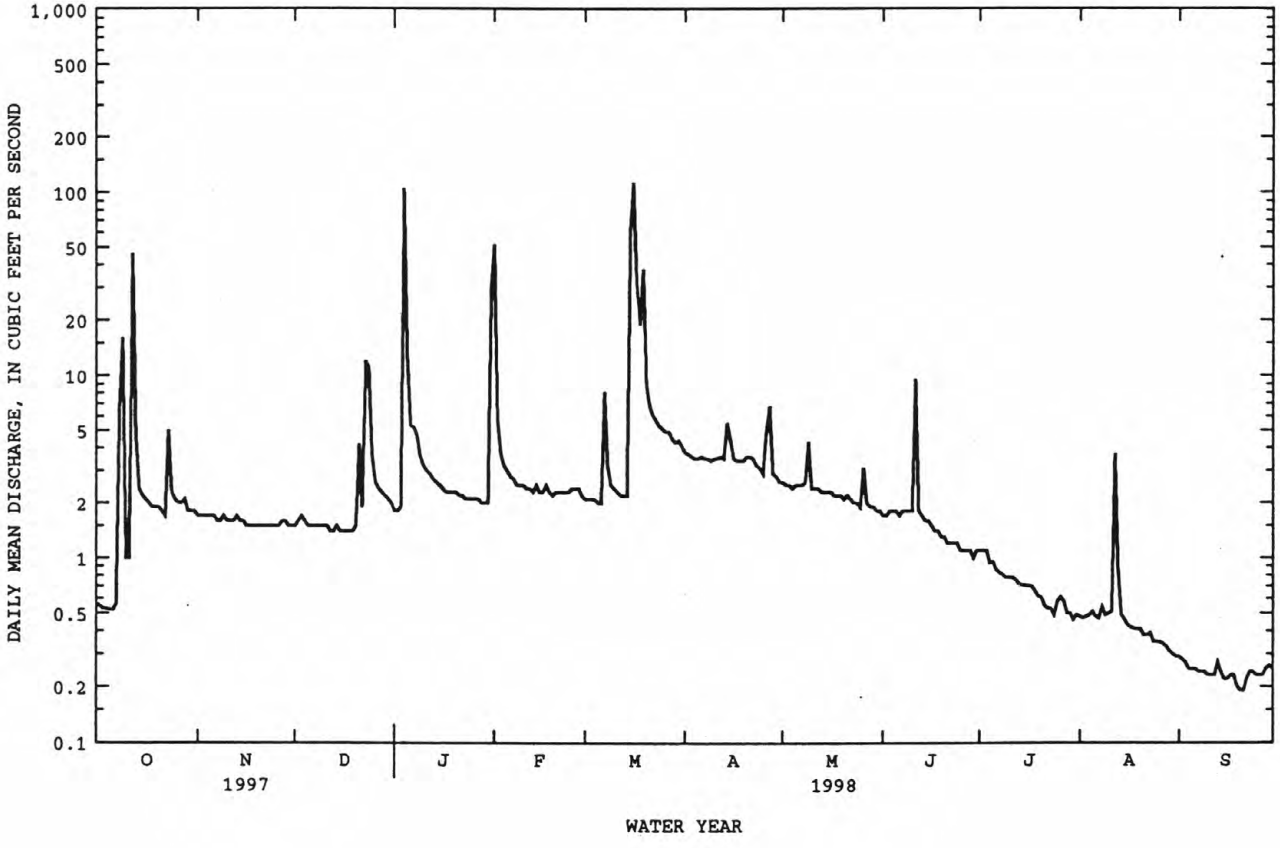
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

MEAN	2.46	1.29	1.47	2.85	2.89	4.49	2.86	4.08	6.73	2.55	2.19	1.06
MAX	3.82	1.58	2.45	7.18	4.39	11.9	3.73	10.9	21.6	4.81	3.74	1.91
(WY)	1998	1998	1998	1998	1998	1998	1995	1995	1995	1997	1995	1996
MIN	1.16	1.11	.93	.60	.70	.63	.59	.29	.63	.71	.54	.24
(WY)	1997	1996	1996	1997	1996	1996	1996	1996	1996	1998	1998	1998

e Estimated

073274406 LITTLE WASHITA RIVER ABOVE SCS POND NO. 26 NEAR CYRIL, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1995 - 1998	
ANNUAL TOTAL	905.03		1236.24			
ANNUAL MEAN	2.48		3.39		2.29	
HIGHEST ANNUAL MEAN					3.39	1998
LOWEST ANNUAL MEAN					1.38	1996
HIGHEST DAILY MEAN	72	Jul 10	113	Mar 16	351	Jun 4 1995
LOWEST DAILY MEAN	.43	Jan 29	.19	Sep 20, 21	.18	May 17 1996
ANNUAL SEVEN-DAY MINIMUM	.46	Jan 23	.21	Sep 15	.20	May 14 1996
INSTANTANEOUS PEAK FLOW			504	Jan 4	1300	Jun 4 1995
INSTANTANEOUS PEAK STAGE			8.91	Jan 4	11.73	Jun 4 1995
ANNUAL RUNOFF (AC-FT)	1800		2450		1660	
10 PERCENT EXCEEDS	2.5		4.3		3.4	
50 PERCENT EXCEEDS	1.6		1.8		1.2	
90 PERCENT EXCEEDS	.56		.35		.48	



073274408 LITTLE WASHITA RIVER TRIBUTARY NEAR CYRIL, OK

LOCATION.-- Lat 34°55'33", long 98°14'00", in SE ¼ NE ¼ NE ¼ sec. 10, T.5N., R.10W., Caddo County, Hydrologic Unit 11130302, on right bank of county road, 1.7 mi west of Cyril, 6.8 mi east of Apache, and at mile 1.6.

DRAINAGE AREA.--1.10 mi^2.

PERIOD OF RECORD.-- February 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,372.05 ft above sea level.

REMARKS.--Records fair. U.S. Geological Survey's satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.09	.10	.32	11	.45	1.1	.45	e.09	.00	.00	.00
2	.00	.09	.23	.34	1.0	.45	.87	.39	e.09	.00	.00	.00
3	.00	.09	.16	.33	.77	.46	.74	.34	e.08	.00	.00	.00
4	.00	.10	.13	25	.67	.53	.72	.32	e.07	.00	.00	.00
5	.00	.09	.11	1.8	.64	.51	.73	.31	e.06	.00	.00	.00
6	.00	.10	.12	.87	.58	.52	.75	.30	.06	.00	.00	.00
7	.00	.10	.12	1.2	.57	3.2	.71	.26	e.04	.00	.00	.00
8	2.8	.10	.12	.84	.56	1.2	.62	.23	e.02	.00	.00	.00
9	1.3	.11	.10	.65	.55	.85	.57	1.2	.00	.00	.00	.00
10	.20	.12	.10	.58	.54	.79	.57	.41	.01	.00	.00	.00
11	.40	.12	.09	.56	.53	.76	.57	.33	.76	.00	.00	.00
12	6.3	.13	.09	.53	.58	.77	.56	.22	.04	.00	.56	.00
13	.46	.17	.09	.49	.64	.78	.53	.19	.02	.00	.00	.00
14	.24	.13	.09	.48	.65	.79	1.2	.17	.01	.00	.00	.00
15	.18	.12	.10	.47	.67	22	.75	.15	.01	.00	.00	.00
16	.14	.11	.10	.45	.63	20	.54	.10	.01	.00	.00	.00
17	.12	.11	.10	.44	.75	5.4	.49	.10	.00	.00	.00	.00
18	.11	.12	.10	.43	.59	e4.5	.48	.09	.00	.00	.00	.00
19	.10	.12	.09	.42	.58	e7.7	.46	.08	.00	.00	.00	.00
20	.09	.13	.12	.42	.52	e2.0	.52	.08	.00	.00	.00	.00
21	.12	.12	1.3	.40	.51	e1.6	.53	.07	.00	.00	.00	.00
22	.09	.13	.21	.39	.49	e1.5	.46	.07	.00	.00	.00	.00
23	1.4	.12	3.5	.38	.48	e1.4	.47	.07	.00	.00	.00	.00
24	.18	.11	2.6	.37	.51	e1.3	.45	.07	.00	.00	.00	.00
25	.13	.10	.76	.37	.55	e1.3	.46	.07	.00	.00	.00	.00
26	.12	.10	.46	.36	.50	e1.3	1.7	.31	.00	.00	.00	.00
27	.13	.11	.40	.34	.46	e1.2	1.3	.15	.00	.00	.00	.00
28	.12	.16	.36	.34	.45	e1.2	.54	e.11	.00	.00	.00	.00
29	.11	.11	.34	.33	---	e1.2	.52	e10	.00	.00	.00	.00
30	.10	.10	.33	.32	---	e1.2	.50	e.10	.00	.00	.00	.00
31	.10	---	.32	7.4	---	e1.1	---	e.09	---	.00	.00	---
TOTAL	15.05	3.41	12.84	47.62	26.97	87.96	20.41	16.83	1.37	0.00	0.56	0.00
MEAN	.49	.11	.41	1.54	.96	2.84	.68	.54	.046	.000	.018	.000
MAX	6.3	.17	3.5	25	11	22	1.7	10	.76	.00	.56	.00
MIN	.00	.09	.09	.32	.45	.45	.45	.07	.00	.00	.00	.00
AC-FT	30	6.8	25	94	53	174	40	33	2.7	.00	1.1	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

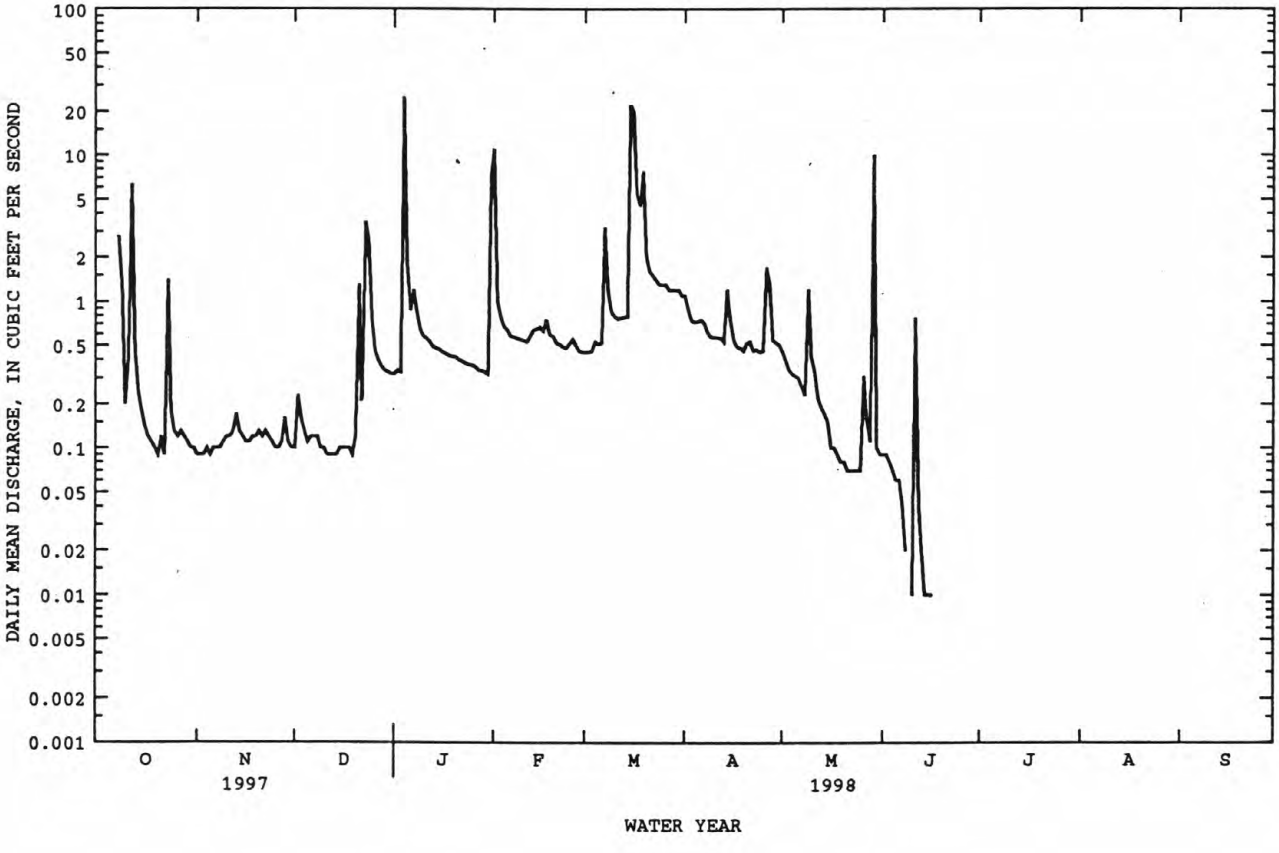
MEAN	.42	.49	.35	.64	.68	.92	.56	.46	.83	.45	.22	.15
MAX	.49	.74	.41	1.54	.96	2.84	.86	.70	2.59	1.47	.42	.27
(WY)	1998	1997	1998	1998	1998	1998	1997	1995	1995	1997	1995	1995
MIN	.36	.11	.29	.14	.21	.26	.27	.040	.046	.000	.018	.000
(WY)	1997	1998	1997	1997	1996	1997	1996	1996	1998	1998	1998	1998

e Estimated

073274408 LITTLE WASHITA RIVER TRIBUTARY NEAR CYRIL, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1995 - 1998	
ANNUAL TOTAL	181.79		233.02			
ANNUAL MEAN	.50		.64		.48	
HIGHEST ANNUAL MEAN					.64	1998
LOWEST ANNUAL MEAN					.26	1996
HIGHEST DAILY MEAN	28	Jul 10	25	Jan 4	57	Jun 4 1995
LOWEST DAILY MEAN	.00	Sep 28	.00	at times	.00	at times
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	.00	Jun 17	.00	May 19 1996
INSTANTANEOUS PEAK FLOW			[a]142	Jan 4	[a]555	Jun 4 1995
INSTANTANEOUS PEAK STAGE			8.29	Jan 4	11.18	Jun 4 1995
ANNUAL RUNOFF (AC-FT)	361		462		345	
10 PERCENT EXCEEDS	.65		1.1		.72	
50 PERCENT EXCEEDS	.19		.12		.25	
90 PERCENT EXCEEDS	.07		.00		.00	

[a]From rating defined by indirect measurement.



07327441 SCS POND NO. 26 NEAR CYRIL, OK

LOCATION.--Lat 34°54'09", long 98°14'22", in SW ¼ SE ¼ sec.15, T.5 N., R.10 W., Caddo County, Hydrologic Unit 11130302, on north face of dam, on Little Washita River, 2.2 mi west of Cyril, and at mile 28.4.

DRAINAGE AREA.--6.64 mi^2 (Agricultural Research Service).

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

REVISED RECORDS.--WDR OK-96-2: 1994, 1995.

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

REMARKS.--No estimated daily reservoir storage. Reservoir is formed by earthen dam, construction completed November 1976. Emergency spillway elevation is 1,352.55 ft, contents 1,520 acre-ft; principal spillway elevation is 1,328.95 ft, contents 142 acre-ft; drain value elevation 1,295.25 ft. Figures herein represent total contents. Reservoir is used for flood control. U.S. Geological Survey satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 781 acre-ft, June 4, 1995, elevation 1,341.92 ft; minimum after ini- tial storage, 168 acre-ft, at times, elevation 1,320.63 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 341 acre-ft, March 17, elevation 1,330.58 ft; minimum, 169 acre-ft, at times, elevation 1,320.67 ft.

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

1318	133.0	1321	174.0
1319	146.0	1322	188.0
1320	159.0	1323	200.0

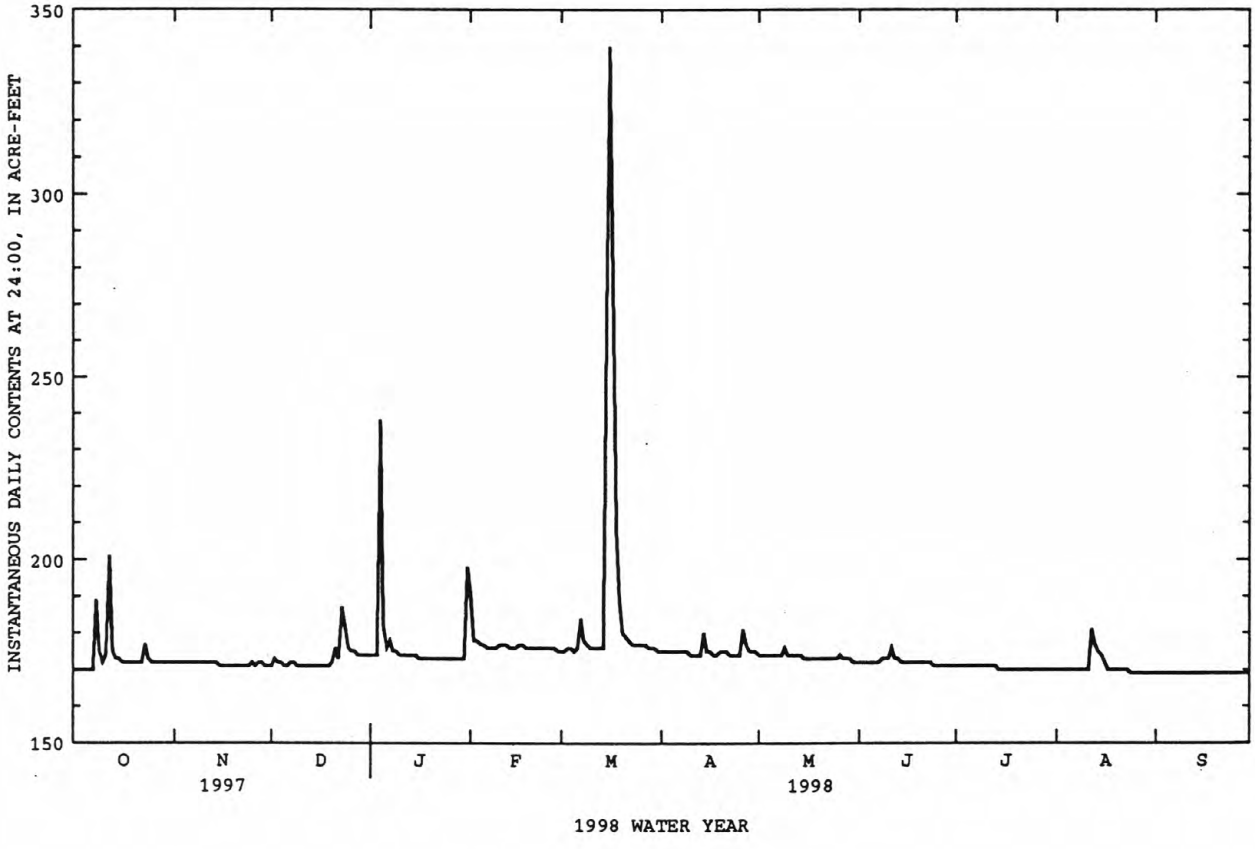
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	172	171	174	191	175	175	174	172	171	170	169
2	170	172	173	174	178	175	175	174	172	171	170	169
3	170	172	172	174	178	176	175	174	172	171	170	169
4	170	172	172	238	177	176	175	174	172	171	170	169
5	170	172	171	182	177	175	175	174	172	171	170	169
6	170	172	171	176	176	176	175	174	172	171	170	169
7	170	172	172	178	176	184	175	174	172	171	170	169
8	189	172	172	175	176	178	175	174	173	171	170	169
9	175	172	171	175	176	177	175	176	173	171	170	169
10	172	172	171	174	177	176	174	174	173	171	170	169
11	174	172	171	174	177	176	174	174	176	171	170	169
12	201	172	171	174	177	176	174	174	173	171	181	169
13	175	172	171	174	176	176	174	174	173	171	177	169
14	173	172	171	174	176	176	180	174	172	170	175	169
15	173	171	171	174	176	272	175	173	172	170	174	169
16	172	171	171	173	177	340	175	173	172	170	172	169
17	172	171	171	173	177	276	174	173	172	170	170	169
18	172	171	171	173	176	208	174	173	172	170	170	169
19	172	171	171	173	176	189	175	173	172	170	170	169
20	172	171	172	173	176	180	175	173	172	170	170	169
21	172	171	176	173	176	179	175	173	172	170	170	169
22	172	171	173	173	176	178	174	173	172	170	170	169
23	177	171	187	173	176	177	174	173	172	170	170	169
24	173	171	182	173	176	177	174	173	171	170	169	169
25	172	172	176	173	176	177	174	173	171	170	169	169
26	172	171	175	173	176	177	181	174	171	170	169	169
27	172	172	175	173	176	177	177	173	171	170	169	169
28	172	172	174	173	175	176	175	173	171	170	169	169
29	172	171	174	173	---	176	175	173	171	170	169	169
30	172	171	174	173	---	176	175	172	171	170	169	169
31	172	---	174	198	---	175	---	172	---	170	169	---
MAX	201	172	187	238	191	340	181	176	176	171	181	169
MIN	170	171	171	173	175	175	174	172	171	170	169	169
(‡)	1320.87	1320.83	1320.99	1322.83	1321.11	1321.11	1321.05	1320.90	1320.82	1320.73	1320.70	1320.68
(‡‡)	+2	-1	+3	+24	-23	0	0	-3	-1	-1	-1	0

CAL YR 1997 MAX 312 MIN 170 (‡‡) +3
WTR YR 1998 MAX 340 MIN 169 (‡‡) -1

(‡) ELEVATION, IN FEET, AT END OF MONTH
(‡‡) CHANGE IN CONTENTS, IN ACRE-FEET

07327441 SCS POND NO. 26 NEAR CYRIL, OK--Continued



07327442 LITTLE WASHITA RIVER NEAR CYRIL, OK

LOCATION.-- Lat 34°53'32", long 98°13'58", in SW ¼ NW ¼ sec. 23, T.5N., R.10W., Caddo County, Hydrologic Unit 11130302, on left bank 300 ft downstream from county road, 1.7 mi west of Cyril, 6.8 mi east of Apache, and at mile 28.0.

DRAINAGE AREA.--11.6 mi^2.

PERIOD OF RECORD.-- October 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,259.29 ft above sea level.

REMARKS.--Records fair. Flow affected by numerous flood retention reservoirs. U.S. Geological Survey's satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	e3.2	3.5	11	84	12	13	e9.0	4.1	2.0	.70	.46
2	1.6	e3.1	4.2	11	19	12	13	e8.5	4.0	1.9	.67	.45
3	1.6	e3.1	4.7	11	15	12	13	e8.2	3.9	1.8	.68	.43
4	1.6	e3.1	4.0	122	14	12	13	e7.8	3.9	1.7	.75	.38
5	1.5	e3.1	3.8	35	13	12	13	e7.6	3.9	1.7	.87	.39
6	1.5	3.3	3.7	17	13	12	13	e7.5	3.9	1.8	.82	.37
7	1.7	3.4	3.7	16	12	20	13	e7.2	3.8	1.6	.77	.37
8	7.5	3.4	3.8	16	12	16	13	e8.6	4.0	1.5	.93	.38
9	33	3.6	3.7	14	12	12	13	e10	3.9	1.5	.80	.37
10	5.2	3.6	3.6	13	12	12	12	e6.7	3.8	1.4	.75	.37
11	4.0	3.5	3.6	13	12	12	12	e6.5	8.9	1.4	.81	.40
12	43	3.5	3.5	13	12	11	12	e6.3	5.1	1.3	1.5	.42
13	15	3.8	3.5	12	12	11	12	e6.1	4.1	1.3	1.9	.53
14	e6.0	3.7	3.5	12	11	11	14	e5.9	3.8	1.3	1.0	.59
15	e4.7	3.5	3.5	12	12	62	14	5.7	3.6	1.2	.89	.57
16	e4.2	3.5	3.5	12	12	141	12	5.7	3.4	1.1	.93	.56
17	e3.9	3.5	3.5	12	12	62	11	5.5	3.3	1.1	.81	.60
18	e3.8	3.5	3.5	11	12	39	11	5.5	3.3	1.1	.69	.63
19	e3.7	3.5	3.4	11	12	45	11	5.3	3.2	.98	.64	.60
20	e3.6	3.5	3.6	11	12	20	11	5.2	3.1	.90	.62	.54
21	e3.9	3.5	7.1	11	12	17	11	5.2	2.9	.89	.61	.49
22	e3.6	3.5	5.5	11	12	16	11	5.1	2.8	.86	.60	.56
23	e8.8	3.4	8.4	11	12	15	10	5.1	2.5	.84	.61	.57
24	e5.6	3.4	22	11	12	15	10	5.0	2.4	.83	.60	.58
25	e3.9	3.5	16	11	12	14	10	4.9	2.3	.77	.58	.53
26	e3.5	3.5	13	11	12	14	12	5.9	2.2	.75	.56	.46
27	e3.4	3.5	12	11	12	14	16	5.1	2.2	.73	.54	.46
28	e3.3	3.8	12	11	12	14	12	4.7	2.1	.71	.52	.47
29	e3.3	3.7	11	11	---	13	11	4.5	2.1	.70	.50	.46
30	e3.3	3.6	11	10	---	14	10	4.3	2.0	.68	.48	.45
31	e3.3	---	11	25	---	14	---	4.1	---	.68	.48	---
TOTAL	194.6	103.8	202.8	519	421	706	362	192.7	104.5	37.02	23.61	14.44
MEAN	6.28	3.46	6.54	16.7	15.0	22.8	12.1	6.22	3.48	1.19	.76	.48
MAX	43	3.8	22	122	84	141	16	10	8.9	2.0	1.9	.63
MIN	1.5	3.1	3.4	10	11	11	10	4.1	2.0	.68	.48	.37
AC-FT	386	206	402	1030	835	1400	718	382	207	73	47	29

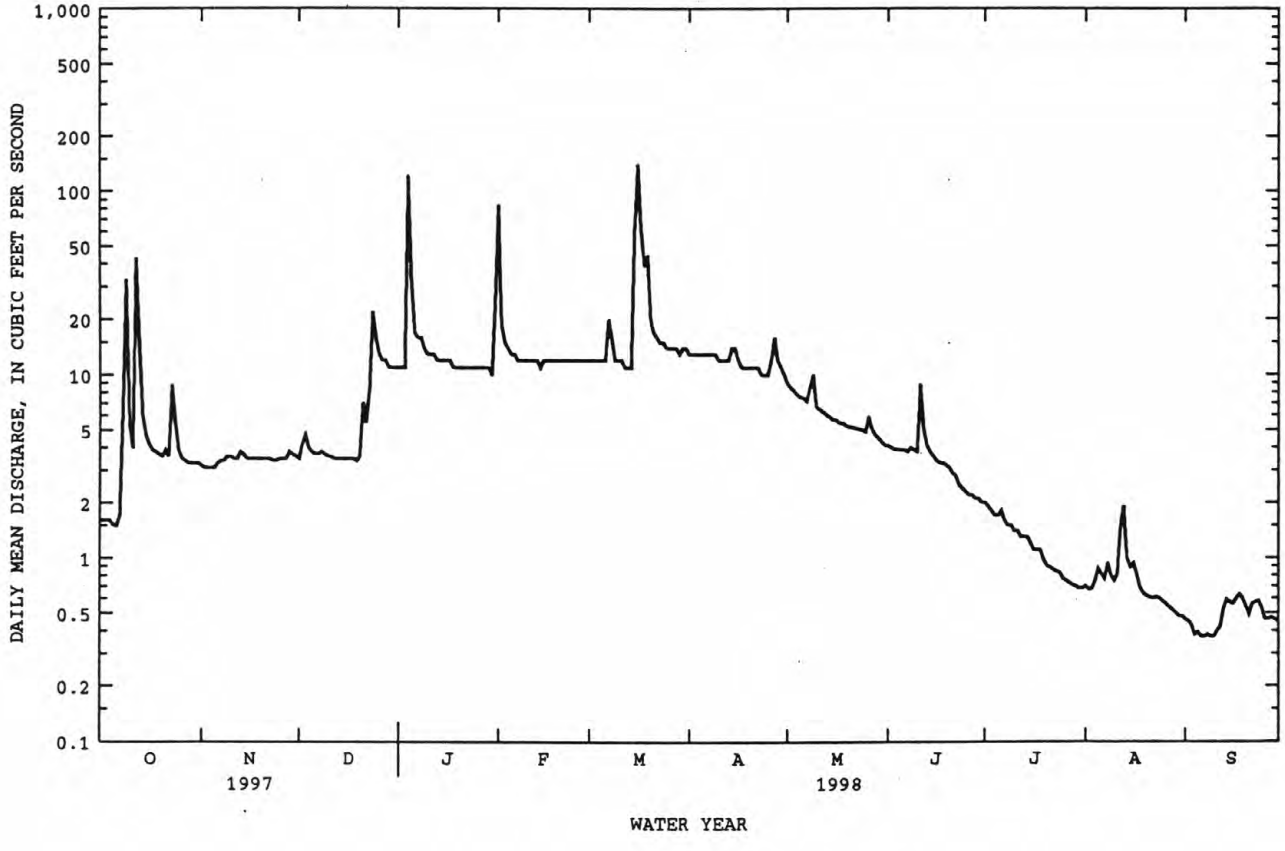
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1998, BY WATER YEAR (WY)

MEAN	4.82	5.52	7.35	7.47	7.80	10.1	8.62	9.36	11.4	5.08	3.53	3.14
MAX	7.34	11.6	19.5	16.7	15.4	22.8	17.3	26.2	35.8	9.55	7.34	7.13
(WY)	1996	1993	1993	1998	1993	1998	1993	1993	1995	1997	1995	1996
MIN	1.35	3.46	3.53	2.75	2.95	3.11	2.51	1.88	1.84	1.19	.76	.48
(WY)	1995	1998	1997	1997	1996	1996	1996	1996	1996	1998	1998	1998

e Estimated

07327442 LITTLE WASHITA RIVER NEAR CYRIL, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1993 - 1998	
ANNUAL TOTAL	2064.3		2881.47			
ANNUAL MEAN	5.66		7.89		7.00	
HIGHEST ANNUAL MEAN					13.2	1993
LOWEST ANNUAL MEAN					3.29	1994
HIGHEST DAILY MEAN	111	Jul 10	141	Mar 16	364	Jun 4 1995
LOWEST DAILY MEAN	1.4	Sep 18	.37	Sep 6,7,9,10	.37	Sep 6 1998
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 15	.38	Sep 4	.38	Sep 4 1998
INSTANTANEOUS PEAK FLOW			407	Jan 4	1530	Jun 4 1995
INSTANTANEOUS PEAK STAGE			11.68	Jan 4	16.67	Jun 4 1995
ANNUAL RUNOFF (AC-FT)	4090		5720		5070	
10 PERCENT EXCEEDS	8.5		14		14	
50 PERCENT EXCEEDS	3.7		3.9		4.2	
90 PERCENT EXCEEDS	1.8		.60		1.5	



073274458 LITTLE WASHITA RIVER TRIBUTARY NEAR CEMENT, OK

LOCATION.-- Lat 34°51'58", long 98°08'30", in NW ¼ NW ¼ sec. 34, T.5N., R.9W., Caddo County, Hydrologic Unit 11130302, on left bank 30 ft downstream from I-44 bridge near mile marker 64, 4 mi south of Cement, and at mile 2.1.

DRAINAGE AREA.--6.5 mi^2.

PERIOD OF RECORD.-- June 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,237.18 ft above sea level.

REMARKS.--Records fair. U.S. Geological Survey's satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.5	2.2	2.9	19	1.7	2.8	3.6	2.2	e1.6	e.92	e.78
2	1.5	1.5	2.5	2.9	3.0	1.8	2.6	3.5	2.1	e1.6	e.92	e.75
3	1.4	1.6	2.5	2.7	2.6	1.8	2.5	3.3	2.0	e1.6	e.91	e.70
4	1.4	1.6	2.3	138	2.5	1.9	2.4	3.3	2.0	e1.6	e.95	e.67
5	1.4	1.6	2.2	9.7	2.5	1.8	2.4	3.2	2.0	e1.6	e1.1	e.63
6	1.3	1.6	2.1	4.4	2.4	1.9	2.6	3.2	2.0	e1.5	1.3	e.61
7	1.5	1.8	2.2	4.1	2.3	12	2.7	3.2	2.1	e1.5	1.3	e.60
8	3.4	1.8	2.2	3.8	2.3	3.4	2.5	3.1	2.4	e1.5	1.4	e.60
9	21	2.0	2.1	3.3	2.3	2.7	2.5	3.9	2.3	e1.5	1.4	e.62
10	3.5	2.1	2.0	3.2	2.2	2.5	2.5	3.3	2.3	e1.5	1.5	e.65
11	2.6	2.1	2.1	3.1	2.1	2.4	2.5	3.0	5.8	e1.5	1.6	e.71
12	16	2.0	2.1	3.1	2.1	2.4	2.5	2.9	3.2	e1.4	e2.8	e.80
13	4.3	2.3	2.1	3.0	2.1	2.5	2.6	2.9	2.7	e1.4	e3.5	e.86
14	3.0	2.3	2.2	2.8	2.1	2.5	19	2.7	2.5	e1.4	e2.2	e.94
15	2.2	2.2	2.2	2.8	2.2	48	13	2.7	2.4	e1.4	e1.7	e.86
16	1.7	2.2	2.2	2.8	2.1	58	3.9	2.7	2.3	e1.4	e1.6	e.91
17	1.4	2.2	2.2	2.7	2.3	13	3.5	2.7	2.2	e1.3	e1.4	e.97
18	1.3	2.2	2.1	2.7	2.1	5.4	3.5	2.7	e2.1	e1.3	e1.3	e1.0
19	1.2	2.2	2.1	2.6	2.5	11	3.5	2.7	e2.1	e1.2	e1.2	e.91
20	1.2	2.2	2.4	2.7	2.6	4.6	3.6	2.7	e2.1	e1.2	e1.1	e.81
21	1.3	2.2	3.7	2.7	2.6	3.7	3.6	2.7	e2.0	e1.2	e1.1	e.76
22	1.2	2.2	3.1	2.5	2.3	3.1	3.6	2.7	e2.0	e1.1	e1.1	e.84
23	6.5	2.1	5.9	2.5	2.1	2.8	3.6	2.7	e2.0	e1.1	e1.1	e.87
24	2.6	2.1	5.6	2.5	2.0	2.6	4.3	2.5	e1.9	e1.1	e1.0	e.91
25	2.0	2.1	4.1	2.5	2.0	2.5	4.3	2.9	e1.9	e1.0	e.96	e.78
26	1.7	2.1	3.8	2.5	2.0	2.5	10	3.5	e1.8	e.98	e.94	e.71
27	1.6	2.2	3.5	2.5	1.9	2.9	11	2.6	e1.8	e.97	e.89	e.70
28	1.7	2.3	3.3	2.4	1.7	2.5	4.6	2.5	e1.7	e.96	e.84	e.72
29	1.6	2.2	3.2	2.3	---	2.5	4.2	2.4	e1.7	e.95	e.80	e.68
30	1.6	2.2	3.1	2.3	---	4.3	3.9	2.4	e1.7	e.94	e.76	e.65
31	1.5	---	2.9	6.1	---	3.3	---	2.2	---	e.94	e.78	---
TOTAL	96.1	60.7	86.2	234.1	79.9	214.0	136.2	90.4	67.3	40.24	40.37	23.00
MEAN	3.10	2.02	2.78	7.55	2.85	6.90	4.54	2.92	2.24	1.30	1.30	.77
MAX	21	2.3	5.9	138	19	58	19	3.9	5.8	1.6	3.5	1.0
MIN	1.2	1.5	2.0	2.3	1.7	1.7	2.4	2.2	1.7	.94	.76	.60
AC-FT	191	120	171	464	158	424	270	179	133	80	80	46

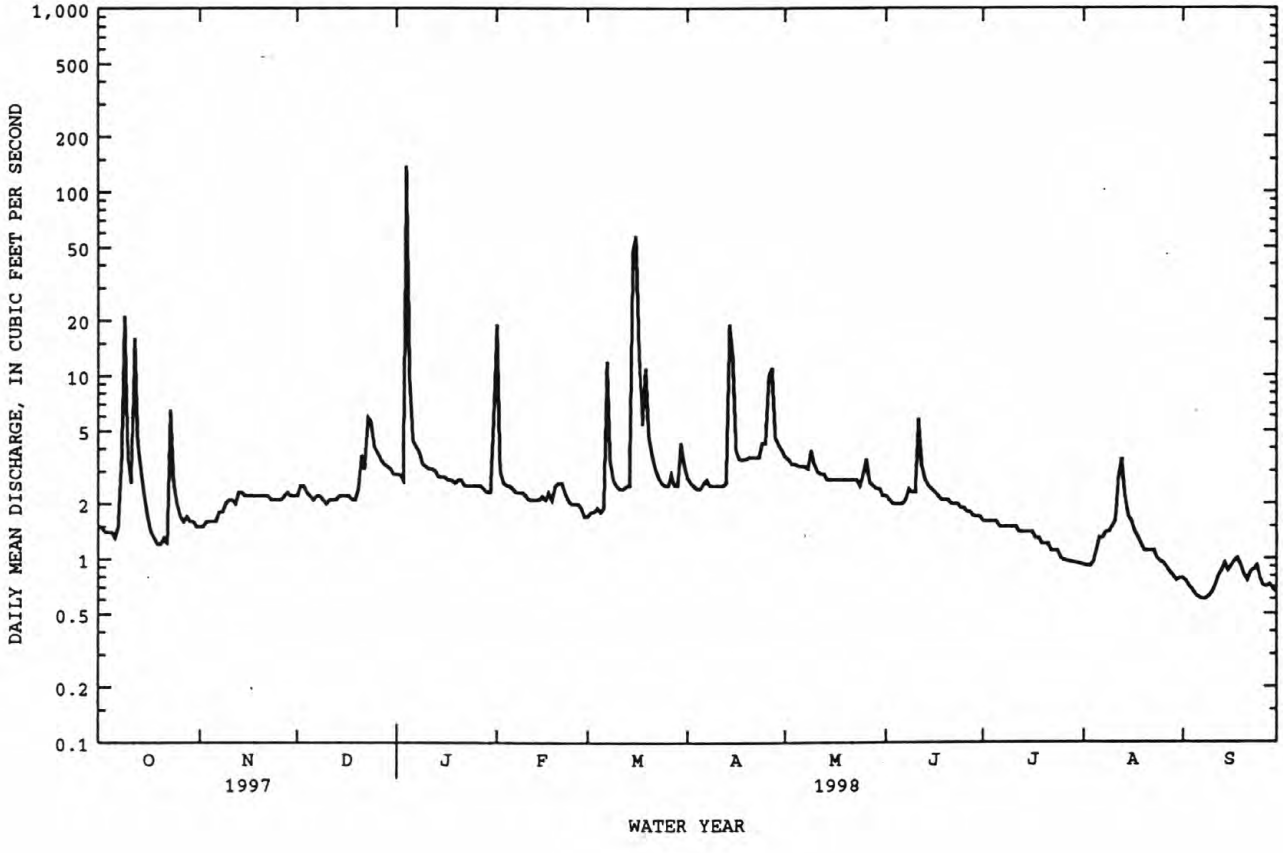
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

MEAN	2.38	1.90	2.19	3.69	2.64	3.36	3.20	2.90	2.33	1.23	1.73	1.39
MAX	3.10	2.02	2.78	7.55	3.08	6.90	4.54	4.61	2.82	1.73	2.72	1.99
(WY)	1998	1998	1998	1998	1997	1998	1998	1997	1995	1997	1995	1996
MIN	1.63	1.83	1.77	1.75	2.01	1.30	1.98	1.16	1.94	.81	1.30	.77
(WY)	1997	1997	1996	1997	1996	1996	1996	1996	1996	1996	1998	1998

e Estimated

073274458 LITTLE WASHITA RIVER TRIBUTARY NEAR CEMENT, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1995 - 1998	
ANNUAL TOTAL	891.95		1168.51			
ANNUAL MEAN	2.44		3.20		2.38	
HIGHEST ANNUAL MEAN					3.20	1998
LOWEST ANNUAL MEAN					1.69	1996
HIGHEST DAILY MEAN	35	May 8	138	Jan 4	138	Jan 4 1998
LOWEST DAILY MEAN	.87	May 6	.60	Sep 7	.55	Jul 6 1996
ANNUAL SEVEN-DAY MINIMUM	1.0	May 1	.63	Sep 4	.61	Jul 3 1996
INSTANTANEOUS PEAK FLOW			361	Jan 4	361	Jan 4 1998
INSTANTANEOUS PEAK STAGE			9.16	Jan 4	9.16	Jan 4 1998
ANNUAL RUNOFF (AC-FT)	1770		2320		1720	
10 PERCENT EXCEEDS	3.4		3.7		3.1	
50 PERCENT EXCEEDS	1.8		2.2		1.7	
90 PERCENT EXCEEDS	1.3		.94		.89	



07327446 SCS POND NO. 31 NEAR CEMENT, OK

LOCATION.--Lat 34°50'39", long 98°07'54", in NW ¼ SW ¼ sec.3, T.4 N., R.9 W., Comanche County, Hydrologic Unit 11130302, on north edge of pond, on Little Washita River Tributary, 4.6 mi south of Cement, and at mile 2.1.

DRAINAGE AREA.--7.62 mi^2 (Agricultural Research Service).

PERIOD OF RECORD.--April 1995 to current year.

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

REMARKS.--Reservoir is formed by earthen dam. Emergency spillway elevation is 1,253.2 ft, contents 1,680 acre-ft; principal spillway elevation is 1,237.3 ft, contents 347 acre-ft; drain value elevation 1,220.8 ft. Figures herein represent total contents. Reservoir is used for flood control.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 480 acre-ft, June 4, 1995, elevation 1,240.08 ft; minimum after initial storage, 313 acre-ft, at times, elevation 1,236.46 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 430 acre-ft, Mar. 16, elevation 1,239.10 ft; minimum, 324 acre-ft, July 31, Aug. 1, elevation 1,236.72 ft.

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

1234	225.0	1240	475.0
1236	295.0	1245	792.5
1238	375.0	1250	1260.0

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 2400 HOURS

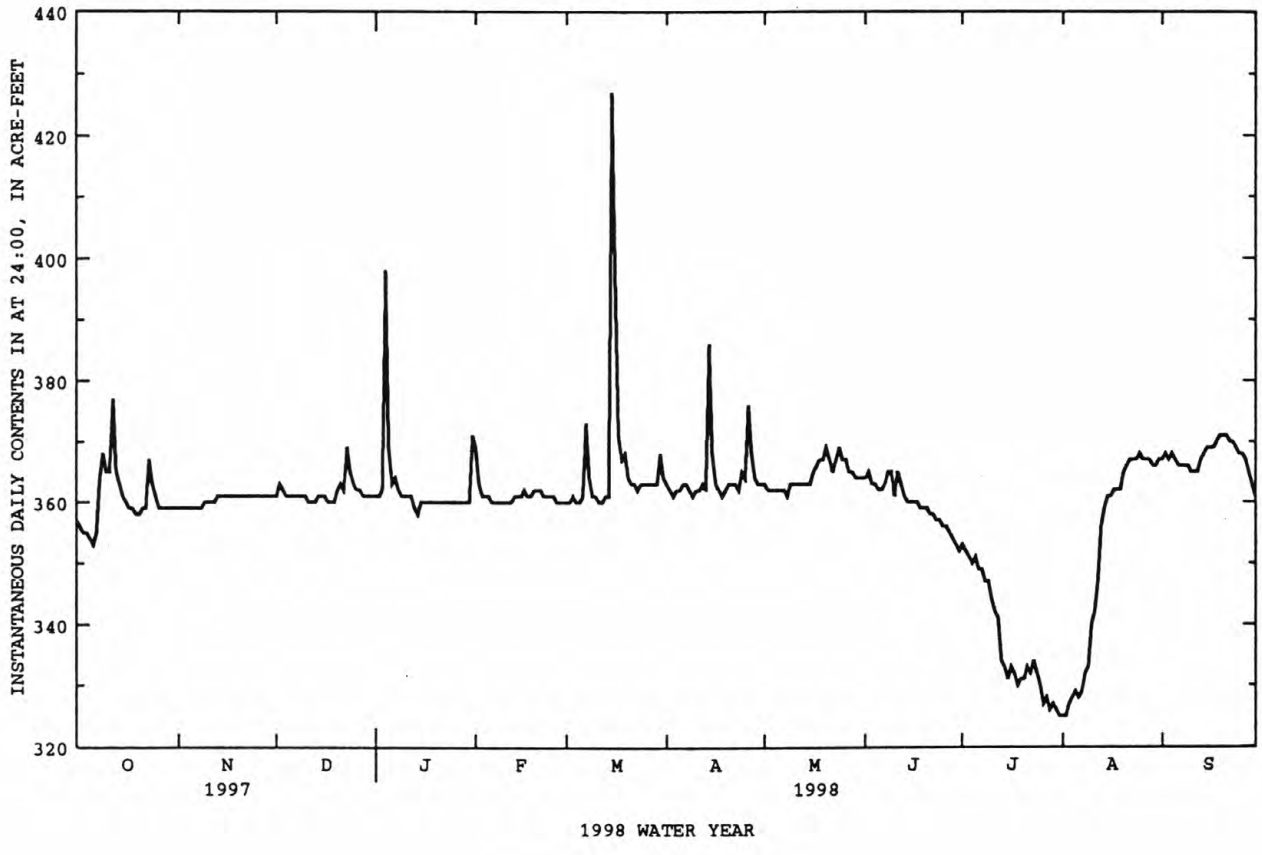
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	357	359	361	361	369	360	363	363	364	353	325	367
2	356	359	363	361	363	360	362	362	365	352	325	368
3	355	359	362	362	361	361	361	362	363	351	327	367
4	355	359	361	398	361	360	362	362	363	350	328	368
5	354	359	361	369	361	360	362	362	362	351	329	367
6	353	359	361	363	360	361	363	362	362	349	328	366
7	355	359	361	364	360	373	363	362	363	349	329	366
8	364	359	361	362	360	364	362	361	365	347	332	366
9	368	360	361	361	360	361	361	363	365	347	333	366
10	365	360	361	361	360	361	362	363	361	344	340	365
11	365	360	360	361	360	360	362	363	365	e342	342	365
12	377	360	360	361	360	360	363	363	363	e341	347	365
13	365	361	360	e359	361	361	362	363	361	e334	356	367
14	363	361	361	e358	361	361	386	363	360	e333	359	368
15	361	361	361	360	361	427	368	363	360	e331	361	369
16	360	361	361	360	362	397	363	365	360	e333	361	369
17	359	361	360	360	361	371	362	366	360	e332	362	369
18	359	361	360	360	361	367	361	367	359	e330	362	370
19	358	361	360	360	362	368	362	367	359	e331	362	371
20	358	361	362	360	362	364	363	369	359	e331	365	371
21	359	361	363	360	362	363	363	367	358	e333	366	371
22	359	361	362	360	361	363	363	365	358	332	367	e370
23	367	361	369	360	361	362	362	367	357	334	367	e370
24	363	361	365	360	361	363	365	369	357	332	367	e369
25	361	361	363	360	361	363	364	367	356	330	368	e368
26	359	361	362	360	360	363	376	367	356	327	367	e368
27	359	361	362	360	360	363	368	365	355	328	367	e367
28	359	361	361	360	360	363	364	365	354	326	367	e365
29	359	361	361	360	---	363	363	364	353	327	366	e363
30	359	361	361	360	---	368	363	364	352	326	366	e361
31	359	---	361	371	---	364	---	364	---	325	367	---
MAX	377	361	369	398	369	427	386	369	365	353	368	371
MIN	353	359	360	358	360	360	361	361	352	325	325	361
(‡)	1237.61	1237.64	1237.65	1237.90	1237.63	1237.72	1237.70	1237.72	1237.43	1236.75	1237.79	--
(‡‡)	+2	+2	0	+10	-11	+4	-1	+1	-12	-27	+42	-6

CAL YR 1997 MAX 403 MIN 350 (‡‡) 0
WTR YR 1998 MAX 427 MIN 325 (‡‡) +4

e Estimated

(‡) ELEVATION, IN FEET, AT END OF MONTH
(‡‡) CHANGE IN CONTENTS, IN ACRE-FEET

07327446 SCS POND NO. 31 NEAR CEMENT, OK--Continued



07327447 LITTLE WASHITA RIVER NEAR CEMENT, OK

LOCATION.--Lat 34°50'16", long 98°07'27", in NW ¼ NW ¼ sec.11, T.4 N., R.9 W., Comanche County, Hydrologic Unit 11130302, on left bank near downstream side of county road bridge, 5 mi south of Cement, 7 mi east northeast of Fletcher, 8 mi northeast of Sterling, and at mile 23.7

DRAINAGE AREA.--61.9 mi^2.

PERIOD OF RECORD.--February 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,183.72 ft above sea level.

REMARKS.--Records poor. Flow affected by numerous flood retention reservoirs. U.S. Geological Survey's satellite telemeter at sta- tion.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	15	18	26	325	e37	e54	e58	e33	e38	e23	e11
2	7.7	14	23	30	117	e37	e50	e54	e32	e38	e23	e10
3	7.4	14	32	35	68	e38	e48	e52	e31	e37	e24	e9.9
4	7.3	14	24	619	58	e40	e46	e50	e30	e36	e25	e8.4
5	7.3	15	21	282	55	e39	e45	e49	e28	e34	e24	e7.6
6	7.6	14	21	140	52	e40	e49	e48	e28	e33	e22	e7.2
7	9.2	14	22	84	49	e140	e52	e48	e28	e32	e20	e6.7
8	12	15	24	75	49	e170	e50	e48	e32	e32	e22	e6.3
9	206	16	23	57	49	e58	e49	e58	e35	e32	e23	e6.1
10	41	18	21	48	47	e48	e48	e51	e31	e31	e25	e5.9
11	22	17	20	46	44	e46	e48	e48	e110	e30	e27	e6.1
12	163	16	20	45	43	e45	e49	e45	e120	e30	e31	e6.7
13	124	16	19	41	43	e47	e50	e43	e60	e29	e50	e7.6
14	34	16	19	40	43	e48	e110	e41	e54	e29	e36	e8.7
15	19	13	16	39	45	e350	e250	e40	e50	e28	e26	e8.2
16	14	12	16	39	46	e560	e64	e39	e48	e28	e23	e7.8
17	12	13	16	37	54	e350	e54	e39	e45	e27	e21	e8.3
18	11	14	16	37	47	e117	e52	e38	e44	e26	e19	e9.2
19	11	14	17	37	44	e100	e53	e38	e43	e26	e17	e8.7
20	10	15	19	39	45	e86	e54	e37	e47	e26	e16	e8.2
21	14	15	53	38	43	e72	e55	e37	e46	e25	e15	e7.5
22	13	15	41	39	42	e61	e54	e37	e45	e25	e15	e8.2
23	54	14	53	38	40	e53	e54	e36	e44	e25	e14	e8.6
24	49	16	106	38	40	e50	e62	e36	e43	e24	e13	e7.9
25	23	17	60	40	41	e49	e66	e39	e42	e24	e13	e7.4
26	17	17	37	44	41	e48	e140	e50	e41	e24	e13	e7.1
27	13	17	30	39	e41	e54	e160	e56	e40	e24	e12	e7.3
28	14	22	29	40	e39	e52	e100	e38	e39	e24	e12	e7.6
29	14	20	27	39	---	e48	e68	e35	e39	e24	e12	e7.1
30	15	18	26	38	---	e77	e62	e34	e39	e24	e11	e6.4
31	15	---	25	83	---	e65	---	e33	---	e23	e11	---
TOTAL	974.3	466	894	2272	1650	3025	2096	1355	1347	888	638	233.7
MEAN	31.4	15.5	28.8	73.3	58.9	97.6	69.9	43.7	44.9	28.6	20.6	7.79
MAX	206	22	106	619	325	560	250	58	120	38	50	11
MIN	7.3	12	16	26	39	37	45	33	28	23	11	5.9
AC-FT	1930	924	1770	4510	3270	6000	4160	2690	2670	1760	1270	464

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

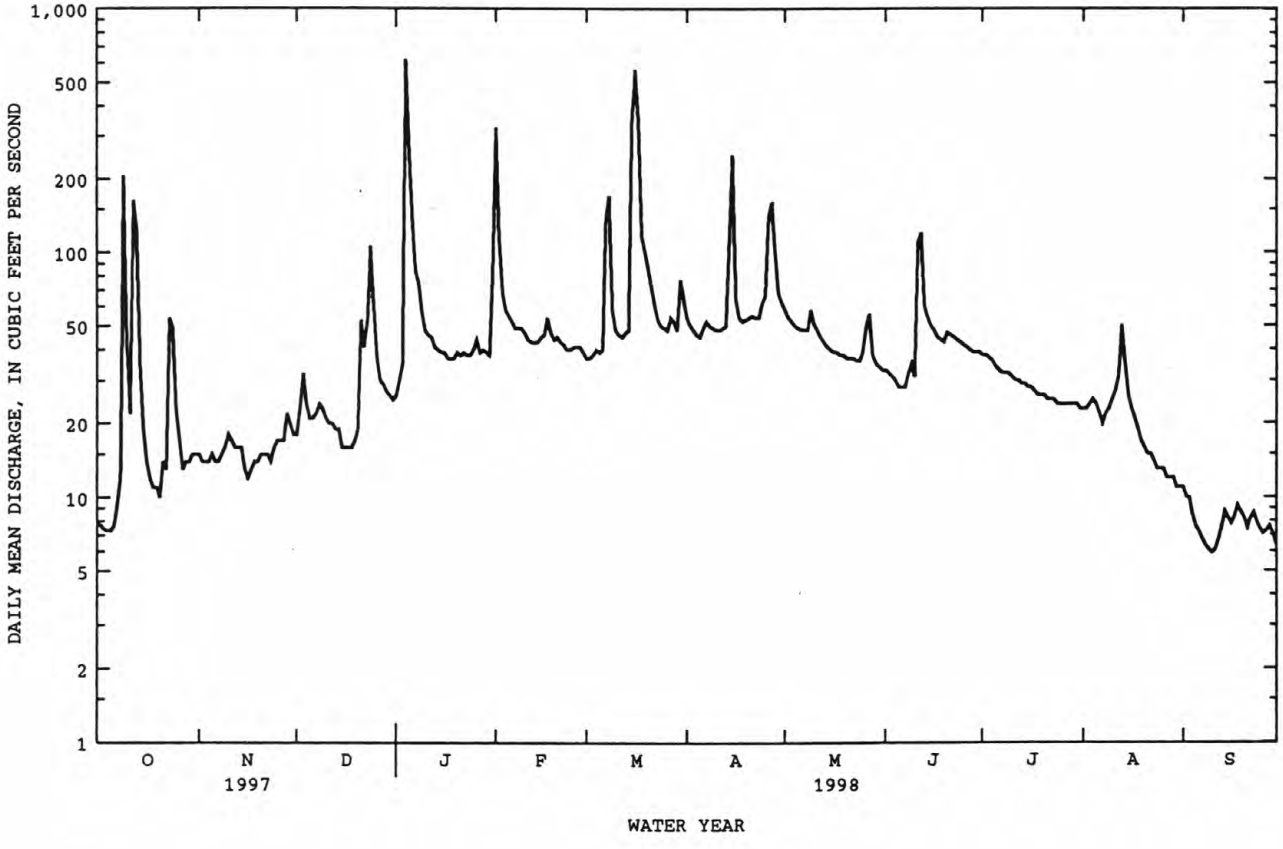
MEAN	20.8	20.4	29.3	31.0	31.9	40.8	43.0	49.5	48.4	26.6	17.9	15.1
MAX	31.4	37.4	77.1	73.3	62.2	97.6	69.9	124	90.8	57.5	38.7	31.9
(WY)	1998	1993	1993	1998	1993	1998	1998	1993	1995	1992	1992	1992
MIN	11.8	14.0	13.2	12.0	15.3	14.7	13.3	8.24	11.8	6.56	4.91	4.11
(WY)	1997	1997	1997	1997	1995	1997	1996	1996	1994	1996	1994	1994

e Estimated

07327447 LITTLE WASHITA RIVER NEAR CEMENT, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	8746.9		15839.0			
ANNUAL MEAN	24.0		43.4		29.8	
HIGHEST ANNUAL MEAN					51.6	1993
LOWEST ANNUAL MEAN					15.8	1996
HIGHEST DAILY MEAN	433	Jul 11	619	Jan 4	802	May 9 1993
LOWEST DAILY MEAN	7.0	Sep 21	5.9	Sep 10	2.1	Aug 23 1996
ANNUAL SEVEN-DAY MINIMUM	7.5	Sep 30	6.4	Sep 6	2.9	Jul 2 1996
INSTANTANEOUS PEAK FLOW			[a]1220	Jan 4	1860	Jun 4 1995
INSTANTANEOUS PEAK STAGE			a13.48	Jan 4	16.59	Jun 4 1995
ANNUAL RUNOFF (AC-FT)	17350		31420		21560	
10 PERCENT EXCEEDS	38		61		54	
50 PERCENT EXCEEDS	16		36		19	
90 PERCENT EXCEEDS	8.9		10		8.2	

[a]May have been higher during estimated period.



07327483 BOGGY CREEK NEAR NINNEKAH, OK

LOCATION.--Lat 34°53'03", long 97°59'43", in SE ¼ SW ¼ sec.24, T.5 N., R.8 W., Grady County, Hydrologic Unit 11130302, on the right side of culvert, 7.5 mi north and 2.6 mi west of Rush Springs, 3.3 mi south and 4.1 mi west of Ninnekah and at mile 1.2.

DRAINAGE AREA.--1.66 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 1142.357 ft above sea level.

REMARKS.--No estimated daily discharge. Records poor. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	.17	.73	.65	4.2	.74	.83	1.3	.32	.10	.03	.03
2	.20	.65	1.2	.68	1.1	.76	.96	1.1	.35	.10	.03	.03
3	.19	.67	.90	1.0	1.0	.76	.96	1.0	.34	.09	.03	.03
4	.18	.69	.68	7.0	.96	.79	.96	.88	.34	.09	.03	.03
5	.18	.72	.66	3.5	.96	.65	1.0	.82	.35	.09	.04	.03
6	.19	.73	.65	1.6	.93	.60	1.0	.79	.35	.09	.04	.03
7	.22	.81	.68	2.1	.93	2.8	1.0	.74	.35	.08	.04	.03
8	.35	.27	.70	1.8	.96	.88	1.1	.68	.39	.08	.04	.03
9	2.5	.39	.65	1.4	.96	.83	.91	.83	.36	.08	.03	.02
10	.39	.62	.64	1.3	.89	.70	.90	.78	.34	.08	.03	.03
11	1.0	1.2	.64	1.3	.89	.65	.84	.72	.98	.08	.03	.03
12	4.5	1.2	.64	1.3	.89	.74	.84	.67	.36	.07	.04	.02
13	.71	1.4	.64	1.3	.90	.67	.80	.61	.29	.07	.04	.05
14	.55	.80	.64	1.2	.90	.64	.89	.61	.25	.07	.04	.05
15	.35	.65	.55	1.2	.93	5.2	.97	.60	.24	.07	.04	.04
16	.31	.62	.52	1.1	.96	7.0	.83	.53	.22	.06	.04	.04
17	.31	.68	.55	1.0	1.5	2.6	.81	.50	.21	.06	.03	.04
18	.24	1.1	.62	1.0	.93	1.8	.78	.48	.20	.06	.03	.04
19	.23	.68	.39	.96	1.0	1.7	.76	.46	.19	.06	.03	.04
20	.23	1.0	.55	1.0	.93	1.6	.98	.44	.17	.05	.03	.03
21	.50	1.0	2.1	.93	.93	1.5	1.1	.43	.16	.05	.03	.03
22	.60	.99	1.1	.93	.90	1.4	.85	.43	.16	.05	.03	.03
23	1.5	.71	3.0	.93	.90	1.3	.76	.43	.15	.05	.03	.04
24	.18	.93	2.0	.93	.90	1.2	.73	.42	.15	.04	.03	.04
25	.15	.83	.78	.90	.83	1.1	.64	.38	.14	.04	.03	.04
26	.15	.83	.59	.93	.79	1.0	6.4	.50	.14	.04	.03	.03
27	.14	.81	.52	.96	.74	.96	3.2	.48	.14	.04	.03	.03
28	.14	.92	.55	.96	.74	.86	1.3	.41	.13	.04	.03	.03
29	.13	.79	.55	.90	---	.86	1.4	.42	.12	.04	.03	.03
30	.13	.79	.58	.85	---	.83	1.3	.35	.11	.03	.03	.03
31	.37	---	.58	3.1	---	.83	---	.33	---	.03	.03	---
TOTAL	17.01	23.65	25.58	44.71	29.45	43.95	35.80	19.12	8.00	1.98	1.02	1.00
MEAN	.55	.79	.83	1.44	1.05	1.42	1.19	.62	.27	.064	.033	.033
MAX	4.5	1.4	3.0	7.0	4.2	7.0	6.4	1.3	.98	.10	.04	.05
MIN	.13	.17	.39	.65	.74	.60	.64	.33	.11	.03	.03	.02
AC-FT	34	47	51	89	58	87	71	38	16	3.9	2.0	2.0

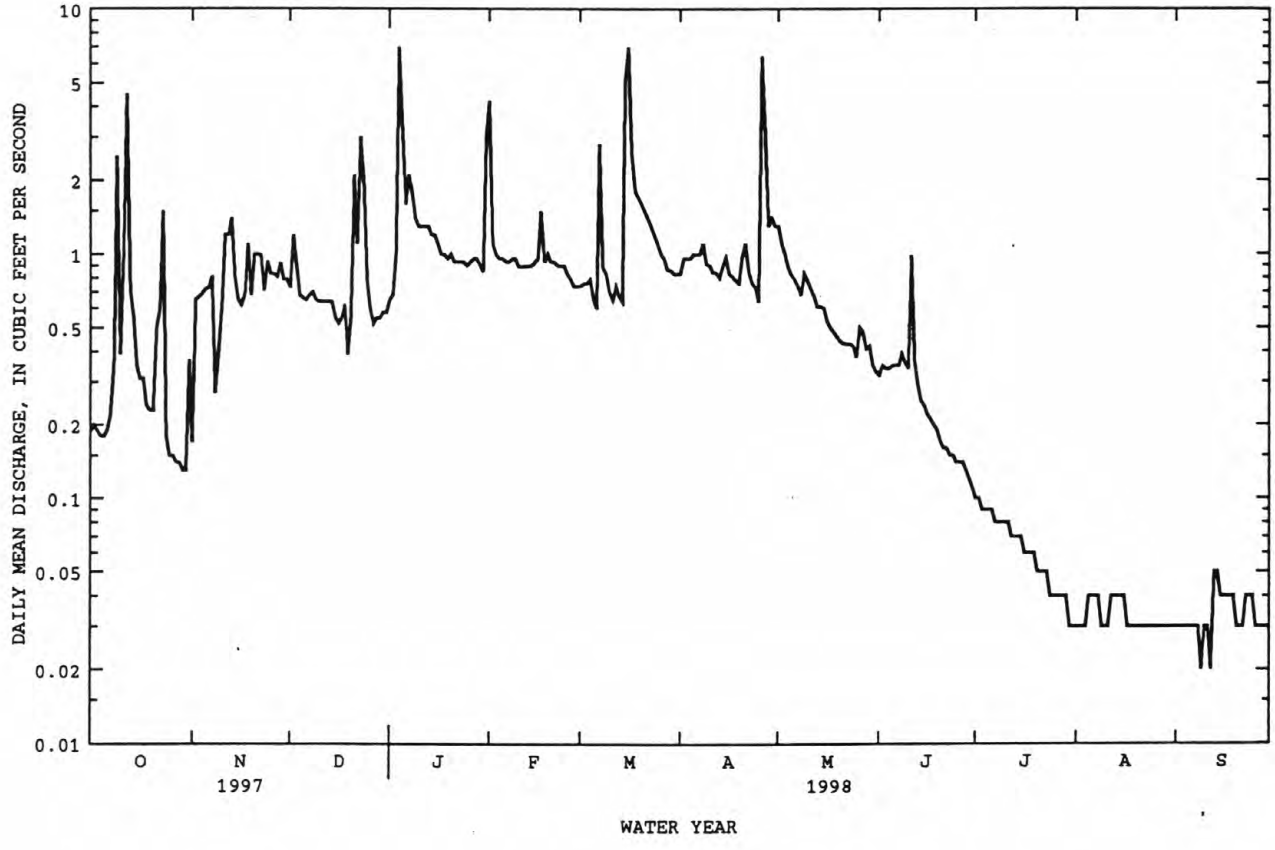
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1998, BY WATER YEAR (WY)

MEAN	.80	.87	.91	1.13	1.16	1.22	1.06	.86	.75	.30	.30	.43
MAX	1.06	.95	.99	1.44	1.28	1.42	1.56	1.79	1.54	.76	.63	1.01
(WY)	1997	1997	1997	1998	1997	1998	1997	1997	1997	1997	1996	1996
MIN	.55	.79	.83	.81	1.05	1.02	.41	.18	.27	.064	.033	.033
(WY)	1998	1998	1998	1997	1998	1997	1996	1996	1998	1998	1998	1998

07327483 BOGGY CREEK NEAR NINNEKAH, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1996 - 1998	
ANNUAL TOTAL	345.14		251.27			
ANNUAL MEAN	.95		.69		.85	
HIGHEST ANNUAL MEAN					1.02	1997
LOWEST ANNUAL MEAN					.69	1998
HIGHEST DAILY MEAN	17	May 30	7.0	Jan 4	17	May 30 1997
LOWEST DAILY MEAN	.11	Sep 1	.02	Sep 9, 12	.02	Sep 9, 12 1998
ANNUAL SEVEN-DAY MINIMUM	.12	Aug 27	.03	Sep 6	.03	Sep 6 1998
INSTANTANEOUS PEAK FLOW			28	Apr 26	[a]64	May 30 1997
INSTANTANEOUS PEAK STAGE			10.66	Apr 26	11.94	May 30 1997
ANNUAL RUNOFF (AC-FT)	685		498		617	
10 PERCENT EXCEEDS	1.4		1.2		1.3	
50 PERCENT EXCEEDS	.82		.62		.67	
90 PERCENT EXCEEDS	.18		.03		.06	

[a]From rating based on step-backwater analysis.



07327484 SCS POND NO. 11 NEAR NINNEKAH, OK

LOCATION.--Lat 34°53'41", long 98°59'48", in NW ¼ SW ¼ sec.24, T.5 N., R.8 W., Grady County, Hydrologic Unit 11130302, near west end of pond, on Boggy Creek, 4.5 mi southwest of Ninnekah.

DRAINAGE AREA.--2.07 mi^2 (Agricultural Research Service).

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

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

REMARKS.--Reservoir is formed by earthen dam. Emergency spillway elevation is 1,163.3 ft, contents 492 acre-ft; principal spillway elevation is 1,147.6 ft, contents 80 acre-ft; drain value elevation 1,136.4 ft. Figures herein represent total contents. Reservoir is used for flood control.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 128 acre-ft, May 30, 1997, elevation 1,151.16 ft; minimum daily, 69 acre-ft, Sept. 12, 1998.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 110 acre-ft, Jan. 4, elevation 1,150.03 ft; minimum daily, 69 acre-ft, Sept. 12.

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

1147	74.0	1150	110.0
1148	84.0	1152	141.0
1149	97.0	1154	179.0

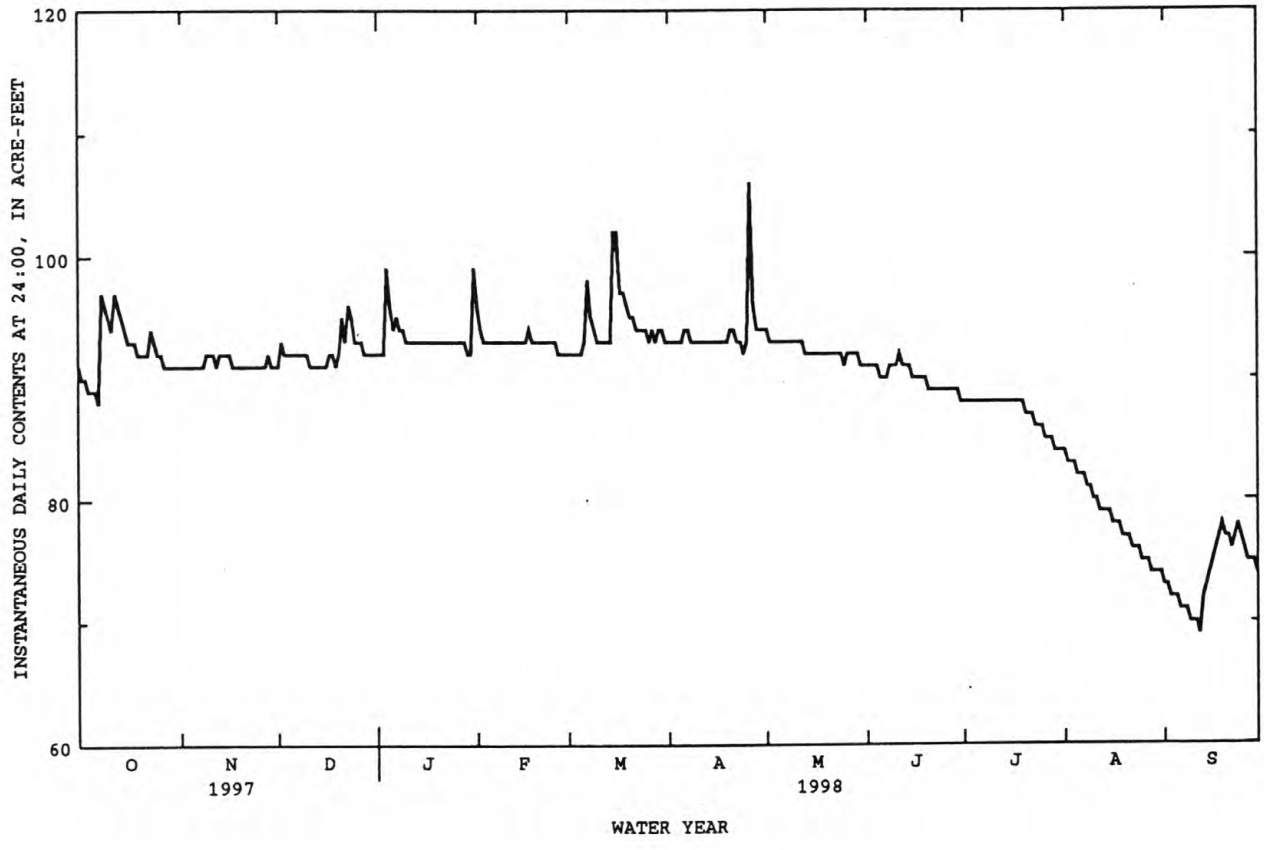
RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e91	91	91	92	96	92	93	94	91	88	84	e73
2	e90	91	93	92	94	e92	93	93	91	88	83	e73
3	e90	91	92	92	93	92	93	93	91	88	83	e72
4	e89	91	92	99	93	92	93	93	91	88	e83	e72
5	e89	91	92	96	93	92	93	93	90	88	e82	e72
6	e89	91	92	94	93	93	94	93	90	88	e82	e71
7	e88	91	92	95	93	98	94	93	90	88	e82	e71
8	e97	91	92	94	93	95	93	93	91	88	e81	e71
9	e96	92	92	94	93	94	93	93	91	88	e81	e70
10	e95	92	92	93	93	93	93	93	91	88	e80	e70
11	e94	92	91	93	93	93	93	93	92	88	e80	e70
12	e97	91	91	93	93	93	93	93	91	88	e79	e69
13	e96	92	91	93	93	93	93	92	91	88	e79	e72
14	e95	92	91	93	93	93	93	92	91	88	e79	e73
15	e94	92	91	93	93	102	93	92	90	88	e79	e74
16	e93	92	91	93	93	102	93	92	90	88	e78	e75
17	e93	91	92	93	94	97	93	92	90	88	e78	e76
18	e93	91	92	93	93	97	93	92	90	88	e78	e77
19	e92	91	91	93	93	96	93	92	90	88	e77	e78
20	e92	91	92	93	93	95	94	92	89	87	e77	e77
21	e92	91	95	93	93	95	94	92	89	87	e77	e77
22	92	91	93	93	93	94	93	92	89	87	e76	e76
23	94	91	96	93	93	94	93	92	89	86	e76	e77
24	93	91	95	93	93	94	92	92	89	86	e76	e78
25	92	91	93	93	93	94	93	91	89	86	e75	e77
26	92	91	93	93	92	93	106	92	89	85	e75	e76
27	91	91	93	93	92	94	96	92	89	85	e75	e75
28	91	92	92	93	92	93	94	92	89	85	e74	e75
29	91	91	92	92	---	94	94	92	89	84	e74	e75
30	91	91	92	92	---	94	94	91	88	84	e74	e74
31	91	---	92	99	---	93	---	91	---	84	e74	---
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	97	92	96	99	96	102	106	94	92	88	84	78
MIN	88	91	91	92	92	92	92	91	88	84	74	69
(‡)	1148.55	1148.56	1148.62	1149.14	1148.64	1148.72	1148.75	1148.53	1148.34	1147.97	--	--
(‡‡)	+1	0	+1	+7	-7	+1	+1	-3	-3	-4	-10	0

CAL YR 1997 MAX 108 MIN 88 (‡‡) 0
WTR YR 1998 MAX 106 MIN 69 (‡‡) -16

e Estimated
(‡) ELEVATION, IN FEET, AT END OF MONTH
(‡‡) CHANGE IN CONTENTS, IN ACRE-FEET

07327484 SCS POND NO. 11 NEAR NINNEKAH, OK--Continued



07327550 LITTLE WASHITA RIVER EAST OF NINNEKAH, OK

LOCATION.--Lat 34°57'48", long 97°53'57", in NW ¼ SW ¼ sec.25, T.6 N., R.7 W., Grady County, Hydrologic Unit 11130302, on downstream right bank at bridge on county road 1.5 mi northeast of Ninnekah.

DRAINAGE AREA.--236 mi^2.

PERIOD OF RECORD.--February 1992 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,041.16 ft.

REMARKS.--Records poor. Flow regulated by numerous flood retarding structures.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	52	58	e100	896	141	140	133	46	e31	e12	e7.3
2	27	49	63	e95	340	139	129	121	46	e30	e12	e7.2
3	25	47	90	100	209	111	122	114	43	e29	e12	e6.9
4	23	50	71	2350	189	97	118	109	38	e28	e11	e6.8
5	22	51	62	794	161	103	118	94	39	e27	e11	e6.7
6	22	49	59	401	150	103	119	90	39	e26	e11	e6.6
7	26	50	61	319	e130	429	144	89	38	e25	e10	e6.7
8	30	51	69	268	e120	310	124	84	47	e24	e10	e6.6
9	304	53	67	216	112	162	117	102	46	e24	e9.8	e6.6
10	152	63	61	208	e110	138	115	108	60	e23	10	e6.5
11	91	59	59	196	e105	127	113	91	e200	e23	e40	e6.5
12	194	57	58	192	e115	122	111	83	220	22	e110	e6.4
13	353	63	57	187	e120	123	109	79	154	e21	130	e8.0
14	125	68	57	185	e125	123	250	77	176	e21	e58	e48
15	90	63	57	166	135	482	340	76	125	e20	e25	e25
16	60	57	57	155	145	2160	164	71	100	e20	e28	e22
17	56	57	56	155	154	1180	120	69	e80	e19	e24	e19
18	53	57	57	156	160	776	110	69	e70	e18	e22	e16
19	49	57	57	150	160	760	110	66	e60	e17	e19	e13
20	46	57	59	150	159	395	112	65	e56	e17	e17	e10
21	55	57	154	149	158	252	135	61	e50	e16	e15	e9.0
22	59	57	137	151	157	217	115	61	e48	e16	e12	e7.0
23	111	56	183	151	156	192	109	61	e45	e16	e11	e7.8
24	145	56	356	148	154	165	106	61	e43	e15	e10	e7.6
25	86	62	246	141	154	157	101	60	e40	e15	e9.6	e7.5
26	68	61	175	143	153	148	660	75	e39	e14	e9.4	e7.4
27	58	59	e195	143	151	156	893	70	e37	e14	e8.6	e7.6
28	57	61	e185	134	137	150	234	61	e36	e13	e8.2	e7.5
29	54	63	e155	139	---	139	152	56	e35	e13	e8.0	e7.4
30	55	59	e130	139	---	166	133	52	e34	e13	e7.5	e7.2
31	54	---	e105	207	---	184	---	48	---	e12	e7.4	---
TOTAL	2579	1701	3256	8188	5015	9907	5423	2456	2090	622	688.5	317.8
MEAN	83.2	56.7	105	264	179	320	181	79.2	69.7	20.1	22.2	10.6
MAX	353	68	356	2350	896	2160	893	133	220	31	130	48
MIN	22	47	56	95	105	97	101	48	34	12	7.4	6.4
AC-FT	5120	3370	6460	16240	9950	19650	10760	4870	4150	1230	1370	630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

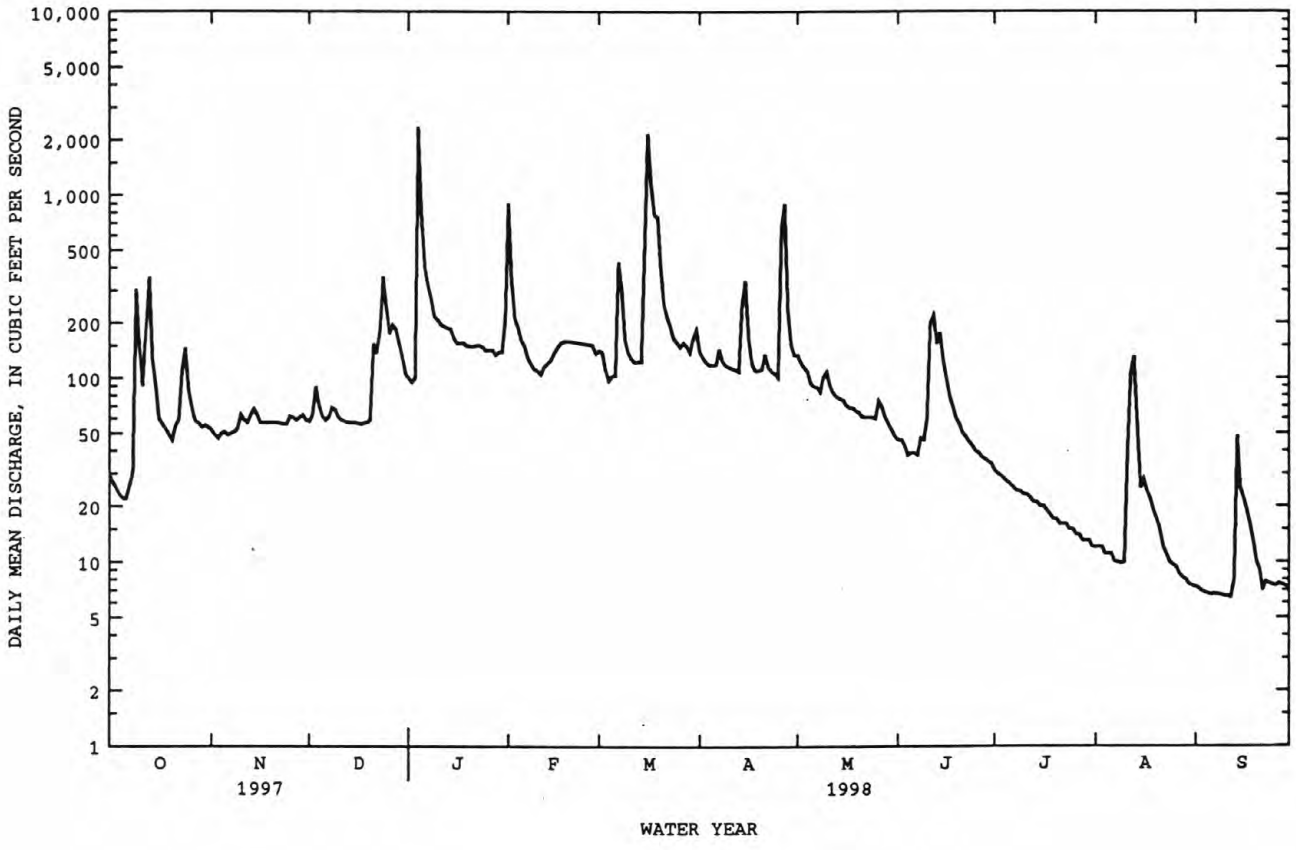
MEAN	49.4	66.2	84.5	98.3	102	119	120	161	145	58.1	44.7	44.8
MAX	83.2	105	185	264	196	320	181	325	352	126	92.7	85.4
(WY)	1998	1993	1993	1998	1993	1998	1998	1993	1995	1992	1992	1992
MIN	30.0	46.6	48.7	30.9	43.8	50.5	43.9	18.1	36.6	20.1	9.63	10.6
(WY)	1994	1994	1996	1997	1996	1997	1996	1996	1994	1998	1994	1998

e Estimated

07327550 LITTLE WASHITA RIVER EAST OF NINNEKAH, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	31645.0		42243.3			
ANNUAL MEAN	86.7		116		88.9	
HIGHEST ANNUAL MEAN					137	1993
LOWEST ANNUAL MEAN					45.5	1996
HIGHEST DAILY MEAN	3570	May 30	2350	Jan 4	3570	May 30 1997
LOWEST DAILY MEAN	8.6	Sep 21	6.4	Sep 12	3.8	Jul 7 1996
ANNUAL SEVEN-DAY MINIMUM	11	Sep 15	6.6	Sep 6	4.6	Jul 1 1996
INSTANTANEOUS PEAK FLOW			4590	Jan 4	[a]9920	May 9 1993
INSTANTANEOUS PEAK STAGE			16.32	Jan 4	[b]20.70	May 9 1993
ANNUAL RUNOFF (AC-FT)	62770		83790		64390	
10 PERCENT EXCEEDS	153		192		160	
50 PERCENT EXCEEDS	54		63		53	
90 PERCENT EXCEEDS	22		11		19	

[a]From rating extended above 1,500 ft^3/s.
[b]From high-water mark on crest-stage gage.



07328100 WASHITA RIVER AT ALEX, OK

LOCATION.--Lat 34°55'33", long 97°46'25", in NW 1/4 sec.7, T.5 N., R.5 W., Grady County, Hydrologic Unit 11130303, near right bank on downstream side of county road bridge, 1.0 mi north of Alex, 3.8 mi downstream from Winter Creek, and at mile 226.5.

DRAINAGE AREA.--4,787 mi^2.

PERIOD OF RECORD.--October 1964 to September 1986, October 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 995.00 ft above sea level. Prior to Oct. 1, 1988, datum 5.00 ft higher.

REMARKS.--Records poor. Some regulation since March 1959 by Fort Cobb Reservoir (station 07325900), since February 1961 by Foss Reservoir (07324300), and by numerous flood-retarding structures. U.S. Army Corps of Engineers' satellite telementer at station.

COOPERATION.--Records furnished by Agricultural Research Service prior to January 1978.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e900	e700	e680	1600	6030	1140	2660	1610	1010	e320	137	114
2	e850	e660	e940	1550	4160	1150	2360	1620	957	e310	137	113
3	e800	e640	e1000	1530	3610	1210	2180	1570	917	e350	136	106
4	e790	619	950	6340	3350	1230	2190	1550	884	e375	134	105
5	e820	592	e890	6370	2950	1190	2490	1510	e800	e295	152	102
6	e850	584	e800	4080	2310	1180	2600	1390	e660	e270	198	95
7	e1200	591	e760	3340	2010	1490	2610	1230	e630	e267	197	96
8	e1190	601	e720	3220	1820	1900	2520	1190	611	e260	190	91
9	e1090	601	e690	2740	1690	1500	2480	1210	576	e257	184	88
10	e1050	624	e700	2340	1580	1520	2400	1270	581	e250	191	92
11	e1100	658	e705	2130	1400	1590	2440	1250	1230	e240	186	89
12	e1200	685	e700	1870	1250	1460	2420	1220	1540	e235	214	88
13	e1300	702	e710	1640	1180	1350	2280	1220	1080	e230	241	151
14	e1600	735	e690	1530	1160	1320	2510	1240	823	225	229	158
15	e1520	740	e690	1480	1140	1610	3440	1220	676	223	214	132
16	1480	e720	e680	1440	1100	8390	2570	1210	593	214	207	125
17	e1300	e700	e680	1430	1120	12000	2310	1180	539	209	206	127
18	e1200	e690	e710	1390	1130	e11900	e2100	1140	505	203	191	136
19	e1180	e690	e710	1360	1130	11800	e2000	1100	478	196	180	135
20	e1160	e660	e710	1350	1240	12000	e1900	1090	457	191	166	131
21	e1140	e645	e750	1340	1250	11700	e1800	1060	435	185	153	120
22	1400	e640	e1000	1350	1240	9960	1690	1040	432	181	153	127
23	e1430	e620	e1500	1360	1260	7480	1590	1030	e410	181	141	137
24	e1460	e615	e3000	1360	1260	5470	1600	1040	e390	175	136	140
25	e1400	e610	2600	1380	1270	4770	1590	975	e380	169	135	144
26	e1300	e605	2770	1340	1230	4320	1640	1100	e370	164	131	136
27	e1180	e600	2810	1370	1190	3900	3900	1150	e360	159	124	127
28	e1080	e690	2430	1420	1160	3550	2270	1060	e350	151	118	123
29	e900	e710	2070	1370	---	3390	1780	1000	e340	147	116	116
30	e840	e690	1750	1330	---	3230	1610	1090	e330	143	111	113
31	e760	---	1580	1420	---	3130	---	1100	---	140	120	---
TOTAL	35470	19617	37375	63770	51220	137830	67930	37665	19344	6915	5128	3557
MEAN	1144	654	1206	2057	1829	4446	2264	1215	645	223	165	119
MAX	1600	740	3000	6370	6030	12000	3900	1620	1540	375	241	158
MIN	760	584	680	1330	1100	1140	1590	975	330	140	111	88
AC-FT	70350	38910	74130	126500	101600	273400	134700	74710	38370	13720	10170	7060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1998, BY WATER YEAR (WY)

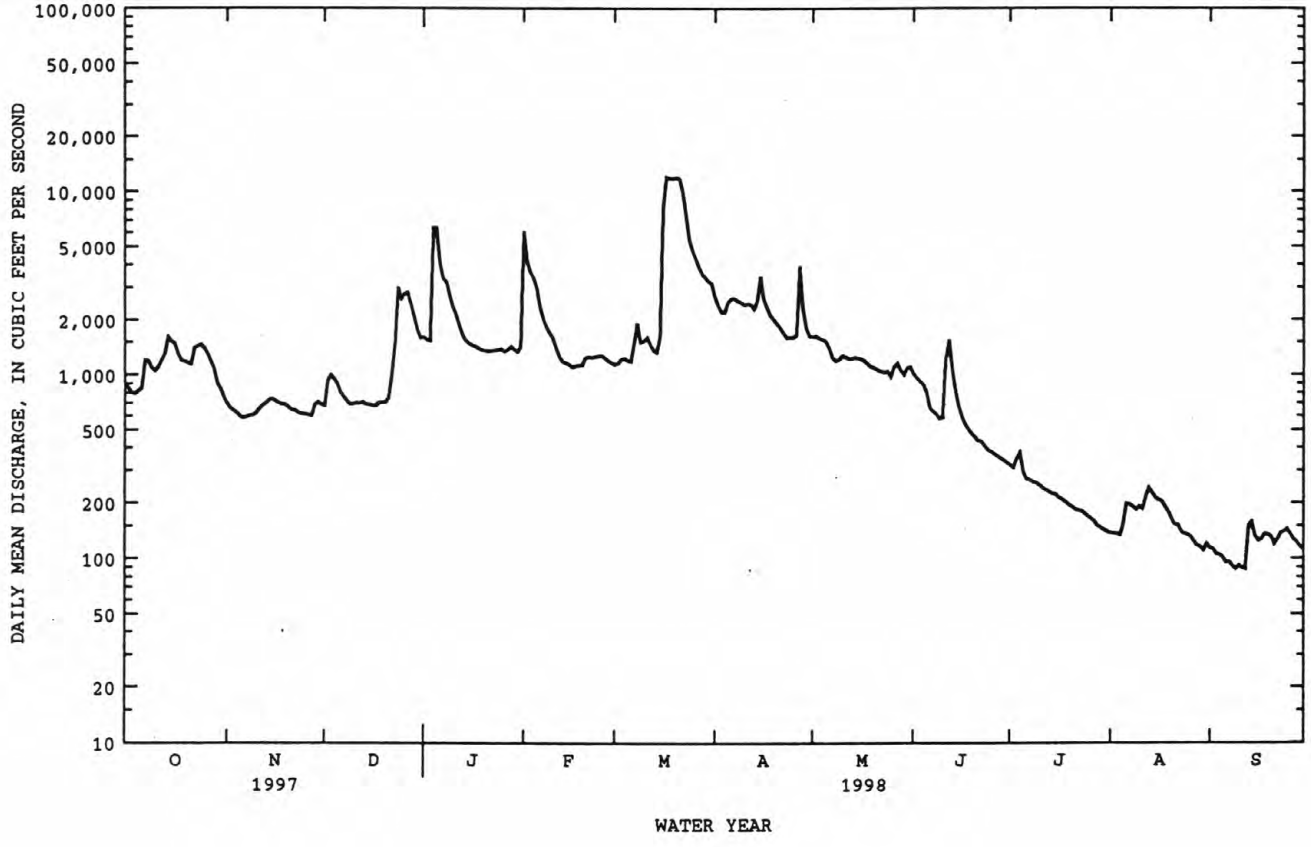
MEAN	575	475	465	426	463	705	745	1354	1482	514	422	569
MAX	4441	1672	2615	2057	1829	4446	3598	6916	6865	1678	2325	3345
(WY)	1984	1993	1993	1998	1998	1998	1997	1993	1995	1975	1995	1996
MIN	61.1	52.9	64.5	77.3	86.1	73.8	23.9	22.9	96.9	13.9	3.88	40.0
(WY)	1979	1971	1968	1971	1967	1971	1971	1971	1967	1970	1972	1972

e Estimated

07328100 WASHITA RIVER AT ALEX, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1965 - 1998	
ANNUAL TOTAL	595359		485821			
ANNUAL MEAN	1631		1331		682	
HIGHEST ANNUAL MEAN					1902	1993
LOWEST ANNUAL MEAN					120	1971
HIGHEST DAILY MEAN	7150	May 31	12000	Mar 17	22500	Oct 21 1983
LOWEST DAILY MEAN	420	Aug 2	88	Sep 9	.00	[a]Aug 13 1970
ANNUAL SEVEN-DAY MINIMUM	490	Jul 29	91	Sep 6	.01	Aug 12 1970
INSTANTANEOUS PEAK FLOW			12800	Mar 17	25000	Jun 8 1985
INSTANTANEOUS PEAK STAGE			10.78	Mar 17	[b]28.70	Oct 21 1983
ANNUAL RUNOFF (AC-FT)	1181000		963600		494100	
10 PERCENT EXCEEDS	3370		2580		1610	
50 PERCENT EXCEEDS	1110		1030		300	
90 PERCENT EXCEEDS	660		137		72	

[a]No flow Aug. 13, 18, 1970, Aug. 30 to Sept. 1, 1971.
[b]Present datum.



07328180 NORTH CRINER CREEK NEAR CRINER, OK

LOCATION.--Lat 34°58'17", long 97°35'04", in SE ¼ SE ¼ sec.23, T.6 N., R.4 W., McClain County, Hydrologic Unit 11130303, near left bank on downstream side of county road bridge, 1.2 mi west of Criner, and at mile .83.

DRAINAGE AREA.--7.33 mi^2

PERIOD OF RECORD.--October 1989 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1023.66 ft above sea level.

REMARKS.--Records poor. U.S. Geological Survey's satellite telemeter at station. Flow partially regulated by retention ponds 1.5 mi northwest of gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.30	e1.1	1.1	1.1	24	7.0	5.0	4.7	2.1	e.33	e.17	e.24
2	e.25	e1.0	1.3	1.3	15	7.2	4.7	4.2	1.8	e.31	e.17	e.22
3	e.22	e.98	1.7	1.6	12	6.7	4.4	3.6	1.7	e.30	e.16	e.21
4	e.20	e.96	1.4	65	12	6.5	4.1	3.5	1.5	e.29	e.16	e.18
5	e.18	1.1	1.4	33	11	6.4	4.0	3.4	1.6	e.28	e.16	e.16
6	e.17	1.1	1.2	8.8	10	5.9	4.3	3.0	1.7	e.27	e.16	e.14
7	e.15	e.95	.98	7.4	9.0	18	5.1	2.8	1.6	e.27	e.16	e.13
8	e.14	e.89	1.4	7.8	e8.2	20	4.7	2.8	1.5	e.26	e.16	e.12
9	e.14	1.1	1.5	4.4	e7.5	15	4.2	3.1	1.6	e.25	e.16	e.11
10	.13	1.7	1.5	3.4	e7.2	12	4.0	3.0	1.8	e.25	.16	e.10
11	.26	1.6	1.3	3.8	e7.0	11	4.1	2.8	2.7	e.24	e1.0	.40
12	2.9	1.6	1.1	4.0	6.5	10	4.2	2.5	2.3	e.24	e1.7	2.0
13	3.9	1.7	.93	3.4	6.3	10	4.0	2.5	1.9	e.23	e1.0	10
14	2.0	1.8	.97	3.0	6.6	10	6.7	2.5	1.5	.22	e.70	6.4
15	1.3	1.6	.95	2.9	7.8	26	12	2.7	1.4	e.22	.62	4.8
16	.99	e1.6	.92	2.9	8.0	32	7.3	2.5	1.2	e.21	.51	4.1
17	.89	e1.5	.92	2.6	8.6	24	4.6	2.4	.93	e.20	.46	3.9
18	e.85	e1.5	.90	2.6	7.9	24	3.5	2.3	.72	e.20	.36	3.3
19	e.80	e1.5	1.3	2.6	7.2	24	3.3	2.2	.65	e.19	.27	3.3
20	e.76	e1.4	1.4	2.5	7.0	23	3.3	2.3	e.58	e.19	.80	2.8
21	1.0	e1.4	6.6	2.4	7.0	20	3.7	2.4	e.54	e.19	e1.4	2.4
22	e1.0	e1.4	4.0	2.4	6.8	12	3.2	2.4	e.52	e.18	e2.1	5.8
23	e2.6	e1.3	11	2.2	6.7	7.5	2.8	2.4	e.48	e.18	1.2	2.9
24	e3.4	e1.3	15	2.2	6.8	6.7	2.7	2.4	e.44	e.18	.98	2.7
25	e2.4	e1.3	7.8	2.3	7.0	6.1	2.5	2.4	e.42	e.18	.71	2.6
26	e1.8	e1.3	3.7	2.5	7.8	6.6	5.7	4.8	e.40	e.18	.39	2.5
27	e1.4	e1.2	2.5	2.6	7.4	6.6	15	3.4	e.38	e.17	.39	2.4
28	e1.3	e1.2	2.0	2.6	6.8	5.6	8.1	2.9	e.37	e.17	.84	2.0
29	e1.1	e1.2	1.8	2.6	---	5.5	6.6	2.5	e.35	e.17	.43	2.0
30	1.0	1.2	1.5	2.5	---	5.6	5.4	2.2	e.34	e.17	.27	2.1
31	e1.8	---	1.3	2.7	---	5.4	---	2.2	---	e.17	.25	---
TOTAL	35.33	39.48	81.37	191.1	245.1	386.3	153.2	88.8	35.02	6.89	18.00	70.01
MEAN	1.14	1.32	2.62	6.16	8.75	12.5	5.11	2.86	1.17	.22	.58	2.33
MAX	3.9	1.8	15	65	24	32	15	4.8	2.7	.33	2.1	10
MIN	.13	.89	.90	1.1	6.3	5.4	2.5	2.2	.34	.17	.16	.10
AC-FT	70	78	161	379	486	766	304	176	69	14	36	139

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1998, BY WATER YEAR (WY)

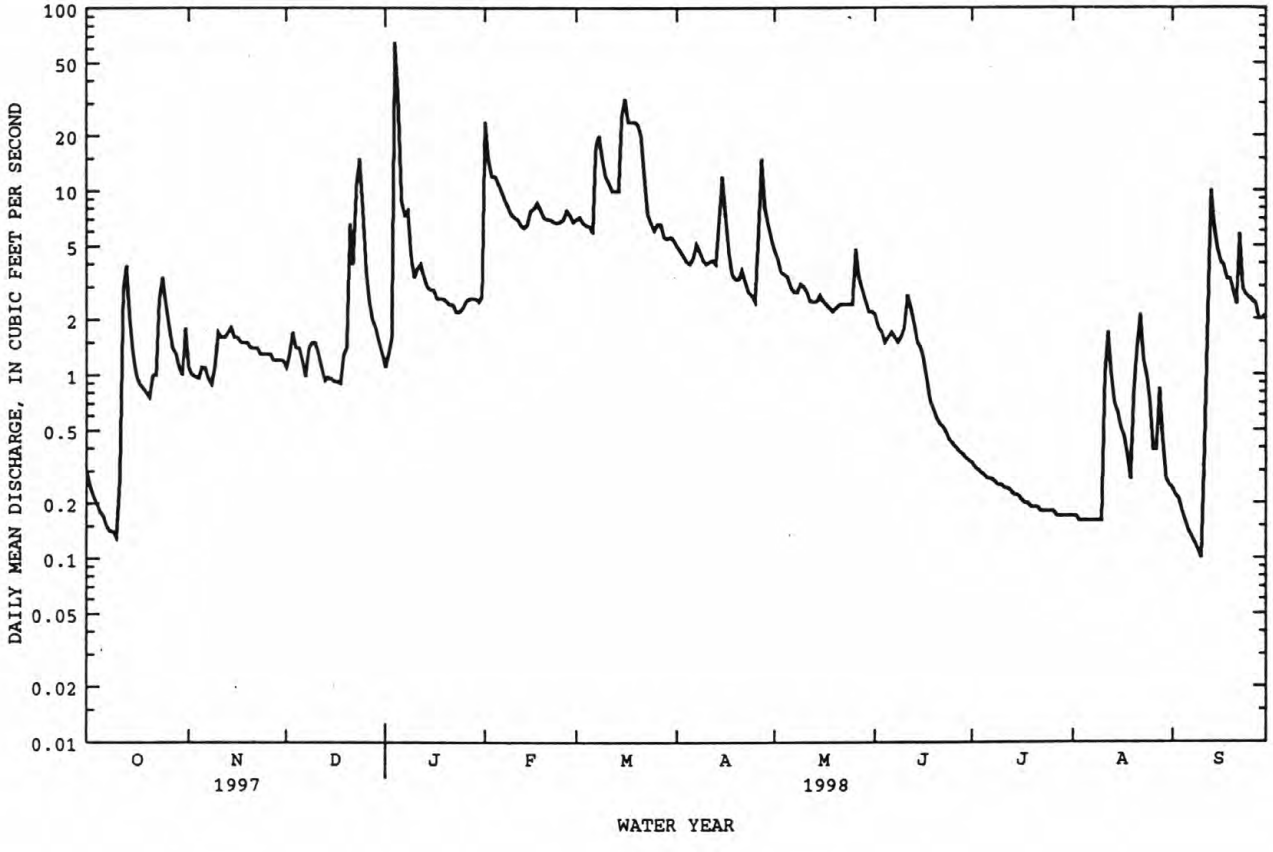
MEAN	1.39	2.44	3.20	2.89	3.69	4.80	5.37	7.73	3.88	1.92	2.40	1.86
MAX	3.68	7.23	9.59	7.37	9.67	12.5	14.7	23.1	9.93	5.98	11.1	5.91
(WY)	1997	1997	1993	1993	1993	1998	1990	1993	1992	1992	1996	1996
MIN	.44	.65	.33	.88	.85	.86	.97	.78	.42	.22	.40	.46
(WY)	1996	1991	1991	1994	1996	1991	1991	1996	1994	1998	1994	1997

e Estimated

07328180 NORTH CRINER CREEK NEAR CRINER, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1990 - 1998	
ANNUAL TOTAL	1081.11		1350.60			
ANNUAL MEAN	2.96		3.70		3.46	
HIGHEST ANNUAL MEAN					6.65	1993
LOWEST ANNUAL MEAN					1.08	1991
HIGHEST DAILY MEAN	30	Feb 20	65	Jan 4	151	May 2 1990
LOWEST DAILY MEAN	.13	Oct 10	.10	Sep 10	[a].00	Jun 18 1994
ANNUAL SEVEN-DAY MINIMUM	.16	Oct 4	.13	Sep 4	.00	Jun 21 1994
INSTANTANEOUS PEAK FLOW			103	Jan 4	605	May 23 1993
INSTANTANEOUS PEAK STAGE			6.11	Jan 4	11.24	May 23 1993
ANNUAL RUNOFF (AC-FT)	2140		2680		2510	
10 PERCENT EXCEEDS	5.7		7.8		7.2	
50 PERCENT EXCEEDS	2.1		2.0		1.4	
90 PERCENT EXCEEDS	.39		.20		.36	

[a]Several days in 1994 and Sept. 7, 1995.



07328500 WASHITA RIVER NEAR PAULS VALLEY, OK

LOCATION.--Lat 34°45'17", long 97°15'04", in NE ¼, SE ¼ sec.1. T.3 N., R.1 W., Garvin County, Hydrologic Unit 11130303, on downstream right bank near end of bridge on U.S. Highway 77, 2.0 mi northwest of Pauls Valley, 6.0 mi downstream from Owl Creek, 7.0 mi upstream from Washington Creek, and at mile 146.5.

DRAINAGE AREA.--5,330 mi^2.

PERIOD OF RECORD.--May to December 1899 (gage heights only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "at Pauls Valley, Indian Territory" in 1899.

GAGE.--Water-stage recorder. Datum of gage is 854.61 ft above sea level. During 1899, nonrecording gage at site 9 mi downstream, at different datum. Mar. 29, 1938, to Jan. 25, 1939, nonrecording gage and Jan. 26, 1939, to Oct. 6, 1948, water-stage recorder at site 0.7 mi upstream, at datum 1.53 ft higher. Mar. 11, 1975, to Jan. 26, 1981, water-stage recorder at site 200 ft upstream, and at same datum.

REMARKS.--Records fair. Some diversion for irrigation upstream from station. Some regulation since March 1959, by Fort Cobb Reservoir (station 07325900); since February 1961, by Foss Reservoir (station 07324300); and by numerous flood-retarding structures. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Stream is reported to have receded to no flow in 1882 and in 1897 (information provided by local resident).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	886	808	1450	4250	1310	3590	3270	1160	380	e159	e123
2	971	795	893	1370	7000	1360	3130	3030	1040	363	e157	e120
3	901	744	949	1310	4690	1320	2880	2750	970	336	e156	e118
4	832	751	946	6100	4250	1300	2670	2620	938	341	154	e112
5	e823	739	991	11900	3730	1320	2660	2380	885	333	180	e109
6	e912	761	952	7480	3120	1290	2880	2250	864	318	180	e106
7	e1430	765	896	5850	2550	1400	3280	2060	842	327	188	e102
8	e1290	729	825	6870	2200	2430	2950	1920	878	416	213	e100
9	e1130	705	722	4880	1970	2190	2820	1860	842	363	230	e99
10	1390	709	722	3840	1800	1830	2720	1920	797	319	203	e98
11	1270	739	736	3130	1610	1850	2650	1870	837	316	205	e97
12	1320	724	746	2730	1430	1790	2580	1760	1420	306	219	e96
13	1550	771	745	2370	1380	1700	2510	1650	1350	296	229	95
14	1780	775	751	2230	1400	1630	2500	1460	1130	290	246	197
15	1470	756	739	2100	1380	2030	3380	1440	960	287	262	239
16	1410	777	699	1950	1320	10300	3280	1410	843	279	251	200
17	1340	764	721	1870	1340	17200	2830	1410	765	274	230	172
18	1260	753	735	1760	1340	14300	2510	1420	710	264	221	164
19	1230	736	723	1650	1290	12900	2350	1360	660	259	205	161
20	1220	722	728	1560	1320	13800	2200	1300	620	248	e190	167
21	1250	689	1090	1540	1370	13800	2150	1280	588	236	e180	166
22	1290	671	1270	1520	1400	12900	2060	1240	559	222	e170	294
23	1260	679	1660	1460	1390	10500	1970	1210	539	216	e160	275
24	1470	663	3400	1510	1400	7430	1890	1140	515	213	e150	240
25	1650	654	3280	1480	1430	6380	1830	1100	480	220	e145	199
26	1380	661	2750	1510	1490	5860	3070	1190	460	209	e140	183
27	1290	654	2930	1530	1410	5240	13500	1290	439	200	e135	e165
28	1230	732	2650	1560	1320	4800	6780	1240	421	197	e130	e155
29	1100	743	2200	1500	---	4300	4720	1150	408	193	e128	e150
30	1030	735	1830	1440	---	4220	3760	1100	389	171	e127	e145
31	992	---	1550	1460	---	4090	---	1150	---	e161	e125	---
TOTAL	38491	21982	40637	88910	60580	172770	98100	52230	23309	8553	5668	4647
MEAN	1242	733	1311	2868	2164	5573	3270	1685	777	276	183	155
MAX	1780	886	3400	11900	7000	17200	13500	3270	1420	416	262	294
MIN	823	654	699	1310	1290	1290	1830	1100	389	161	125	95
AC-FT	76350	43600	80600	176400	120200	342700	194600	103600	46230	16960	11240	9220

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

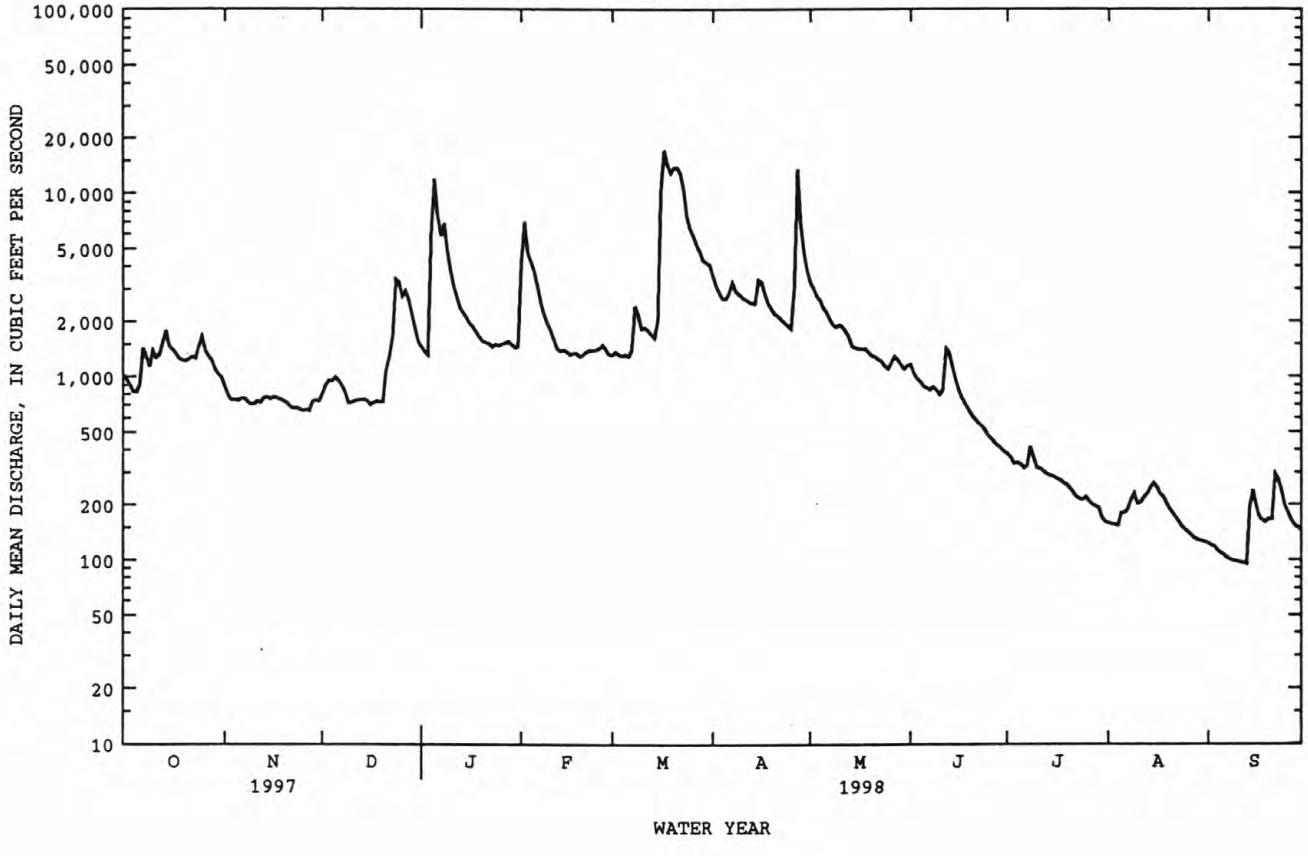
MEAN	919	746	644	623	722	1060	1053	1923	2026	677	488	674
MAX	7934	3608	3347	2868	3149	5573	4311	10690	9788	3174	2961	4086
(WY)	1987	1987	1992	1998	1987	1998	1997	1993	1995	1987	1995	1996
MIN	35.2	61.7	69.6	91.3	87.8	78.9	58.9	38.1	151	16.3	.28	23.6
(WY)	1964	1968	1968	1967	1967	1967	1982	1971	1966	1964	1972	1972

e Estimated

07328500 WASHITA RIVER NEAR PAULS VALLEY, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	752872		615877			
ANNUAL MEAN	2063		1687		[a]963	
HIGHEST ANNUAL MEAN					3661	1987
LOWEST ANNUAL MEAN					181	1967
HIGHEST DAILY MEAN	11300	May 31	17200	Mar 17	41700	May 29 1987
LOWEST DAILY MEAN	620	Sep 22	95	Sep 13	[b].00	Jul 21 1964
ANNUAL SEVEN-DAY MINIMUM	667	Nov 21	98	Sep 7	.00	Jul 21 1964
INSTANTANEOUS PEAK FLOW			18300	Apr 27	43600	May 29 1987
INSTANTANEOUS PEAK STAGE			15.39	Apr 27	[c]28.72	May 29 1987
ANNUAL RUNOFF (AC-FT)	1493000		1222000		697600	
10 PERCENT EXCEEDS	4680		3280		2190	
50 PERCENT EXCEEDS	1260		1140		415	
90 PERCENT EXCEEDS	739		171		88	

[a]Prior to regulation, water years 1938-50, 829 ft^3/s.
[b]No flow in 1956, 1964, 1966, 1967, 1970, 1972.
[c]Maximum gage height for period of record, 29.08 ft, May 11, 1950.



07329852 ROCK CREEK AT SULPHUR, OK

LOCATION.--Lat 34°29'43", long 96°59'18", in SE ¼ SE ¼ sec.4, T.1 S., R.3 E., Murray County, Hydrologic Unit 11130303, 80 ft west of campsite 69 in Rock Creek Campground, in the Chickasaw National Park at Sulphur, OK, and at mile 11.0.

DRAINAGE AREA.--44.1 mi^2.

PERIOD OF RECORD.--Oct. 1, 1989 to current year.

REVISED RECORDS.--WDR OK-94-2: 1993.

GAGE.--Water-stage recorder. Datum of gage is 896.96 ft above sea level.

REMARKS.--Records good. Flow regulated by numerous flood-retarding structures. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	7.3	9.6	30	125	37	86	41	13	10	8.3	6.5
2	8.1	8.2	16	30	102	35	64	37	14	10	8.1	6.5
3	8.1	7.1	24	30	75	35	52	34	13	9.7	8.1	6.5
4	8.1	7.0	16	1820	67	36	47	31	12	9.3	9.5	6.5
5	8.1	7.7	12	586	62	35	47	29	12	9.5	8.8	6.5
6	8.1	7.7	10	832	59	34	46	35	12	9.5	8.5	6.5
7	8.9	7.7	14	984	55	144	46	30	12	9.5	8.5	6.5
8	11	7.7	26	820	50	130	43	28	13	9.9	8.1	6.0
9	8.9	21	16	527	50	77	41	27	17	9.5	8.1	6.0
10	8.1	12	14	410	48	60	38	27	104	e9.5	8.0	5.9
11	8.1	9.5	14	294	45	52	38	29	122	e9.5	7.7	5.4
12	264	10	12	239	42	47	37	24	33	9.5	7.7	5.8
13	63	13	12	198	41	44	36	22	21	9.2	8.7	6.1
14	e20	12	12	173	40	44	35	21	17	8.5	8.0	6.5
15	e15	9.8	12	140	42	427	35	21	15	8.5	7.7	6.1
16	e13	9.0	11	95	45	1240	34	18	13	8.5	7.7	6.1
17	e12	10	11	81	74	556	32	17	13	8.5	7.6	6.2
18	e11	10	11	76	61	413	32	17	12	8.7	7.3	5.8
19	e10	9.0	11	70	60	427	32	16	11	8.6	7.3	5.8
20	e9.0	8.9	15	68	55	269	32	16	11	8.5	7.3	5.5
21	e15	8.5	150	89	49	195	34	16	11	8.5	7.3	5.0
22	e13	8.5	46	278	47	134	32	16	11	8.5	7.3	11
23	e50	8.5	218	122	45	101	31	16	10	8.5	7.1	4.9
24	e16	8.6	230	92	41	83	30	16	9.4	8.7	7.0	5.3
25	e13	9.5	77	81	42	73	28	15	10	8.9	6.8	5.4
26	e11	9.5	57	155	43	64	87	18	10	8.8	6.9	5.7
27	e10	9.0	50	109	42	64	305	18	9.7	8.9	7.1	5.5
28	e9.0	13	43	86	39	68	107	18	9.6	8.4	7.2	5.5
29	e8.0	10	39	74	---	60	64	16	10	8.5	6.9	5.4
30	7.3	9.9	35	68	---	191	48	14	10	8.5	6.9	5.1
31	7.3	---	31	68	---	141	---	13	---	8.1	6.8	---
TOTAL	670.2	289.6	1254.6	8725	1546	5316	1619	696	590.7	278.7	238.3	181.5
MEAN	21.6	9.65	40.5	281	55.2	171	54.0	22.5	19.7	8.99	7.69	6.05
MAX	264	21	230	1820	125	1240	305	41	122	10	9.5	11
MIN	7.3	7.0	9.6	30	39	34	28	13	9.4	8.1	6.8	4.9
AC-FT	1330	574	2490	17310	3070	10540	3210	1380	1170	553	473	360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1998, BY WATER YEAR (WY)

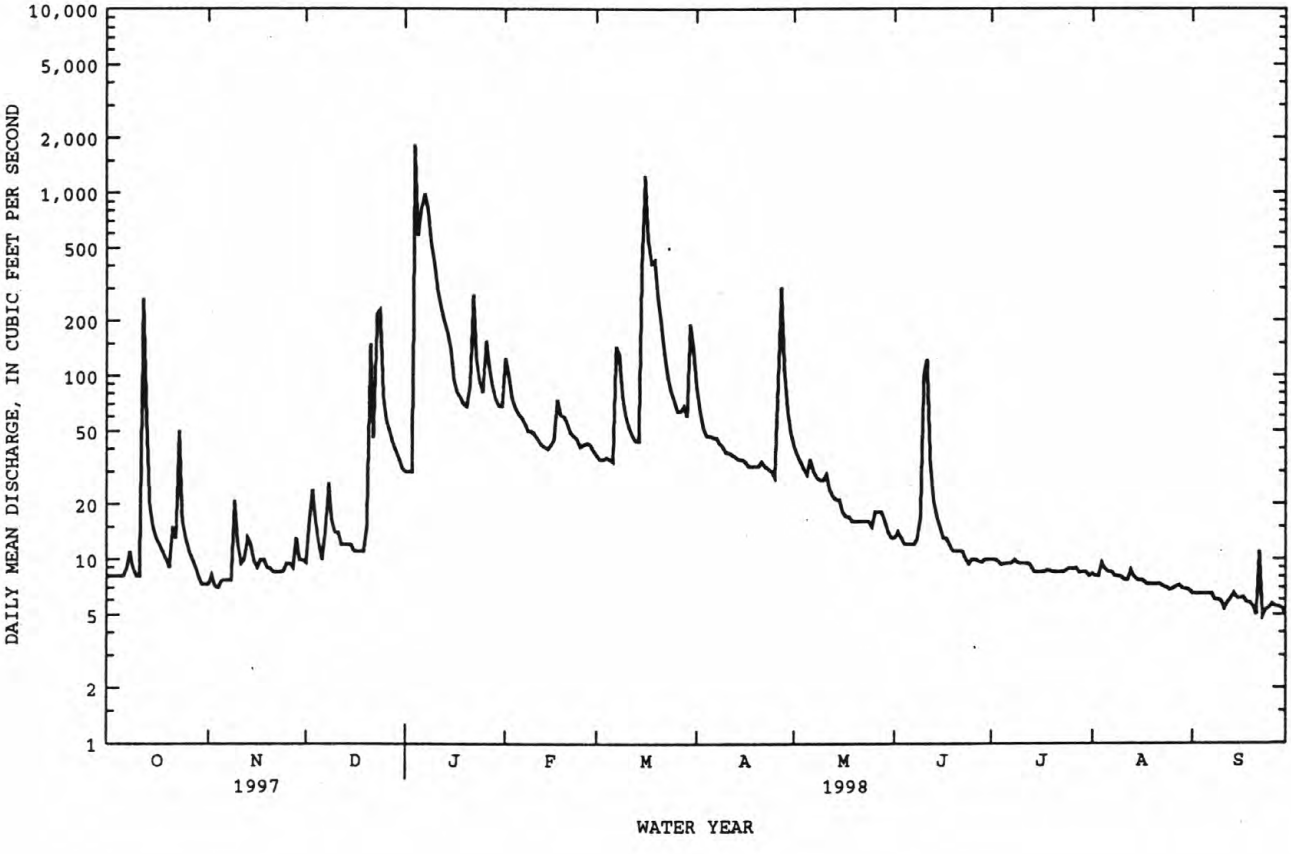
MEAN	30.6	53.6	68.4	72.2	59.4	124	108	122	80.6	30.2	22.3	59.3
MAX	77.3	170	210	281	151	261	390	406	211	121	53.1	213
(WY)	1997	1997	1992	1998	1993	1990	1990	1990	1991	1992	1996	1993
MIN	6.33	9.65	11.6	12.5	8.90	28.0	32.6	15.3	19.7	8.99	7.69	6.05
(WY)	1995	1998	1996	1996	1996	1991	1994	1996	1998	1998	1998	1998

e Estimated

07329852 ROCK CREEK AT SULPHUR, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1990 - 1998	
ANNUAL TOTAL	15276.6		21405.6			
ANNUAL MEAN	41.9		58.6		69.2	
HIGHEST ANNUAL MEAN					129	1990
LOWEST ANNUAL MEAN					25.5	1996
HIGHEST DAILY MEAN	1020	Feb 20	1820	Jan 4	3450	May 2 1990
LOWEST DAILY MEAN	7.0	Nov 4	4.9	Sep 23	4.2	Oct 5 1994
ANNUAL SEVEN-DAY MINIMUM	7.4	Oct 30	5.4	Sep 23	4.3	Sep 29 1994
INSTANTANEOUS PEAK FLOW			4840	Jan 4	[a]10400	Apr 26 1990
INSTANTANEOUS PEAK STAGE			14.50	Jan 4	19.65	Apr 26 1990
ANNUAL RUNOFF (AC-FT)	30300		42460		50130	
10 PERCENT EXCEEDS	69		105		120	
50 PERCENT EXCEEDS	23		14		25	
90 PERCENT EXCEEDS	9.0		7.1		9.4	

[a]From indirect measurement.



07330500 CADDO CREEK NEAR ARDMORE, OK

LOCATION.--Lat 34°14'33", long 97°06'28", in NW ¼ NW ¼ sec.4, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, on left bank on downstream side of bridge on Refinery Road, 3 mi north of Ardmore, 2 mi east of State Highway 77, and at mile 18.0.

DRAINAGE AREA.--298 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to September 1950, March 1996 to December 1997 (discontinued). Prior to September 1950, monthly discharge only for some periods, published in WSP 1681.

GAGE.--Water-stage recorder. Datum of gage is 715 ft, by barometer. Prior to September 30, 1950, nonrecording gage at datum 709.43 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records fair. U.S. Geological Survey's satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	e11	21	---	---	---	---	---	---	---	---	---
2	e11	e10	23	---	---	---	---	---	---	---	---	---
3	e10	e9.0	27	---	---	---	---	---	---	---	---	---
4	9.3	e7.0	34	---	---	---	---	---	---	---	---	---
5	e8.0	e8.0	31	---	---	---	---	---	---	---	---	---
6	7.4	e10	25	---	---	---	---	---	---	---	---	---
7	8.8	e9.0	27	---	---	---	---	---	---	---	---	---
8	19	e12	54	---	---	---	---	---	---	---	---	---
9	21	e20	83	---	---	---	---	---	---	---	---	---
10	18	49	59	---	---	---	---	---	---	---	---	---
11	25	44	49	---	---	---	---	---	---	---	---	---
12	33	37	43	---	---	---	---	---	---	---	---	---
13	30	37	39	---	---	---	---	---	---	---	---	---
14	27	42	37	---	---	---	---	---	---	---	---	---
15	21	45	36	---	---	---	---	---	---	---	---	---
16	17	35	34	---	---	---	---	---	---	---	---	---
17	14	28	33	---	---	---	---	---	---	---	---	---
18	10	26	26	---	---	---	---	---	---	---	---	---
19	9.6	24	21	---	---	---	---	---	---	---	---	---
20	11	23	35	---	---	---	---	---	---	---	---	---
21	18	22	580	---	---	---	---	---	---	---	---	---
22	19	20	468	---	---	---	---	---	---	---	---	---
23	23	19	414	---	---	---	---	---	---	---	---	---
24	25	18	1890	---	---	---	---	---	---	---	---	---
25	24	16	799	---	---	---	---	---	---	---	---	---
26	25	16	460	---	---	---	---	---	---	---	---	---
27	17	18	411	---	---	---	---	---	---	---	---	---
28	16	25	203	---	---	---	---	---	---	---	---	---
29	14	e37	151	---	---	---	---	---	---	---	---	---
30	14	26	122	---	---	---	---	---	---	---	---	---
31	13	---	104	---	---	---	---	---	---	---	---	---
TOTAL	522.4	703.0	6339	---	---	---	---	---	---	---	---	---
MEAN	16.9	23.4	204	---	---	---	---	---	---	---	---	---
MAX	33	49	1890	---	---	---	---	---	---	---	---	---
MIN	4.3	7.0	21	---	---	---	---	---	---	---	---	---
AC-FT	1040	1390	12570	---	---	---	---	---	---	---	---	---

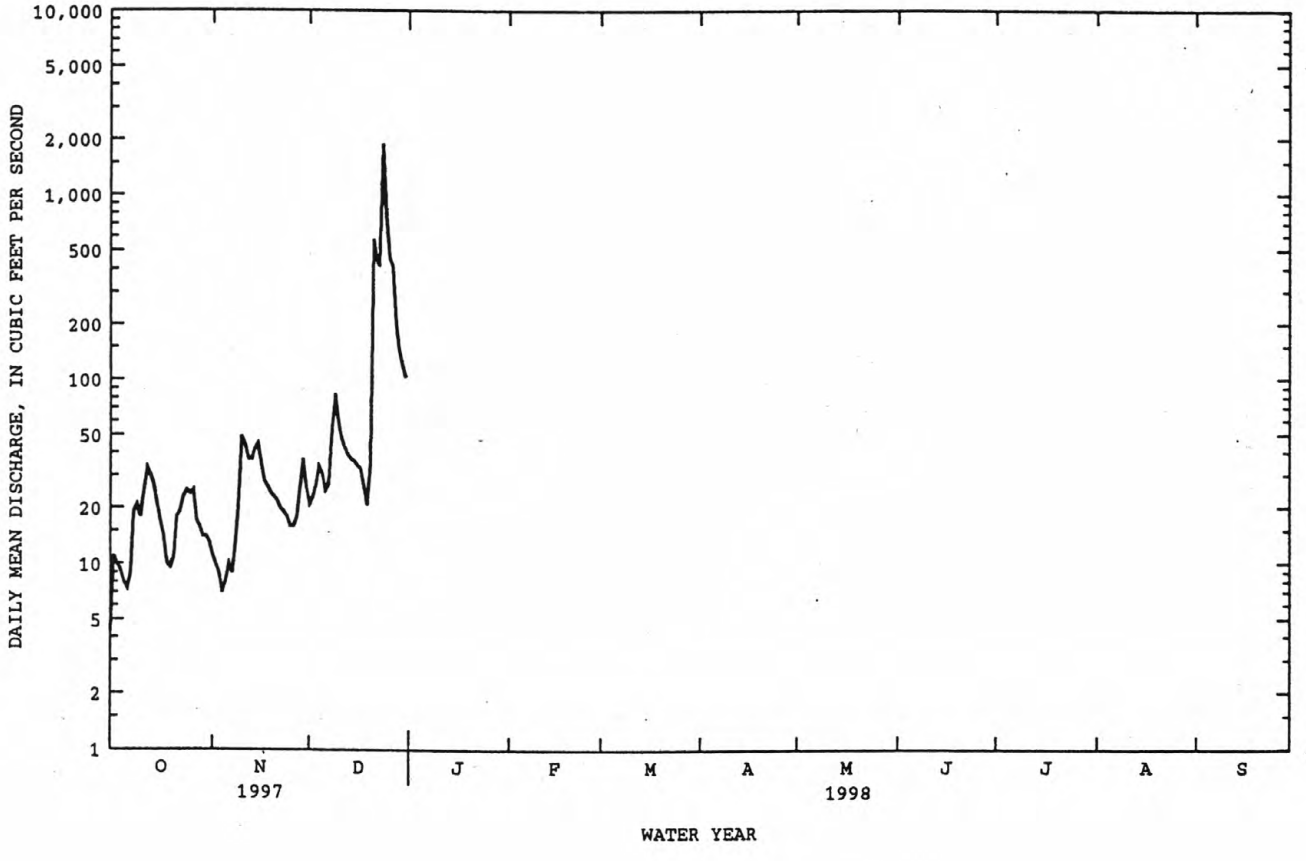
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1998, BY WATER YEAR (WY)

MEAN	170	82.1	93.7	70.8	219	214	293	264	185	71.3	77.3	88.6
MAX	1736	407	816	567	1065	1672	1349	919	512	583	289	778
(WY)	1942	1997	1947	1946	1938	1945	1942	1943	1940	1945	1950	1945
MIN	.000	.000	.000	.24	1.89	1.37	13.8	3.92	8.83	2.41	.12	.000
(WY)	1939	1939	1939	1949	1939	1940	1948	1939	1937	1944	1943	1948

e Estimated

07330500 CADDO CREEK NEAR ARDMORE, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR PERIOD OCT-DEC 1997	WATER YEARS 1937 - 1998
ANNUAL TOTAL	51667.04		
ANNUAL MEAN	142		155
HIGHEST ANNUAL MEAN			419 1945
LOWEST ANNUAL MEAN			9.38 1939
HIGHEST DAILY MEAN	4240 Feb 21	1890 Dec 24	16700 Mar 15 1945
LOWEST DAILY MEAN	.71 Sep 19	4.3 Oct 1	.00 at times
ANNUAL SEVEN-DAY MINIMUM	1.1 Sep 15	8.4 Oct 1	.00 Aug 1 1937
INSTANTANEOUS PEAK FLOW		2660 Dec 24	22300 Mar 15 1945
INSTANTANEOUS PEAK STAGE		20.87 Dec 24	29.30 Feb 20 1997
ANNUAL RUNOFF (AC-FT)	102500		112200
10 PERCENT EXCEEDS	301	142	242
50 PERCENT EXCEEDS	37	25	18
90 PERCENT EXCEEDS	3.8	9.4	.00



07330500 CADDO CREEK NEAR ARDMORE, OK--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--April 1996 to January 1998 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1996 to January 1998 (discontinued).
pH: April 1996 to January 1998 (discontinued).
WATER TEMPERATURE: April 1996 to January 1998 (discontinued).
DISSOLVED OXYGEN: April 1996 to January 1998 (discontinued).

INSTRUMENTATION.--Water-quality monitor since April 1996.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1330 microsiemens, June 18, 1997; minimum, 137 microsiemens, Jan. 4, 1998.
pH: Maximum, 9.0 units, Sept. 20, 22, 1997; minimum, 7.4 units, Feb. 20, 1997.
WATER TEMPERATURE: Maximum, 38.0°C, July 7, 1996; minimum, 0.0°C, many days during winter period.
DISSOLVED OXYGEN: Maximum, 14.1 mg/L, Dec. 13, 1997; minimum, 5.2 mg/L, Sept. 20, 1997.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 885 microsiemens, Nov. 12; minimum, 137 microsiemens, Jan. 4.
pH: Maximum, 8.9 units, Oct. 20; minimum, 7.7 units, Dec. 21, Jan. 4.
WATER TEMPERATURE: Maximum, 30.0°C, Oct. 1, 2, 3; minimum, 1.0°C, Dec. 13.
DISSOLVED OXYGEN: Maximum, 14.1 mg/L, Dec. 13; minimum, 5.7 mg/L, Oct. 7.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	435	415	425	514	482	504	813	653	758	444	438	440
2	424	394	412	527	501	513	877	637	789	452	443	447
3	403	375	391	546	527	536	659	571	621	481	452	462
4	406	381	395	537	521	530	609	571	596	457	137	222
5	403	385	396	521	481	505	613	567	594	374	249	279
6	402	385	396	482	452	469	616	598	610	---	---	---
7	400	385	394	452	438	444	598	502	569	---	---	---
8	387	356	372	462	437	453	577	415	484	---	---	---
9	370	348	359	459	398	438	666	536	602	---	---	---
10	362	354	359	608	441	513	627	509	542	---	---	---
11	417	359	384	875	554	654	522	490	508	---	---	---
12	472	374	424	885	509	686	490	470	481	---	---	---
13	409	394	401	509	432	470	470	458	466	---	---	---
14	469	395	433	456	431	445	459	450	456	---	---	---
15	484	458	470	464	453	456	453	447	450	---	---	---
16	499	458	474	478	464	470	454	444	449	---	---	---
17	477	442	461	474	465	471	449	443	446	---	---	---
18	459	438	442	475	464	468	450	442	445	---	---	---
19	482	447	466	482	474	477	477	445	462	---	---	---
20	476	424	453	491	476	484	483	351	454	---	---	---
21	466	431	445	505	476	494	449	195	279	---	---	---
22	506	441	467	529	487	504	360	323	341	---	---	---
23	527	422	478	528	488	504	367	218	328	---	---	---
24	651	480	590	520	496	507	284	221	250	---	---	---
25	669	619	653	528	493	511	318	284	303	---	---	---
26	627	547	597	536	455	506	351	318	332	---	---	---
27	547	515	524	557	533	548	376	351	369	---	---	---
28	524	494	507	533	476	504	403	369	392	---	---	---
29	494	461	483	585	487	523	416	403	410	---	---	---
30	494	461	480	653	585	618	428	416	422	---	---	---
31	508	465	492	---	---	---	439	428	433	---	---	---
MONTH	669	348	452	885	398	507	877	195	472	---	---	---

07330500 CADDO CREEK NEAR ARDMORE, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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

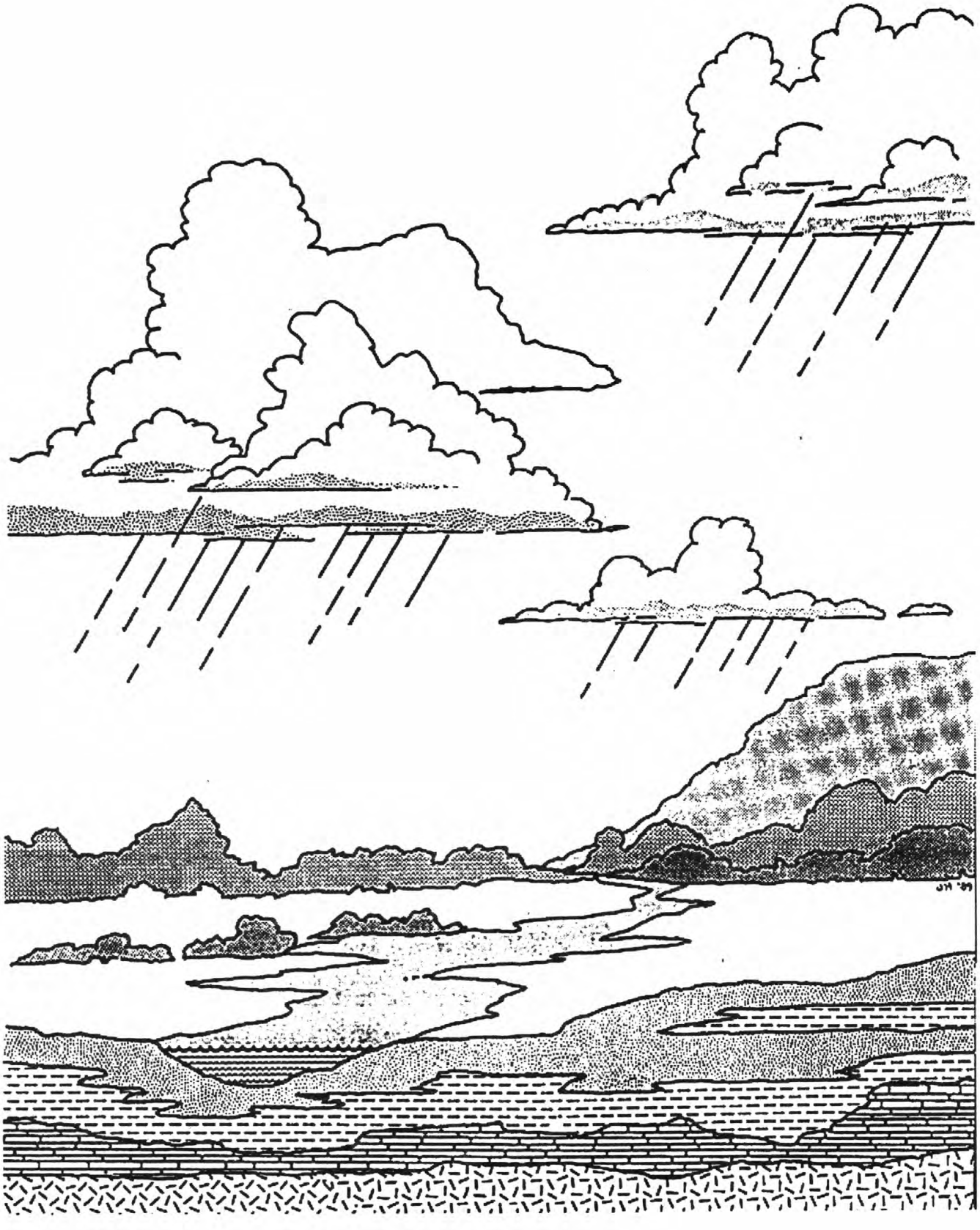
TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	30.0	22.5	25.5	19.5	14.5	16.5	11.0	10.0	10.5	8.0	4.5	6.0
2	30.0	21.5	25.5	16.5	11.0	13.5	10.5	10.0	10.5	12.0	8.0	10.0
3	30.0	21.5	25.0	15.0	9.5	12.0	10.0	7.5	9.5	14.0	12.0	13.0
4	29.5	20.5	24.5	15.5	8.5	11.5	9.0	5.5	7.0	14.0	12.0	13.5
5	27.0	20.0	23.0	17.5	13.0	14.5	7.5	4.5	5.5	12.0	10.5	11.0
6	28.0	21.5	24.5	14.5	9.5	11.5	7.5	3.5	5.0	---	---	---
7	25.0	22.5	23.5	13.5	6.5	9.5	6.5	5.5	6.0	---	---	---
8	26.0	22.5	23.5	14.5	7.5	10.5	7.5	6.0	6.5	---	---	---
9	29.0	22.0	25.0	12.0	10.0	10.5	9.5	7.0	8.0	---	---	---
10	28.0	23.0	25.0	10.5	7.5	9.5	8.5	6.5	7.0	---	---	---
11	25.0	23.0	24.0	9.5	6.0	7.5	6.5	5.0	5.5	---	---	---
12	23.5	20.5	22.5	9.0	7.5	8.0	5.0	3.0	4.5	---	---	---
13	22.0	17.0	19.0	9.0	8.0	8.5	4.0	1.0	2.5	---	---	---
14	20.5	14.0	17.0	9.5	7.0	8.5	5.5	2.5	3.5	---	---	---
15	21.5	14.0	17.5	8.5	5.0	6.5	6.5	3.0	4.5	---	---	---
16	22.0	14.5	18.0	8.0	3.5	5.5	7.5	4.5	5.5	---	---	---
17	22.0	15.5	18.0	7.5	2.5	5.0	7.5	4.5	5.5	---	---	---
18	21.5	13.0	16.5	10.0	4.5	7.0	8.5	4.0	6.0	---	---	---
19	22.5	14.0	17.5	11.0	5.5	8.0	10.5	5.0	7.5	---	---	---
20	21.0	15.0	17.5	11.0	7.5	9.0	8.0	6.5	7.5	---	---	---
21	18.0	14.0	16.0	12.0	8.0	9.5	7.0	6.5	6.5	---	---	---
22	18.5	11.0	14.0	12.5	8.0	10.0	6.5	6.0	6.5	---	---	---
23	15.0	13.0	14.0	12.5	6.5	9.0	6.5	6.0	6.5	---	---	---
24	20.0	14.5	16.5	13.0	8.0	10.0	6.0	6.0	6.0	---	---	---
25	20.5	13.5	16.5	14.5	9.0	11.5	6.5	6.0	6.5	---	---	---
26	13.5	9.5	11.0	15.5	12.5	14.0	6.5	6.0	6.0	---	---	---
27	15.0	8.5	11.0	16.0	12.0	14.0	6.0	5.5	6.0	---	---	---
28	15.5	8.0	11.5	16.5	12.5	15.5	6.0	5.0	5.5	---	---	---
29	16.5	10.5	13.0	13.0	10.0	11.5	6.0	4.0	5.0	---	---	---
30	20.0	14.5	16.5	11.0	10.0	10.5	7.0	4.5	5.5	---	---	---
31	23.0	16.5	18.5	---	---	---	6.5	4.5	5.5	---	---	---
MONTH	30.0	8.0	19.1	19.5	2.5	10.3	11.0	1.0	6.2	---	---	---

07330500 CADDO CREEK NEAR ARDMORE, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.6	6.2	7.8	10.5	8.1	9.0	9.6	8.9	9.2	12.5	11.0	12.0
2	9.9	6.2	7.5	10.5	8.2	9.3	9.4	8.6	9.0	11.0	9.6	10.4
3	10.0	6.2	7.5	10.3	8.4	9.4	10.1	8.9	9.5	9.6	9.0	9.4
4	10.0	6.3	7.5	10.8	8.2	9.6	11.3	10.0	10.9	9.1	8.5	8.8
5	9.5	6.3	7.6	9.1	8.0	8.4	12.2	11.1	11.7	9.8	9.1	9.7
6	9.3	5.9	7.1	10.0	8.4	9.2	12.6	11.6	12.2	---	---	---
7	8.8	5.7	6.9	10.8	8.8	9.8	11.6	11.1	11.4	---	---	---
8	8.2	6.2	6.9	10.6	8.8	9.7	11.1	10.1	10.7	---	---	---
9	9.8	6.2	7.5	9.6	8.8	9.2	10.3	9.7	10.0	---	---	---
10	10.0	6.6	7.7	10.7	9.2	9.9	11.1	9.7	10.7	---	---	---
11	9.2	6.8	7.7	11.3	10.7	11.0	12.0	11.1	11.7	---	---	---
12	7.9	7.1	7.5	10.7	10.2	10.3	13.0	11.8	12.4	---	---	---
13	9.6	7.7	8.7	10.5	10.2	10.3	14.1	13.0	13.5	---	---	---
14	10.1	8.7	9.3	11.0	10.2	10.6	13.3	12.5	12.9	---	---	---
15	10.3	8.5	9.3	12.1	11.0	11.6	12.9	11.9	12.4	---	---	---
16	10.4	8.4	9.1	12.7	12.1	12.3	12.1	11.7	11.9	---	---	---
17	10.4	8.4	9.1	13.3	11.8	12.6	12.1	11.6	11.9	---	---	---
18	10.5	8.3	9.2	12.2	11.1	11.6	12.1	11.4	11.7	---	---	---
19	10.4	7.8	8.9	11.7	10.3	11.0	11.6	10.7	11.2	---	---	---
20	10.8	7.8	8.9	10.9	9.8	10.3	11.0	10.6	10.8	---	---	---
21	10.0	8.0	8.8	10.9	9.8	10.2	10.8	9.3	10.2	---	---	---
22	10.4	8.8	9.5	10.9	9.8	10.2	11.1	9.9	10.7	---	---	---
23	9.5	8.7	9.0	11.2	10.0	10.5	11.2	10.7	11.1	---	---	---
24	10.3	8.4	9.1	10.7	9.6	10.1	11.1	10.5	10.8	---	---	---
25	10.3	8.3	9.0	10.1	8.2	9.4	11.2	11.1	11.1	---	---	---
26	11.5	9.1	10.5	8.6	8.0	8.1	11.5	11.1	11.3	---	---	---
27	11.5	10.1	10.7	8.6	7.1	7.9	11.8	11.5	11.6	---	---	---
28	11.3	9.6	10.5	7.9	6.9	7.3	11.8	11.6	11.7	---	---	---
29	11.0	9.2	9.9	8.9	7.5	8.4	12.5	11.6	12.1	---	---	---
30	10.8	8.4	9.4	9.5	8.6	9.0	12.4	11.4	12.0	---	---	---
31	10.4	8.1	8.8	---	---	---	12.4	11.7	12.1	---	---	---
MONTH	11.5	5.7	8.6	13.3	6.9	9.9	14.1	8.6	11.3	---	---	---



07330610 CADDO CREEK SITE 6PT NEAR ARDMORE, OK

LOCATION.--Lat 34°14'33", long 97°04'05", in NW ¼ NW ¼ sec.2, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, on right bank 0.9 mi above Sand Creek, 4.8 mi northeast of Ardmore, and at mi 11.1.

PERIOD OF RECORD.--October 1996 to August 1997 (discontinued).

REMARKS.--Water temperature, specific conductance, pH, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)
OCT 1996									
18...	1108	1028	81213	15	481	8.2	17.5	16.0	3.2
JUL 1997									
30...	0515	1028	81213	--	691	8.1	--	27.5	<1.0
30...	1130	1028	81213	--	656	8.3	--	29.0	2.9
30...	1720	1028	81213	--	651	8.3	--	30.5	2.7
30...	2320	1028	81213	--	641	8.2	--	28.0	2.2
31...	0645	1028	81213	--	596	8.2	--	26.0	1.0
AUG									
27...	0030	1028	81213	--	452	7.9	--	26.0	19
27...	0630	1028	81213	--	462	7.9	--	24.0	11
27...	1230	1028	81213	--	457	8.2	--	28.5	16
27...	1830	1028	81213	--	469	8.2	--	29.5	13
28...	0030	1028	81213	--	464	8.0	--	26.5	4.7

DATE	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, BIOCHEM CARBON. 20 (MG/L) (80087)	OXYGEN DEMAND BIOCHEM CARBON. 20-FILT. (MG/L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)
OCT 1996									
18...	757	9.0	92	--	--	141	1.3	30	<.010
JUL 1997									
30...	750	6.3	81	2.2	1.40	152	--	--	<.010
30...	760	8.0	105	2.9	3.20	158	--	--	<.010
30...	760	8.2	110	2.5	1.50	151	--	--	<.010
30...	751	6.9	90	1.2	1.80	152	--	--	<.010
31...	760	6.9	85	1.5	2.10	154	--	--	<.010
AUG									
27...	753	6.4	80	3.8	4.40	143	--	--	<.010
27...	743	6.8	83	1.9	1.40	146	--	--	<.010
27...	747	9.0	119	4.2	3.30	145	--	--	<.010
27...	751	7.1	95	7.2	1.60	141	--	--	<.010
28...	742	6.6	84	1.7	2.20	147	--	--	<.010

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS HYDRO. + ORTHO TOTAL (MG/L AS P) (00678)	PHENOLS TOTAL (UG/L) (32730)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)
OCT 1996									
18...	<.020	.050	.06	--	<.20	.030	.02	<1	.400
JUL 1997									
30...	<.020	.030	.04	.27	.30	<.020	.12	--	1.30
30...	<.020	.040	.05	.26	.30	.070	.03	--	1.10
30...	<.020	.030	.04	.27	.30	<.020	.03	--	1.20
30...	<.020	.030	.04	.40	.43	<.020	.03	--	1.00
31...	<.020	.030	.04	.31	.34	.060	.02	--	1.20
AUG									
27...	<.020	.020	.03	.55	.57	<.020	<.01	--	1.00
27...	<.020	.020	.03	.31	.33	<.020	<.01	--	1.10
27...	<.020	.050	.06	.68	.73	<.020	<.01	--	1.50
27...	<.020	.020	.03	.46	.48	<.020	<.01	--	2.30
28...	<.020	.020	.03	.42	.44	.030	<.01	--	1.40

07330615 SAND CREEK SITE 1WW NEAR ARDMORE, OK

LOCATION.--Lat 34°12'28", long 97°05'47" in SW $^1/_4$, NE $^1/_4$, sec.16, T.4S, R.2E, Carter County, Hydrologic Unit 11130303, on left bank at south edge of the Ardmore Wastewater Treatment Plant northeast of Ardmore, and at mile 4.8.

PERIOD OF RECORD.--April 1997 to September 1997 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1997 to September 1997.
WATER TEMPERATURE: April 1997 to September 1997.

REMARKS.--Water temperature, specific conductance, pH, alkalinity, and dissolved oxygen were determined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 5980 microsiemens, Aug. 2, 1997; minimum, 103 microsiemens, May 19, 1997.
WATER TEMPERATURE: Maximum, 33.0°C, July 27,28, 1997; minimum, 10.0°C, Apr. 13, 1997.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)
OCT 1996										
18...	0830	1028	81213	4370	7.2	16.5	26	753	3.8	40
JUL 1997										
29...	0601	1028	81213	5730	7.0	28.5	13	750	3.5	47
29...	1203	1028	81213	6010	7.5	30.5	5.5	750	5.4	75
29...	1810	1028	81213	5740	7.4	29.0	<1.0	750	5.1	69
30...	0015	1028	81213	5740	7.1	28.0	6.4	750	3.6	48
30...	0610	1028	81213	5760	7.0	27.0	2.2	752	3.3	43
AUG										
26...	0600	1028	81213	5400	7.0	25.0	7.1	752	3.6	45
26...	1200	1028	81213	5390	8.5	28.0	5.9	752	10.5	139
26...	1800	1028	81213	5280	8.9	30.0	8.0	747	11.5	158
27...	0030	1028	81213	5320	7.4	26.5	7.7	752	4.1	53
27...	0600	1028	81213	5170	7.1	25.5	7.5	753	3.0	38

DATE	OXYGEN DEMAND, BIOCHEM CARBON. 20 (MG/L) (80087)	OXYGEN DEMAND, BIOCHEM CARBON. 20-FILT. (MG/L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)
OCT 1996									
18...	--	--	68	<1.0	310	1.10	1.00	2.10	4.30
JUL 1997									
29...	5.9	4.40	32	--	--	.270	.270	.540	1.40
29...	8.0	5.00	42	--	--	.260	.260	.520	1.40
29...	6.8	4.40	36	--	--	.600	1.30	1.90	.360
30...	7.7	4.80	42	--	--	.310	.300	.610	1.50
30...	8.1	3.20	40	--	--	.250	.280	.530	1.90
AUG									
26...	8.8	3.80	38	--	--	.660	.340	1.00	.860
26...	11	3.20	36	--	--	.740	.360	1.10	.620
26...	13	3.00	37	--	--	.760	.340	1.10	.280
27...	9.6	3.00	37	--	--	.750	.350	1.10	.750
27...	8.4	2.60	39	--	--	.680	.320	1.00	.830

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS HYDRO. + ORTHO TOTAL (MG/L AS P) (00678)	PHENOLS TOTAL (UG/L) (32730)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)
OCT 1996									
18...	5.5	3.1	7.4	9.5	42	.140	.12	<1	79.0
JUL 1997									
29...	1.8	2.3	3.7	4.2	19	.130	.10	--	16.0
29...	1.8	2.5	3.9	4.4	20	.090	.10	--	35.0
29...	.46	1.8	2.2	4.1	18	.090	.02	--	28.0
30...	1.9	2.9	4.4	5.0	22	.120	.08	--	22.0
30...	2.4	2.8	4.7	5.2	23	.120	.13	--	8.80
AUG									
26...	1.1	3.5	4.4	5.4	24	.240	.17	--	28.0
26...	.80	3.4	4.0	5.1	23	.210	.17	--	33.0
26...	.36	4.0	4.3	5.4	24	.210	.21	--	38.0
27...	.97	3.2	3.9	5.0	22	.220	.15	--	30.0
27...	1.1	3.3	4.1	5.1	23	.260	.22	--	39.0

07330618 SAND CREEK SITE 2WW NEAR ARDMORE, OK

LOCATION.--Lat 34°12'41", long 97°05'45", in SW ¼ NE ¼ sec.16, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, at City of Ardmore Wastewater Treatment Plant, in effluent reaeration pit, 8 ft above discharge point.

PERIOD OF RECORD.--April 1997 to September 1997 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1997 to September 1997.
WATER TEMPERATURE: April 1997 to September 1997.

REMARKS.--Water temperature, specific conductance, pH, alkalinity, and dissolved oxygen were determined in the field. Miscellaneous water-quality samples were collected downstream from discharge point.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1980 microsiemens, June 28, 1997; minimum, 483 microsiemens, May 30, 1997.
WATER TEMPERATURE: Maximum, 34.0°C, Sept. 3, 1997; minimum, 14.5°C, Apr. 12, 1997.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)
OCT 1996										
18...	0800	1028	81213	830	7.8	6.0	20.0	3.0	756	7.6
JUL 1997										
29...	0925	1028	81213	923	7.6	--	29.0	6.2	750	7.4
29...	1440	1028	81213	972	7.6	--	29.5	<1.0	750	6.9
29...	2100	1028	81213	940	7.6	--	28.0	<1.0	750	6.6
30...	0300	1028	81213	917	7.6	--	28.5	<1.0	750	7.5
30...	0900	1028	81213	870	7.6	--	27.0	1.8	753	7.4
AUG										
26...	0900	1028	81213	820	7.6	--	27.5	<1.0	752	7.3
26...	1500	1028	81213	844	7.6	--	29.0	<1.0	751	7.1
26...	2100	1028	81213	982	7.5	--	30.0	1.9	747	7.0
27...	0300	1028	81213	1060	7.6	--	30.0	<1.0	748	7.1
27...	0900	1028	81213	1160	7.5	--	30.5	<1.0	751	7.2

DATE	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, BIOCHEM CARBON. 20 (MG/L) (80087)	OXYGEN DEMAND, BIOCHEM CARBON. 20-FILT. (MG/L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)
OCT 1996										
18...	85	--	--	192	<1.0	44	12.9	1.10	14.0	18.0
JUL 1997										
29...	98	17	9.20	162	--	--	9.72	.280	10.0	5.20
29...	93	19	9.80	162	--	--	10.8	.240	11.0	5.00
29...	86	21	11.0	166	--	--	9.79	.210	10.0	5.40
30...	98	19	11.0	168	--	--	9.58	.220	9.80	4.90
30...	95	17	10.0	168	--	--	9.73	.270	10.0	5.20
AUG										
26...	94	9.8	7.60	158	--	--	9.76	.240	10.0	4.80
26...	94	14	8.40	160	--	--	9.38	.220	9.60	5.00
26...	95	19	8.40	152	--	--	8.43	.170	8.60	4.80
27...	96	18	8.60	162	--	--	8.12	.180	8.30	5.90
27...	98	14	10.0	150	--	--	9.60	.200	9.80	5.40

07330618 SAND CREEK SITE 2WW NEAR ARDMORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS HYDRO. + ORTHO TOTAL (MG/L AS P) (00678)	PHENOLS TOTAL (UG/L) (32730)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)
OCT 1996									
18...	23	1.0	19	33	150	3.20	3.2	<1	1.50
JUL 1997									
29...	6.7	8.8	14	24	110	2.60	2.9	--	3.90
29...	6.4	--	.44	11	51	2.80	2.8	--	4.00
29...	7.0	1.5	6.9	17	75	2.90	2.9	--	1.70
30...	6.3	1.8	6.7	17	73	2.80	2.8	--	1.00
30...	6.7	--	2.8	13	57	2.70	2.9	--	2.00
AUG									
26...	6.2	1.3	6.1	16	71	2.70	2.7	--	1.00
26...	6.4	1.7	6.7	16	72	2.40	2.1	--	.900
26...	6.2	1.8	6.6	15	67	2.60	2.3	--	.900
27...	7.6	1.6	7.5	16	70	2.30	2.3	--	.300
27...	7.0	2.6	8.0	18	79	2.40	1.9	--	1.50

07330625 SAND CREEK SITE 3CMP NEAR ARDMORE, OK

LOCATION.--Lat 34°12'47", long 97°05'25", in NE ¼ NE ¼ sec.10, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, on left bank adjacent to Atchinson, Topeka, and Sante Fe Railroad tracks, 1.0 mi downstream from City of Ardmore Wastewater Treatment Plant, and at mile 4.1.

PERIOD OF RECORD.--October 1996 to August 1997 (discontinued).

REMARKS.--Water temperature, specific conductance, pH, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)
OCT 1996										
18...	0835	1028	81213	--	1160	7.5	8.0	19.0	5.2	757
JUL 1997										
29...	1845	1028	81213	--	1270	7.4	--	28.5	<1.0	750
30...	0025	1028	81213	--	1320	7.3	--	28.0	<1.0	752
30...	0635	1028	81213	--	1570	7.3	--	27.5	<1.0	750
30...	1215	1028	81213	--	1440	7.4	--	28.0	<1.0	750
AUG										
26...	1130	1028	81213	--	1610	7.4	--	27.0	2.0	750
26...	1745	1028	81213	29	1560	7.2	--	29.0	<1.0	750
26...	2330	1028	81213	--	1660	7.3	--	28.5	<1.0	747
27...	0530	1028	81213	--	1660	7.2	--	28.0	2.5	749
27...	1130	1028	81213	--	1460	7.3	--	29.0	1.3	750

DATE	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, BIOCHEM CARBON. 20 (MG/L) (80087)	OXYGEN DEMAND, BIOCHEM CARBON. 20-FILT. (MG/L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 1996										
18...	2.1	23	--	--	195	<1.0	69	9.90	1.10	11.0
JUL 1997										
29...	1.8	24	12	9.80	130	--	--	10.4	.630	11.0
30...	1.6	21	12	14.0	158	--	--	8.92	.580	9.50
30...	1.1	14	13	10.0	143	--	--	7.80	.600	8.40
30...	2.8	37	10	7.60	146	--	--	9.04	.760	9.80
AUG										
26...	3.0	39	8.0	6.20	136	--	--	8.16	.640	8.80
26...	1.9	25	8.8	7.80	140	--	--	8.01	.690	8.70
26...	.9	12	9.4	5.40	137	--	--	7.00	.500	7.50
27...	.8	10	16	7.60	143	--	--	6.33	.470	6.80
27...	1.6	21	9.2	7.40	149	--	--	7.91	.590	8.50

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS HYDRO. + ORTHO TOTAL (MG/L AS P) (00678)	PHENOLS TOTAL (UG/L) (32730)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)
OCT 1996										
18...	16.0	21	3.0	19	30	130	3.00	3.0	<1	.200
JUL 1997										
29...	4.40	5.7	.80	5.2	16	72	2.50	2.7	--	1.90
30...	4.30	5.5	.50	4.8	14	63	2.70	2.6	--	1.10
30...	4.20	5.4	.80	5.0	13	59	2.40	2.6	--	3.70
30...	3.90	5.0	1.6	5.5	15	68	2.40	2.5	--	3.00
AUG										
26...	3.10	4.0	1.9	5.0	14	61	2.20	2.2	--	11.0
26...	3.40	4.4	1.4	4.8	14	60	2.20	2.0	--	8.10
26...	3.80	4.9	1.6	5.4	13	57	2.10	2.0	--	9.50
27...	4.50	5.8	1.6	6.1	13	57	2.00	2.0	--	10.0
27...	4.60	5.9	2.1	6.7	15	67	2.20	2.1	--	6.30

07330625 SAND CREEK SITE 3CMP NEAR ARDMORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)
JUL 31-AUG 29	1028	81213	9.02	25.0	11000
JUL 31-AUG 29	1028	81213	10.9	33.7	14000
JUL 31-AUG 29	1028	81213	7.93	14.7	6860

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	PROPANE TOTAL (UG/L) (82358)
JUL 1997				
17...	1710	1028	81213	<1.0
17...	1716	1028	81213	<1.0
17...	1724	1028	81213	<1.0
17...	1732	1028	81213	5.6
17...	1740	1028	81213	9.1
17...	1757	1028	81213	35.0
17...	1807	1028	81213	37.0
17...	1817	1028	81213	48.0
17...	1823	1028	81213	40.0
17...	1836	1028	81213	32.0
17...	1906	1028	81213	21.0
17...	2006	1028	81213	2.8
17...	2115	1028	81213	<1.0

07330630 SAND CREEK SITE 3A NEAR ARDMORE, OK

LOCATION.--Lat 34°13'12", long 97°05'10", in SW ¼ SW ¼ sec.10, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, on left bank adjacent to Atchinson, Topeka, and Sante Fe Railroad tracks, 1.3 mi downstream from City of Ardmore Wastewater Treatment Plant, at mile 3.2.

PERIOD OF RECORD.--October 1996 to August 1997 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2) (70957)
JUL 31-AUG 29	1028	81213	7.12	12.9	39000
JUL 31-AUG 29	1028	81213	5.29	10.5	26000
JUL 31-AUG 29	1028	81213	1.92	3.76	1180
JUL 31-AUG 29	1028	81213	5.42	11.3	1220

07330635 SAND CREEK SITE 3B NEAR ARDMORE, OK

LOCATION.--Lat 34°13'42", long 97°04'49", in NE ¼ NE ¼ sec.10, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, .05 mi east of Atchinson, Topeka, and Sante Fe Railroad tracks, 0.4 mi west of County Road, 2.8 mi north of U. S. Highway 70, 3.5 mi northwest of Ardmore City limits, at mile 1.8.

PERIOD OF RECORD.--October 1996 to August 1997 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)
AUG 1997					
01-29	1028	81213	9.20	12.4	45000
AUG					
01-29	1028	81213	12.1	16.0	2290
AUG					
01-29	1028	81213	4.03	15.8	1730

07330665 SAND CREEK SITE 4CMP NEAR ARDMORE, OK

LOCATION.--Lat 34°13'49", long 97°04'22", in NW ¼ NW ¼ sec.11, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, on downstream left bank at county road bridge, 3.0 mi north of U.S. Highway 70, 4.0 mi northeast of Ardmore city limits, and at mile 1.1.

PERIOD OF RECORD.--October 1996 to August 1997 (discontinued).

REMARKS.--Water temperature, specific conductance, pH, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)
OCT 1996										
18...	1115	1028	81213	1110	7.4	16.5	3.1	753	5.0	52
JUL 1997										
30...	0315	1028	81213	1180	7.4	26.5	1.1	750	3.0	38
30...	0906	1028	81213	1150	7.4	26.5	1.6	750	3.9	49
30...	1455	1028	81213	1250	8.0	28.5	<1.0	760	8.7	113
30...	2050	1028	81213	1430	7.5	28.0	<1.0	750	4.1	53
31...	0245	1028	81213	1500	7.4	26.0	<1.0	751	3.4	43
AUG										
26...	1145	1028	81213	1690	7.3	26.0	2.1	742	3.8	48
27...	0530	1028	81213	1540	7.3	24.5	<1.0	749	3.4	42
27...	1130	1028	81213	1620	7.5	25.5	1.0	750	5.7	71
27...	1730	1028	81213	1620	7.4	28.5	2.2	743	5.4	72
27...	2330	1028	81213	1510	7.3	27.0	<1.0	749	2.8	36

DATE	OXYGEN DEMAND, BIOCHEM CARBON. 20 (MG/L) (80087)	OXYGEN DEMAND BIOCHEM CARBON. 20-FILT. (MG/L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)
OCT 1996									
18...	--	--	133	<1.0	69	11.8	1.20	13.0	14.0
JUL 1997									
30...	5.2	3.90	124	--	--	10.6	.370	11.0	.760
30...	5.0	3.60	141	--	--	10.7	.310	11.0	1.00
30...	6.9	5.00	140	--	--	9.72	.280	10.0	.340
30...	5.2	3.20	133	--	--	9.88	.120	10.0	.060
31...	6.0	3.30	128	--	--	10.8	.240	11.0	.120
AUG									
26...	6.2	3.80	130	--	--	9.65	.150	9.80	.100
27...	5.3	2.20	129	--	--	8.53	.270	8.80	.790
27...	6.3	3.70	128	--	--	7.07	.230	7.30	.800
27...	6.6	3.30	120	--	--	7.92	.280	8.20	.360
27...	6.3	3.40	125	--	--	8.75	.350	9.10	.750

07330665 SAND CREEK SITE 4CMP NEAR ARDMORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AMMONIA + 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-PHORUS HYDRO. + ORTHO TOTAL (MG/L AS P) (00678)	PHENOLS TOTAL (UG/L) (32730)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
OCT 1996									
18...	18	--	7.2	20	89	2.80	2.8	<1	17.0
JUL 1997									
30...	.98	1.2	2.0	13	58	2.40	2.6	--	11.0
30...	1.3	1.8	2.8	14	61	2.30	2.6	--	17.0
30...	.44	1.6	1.9	12	53	2.40	2.5	--	26.0
30...	.08	1.1	1.2	11	50	2.40	2.4	--	3.60
31...	.15	1.4	1.5	13	55	2.30	2.3	--	6.60
AUG									
26...	.13	1.4	1.5	11	50	2.10	2.0	--	6.30
27...	1.0	1.5	2.3	11	49	2.10	2.0	--	5.10
27...	1.0	1.6	2.4	9.7	43	2.00	2.1	--	6.20
27...	.46	1.7	2.1	10	46	1.70	1.8	--	7.10
27...	.97	1.5	2.3	11	50	1.90	2.0	--	5.30 1

DATE	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)
AUG 1997					
01-29	1028	81213	13.6	22.6	21000
AUG					
01-29	1028	81213	E11.6	E13.7	16000
AUG					
01-29	1028	81213	25.1	34.8	6390

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	PROPANE TOTAL (UG/L) (82358)
JUL 1997				
18...	0615	1028	81213	<1.0
18...	0645	1028	81213	<1.0
18...	0745	1028	81213	<1.0
18...	0845	1028	81213	<1.0
18...	0945	1028	81213	<1.0
18...	1045	1028	81213	<1.0
18...	1200	1028	81213	<1.0
18...	1345	1028	81213	<1.0
18...	1600	1028	81213	<1.0
18...	2036	1028	81213	<1.0

07330680 SAND CREEK SITE 5CMP NEAR ARDMORE, OK

LOCATION.--Lat 34°14'12", long 97°03'39", in SE ¼ SE ¼ sec.2, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, on right bank 500 ft downstream from low water crossing on private road, 0.3 mi above Caddo Creek, 3.4 mi north of U.S.Highway 70, 6.5 mi northeast of Ardmore city limits, and at mile 0.3.

PERIOD OF RECORD.--October 1996 to August 1997 (discontinued).

REMARKS.--Water temperature, specific conductance, pH, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)
OCT 1996										
18...	1130	1028	81213	3.7	1150	7.6	17.0	15.5	4.7	760
JUL 1997										
30...	0745	1028	81213	--	1180	7.6	--	26.0	<1.0	749
30...	1330	1028	81213	--	1060	8.1	--	28.0	<1.0	760
30...	1900	1028	81213	--	1270	8.2	--	29.0	<1.0	751
31...	0200	1028	81213	--	1450	7.6	--	26.5	<1.0	760
31...	0715	1028	81213	--	1470	7.5	--	24.5	<1.0	756
AUG										
27...	0335	1028	81213	--	1600	7.4	--	24.5	2.1	743
27...	0920	1028	81213	--	1510	7.3	--	24.0	<1.0	744
27...	1515	1028	81213	--	1570	8.0	--	28.0	1.4	752
27...	2115	1028	81213	--	1620	7.4	--	27.5	3.6	743
28...	0300	1028	81213	--	1520	7.3	--	25.5	<1.0	743

DATE	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, BIOCHEM CARBON. 20 (MG/L) (80087)	OXYGEN DEMAND, BIOCHEM CARBON. 20-FILT. (MG/L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 1996										
18...	5.9	60	--	--	182	<1.0	71	10.9	1.10	12.0
JUL 1997										
30...	5.1	64	4.9	4.90	140	--	--	10.8	.250	11.0
30...	8.9	114	6.6	5.10	140	--	--	10.8	.200	11.0
30...	7.3	97	5.3	3.70	139	--	--	9.86	.140	10.0
31...	5.6	70	5.8	4.50	142	--	--	9.55	.050	9.60
31...	5.7	70	5.3	3.30	135	--	--	10.9	.110	11.0
AUG										
27...	5.4	67	5.3	2.90	124	--	--	9.34	.064	9.40
27...	6.0	73	5.2	3.20	128	--	--	9.02	.180	9.20
27...	8.9	116	6.0	4.00	127	--	--	7.03	.170	7.20
27...	4.9	65	5.6	3.30	128	--	--	7.65	.150	7.80
28...	4.5	57	4.6	2.70	121	--	--	8.65	.250	8.90

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS HYDRO. + ORTHO TOTAL (MG/L AS P) (00678)	PHENOLS TOTAL (UG/L) (32730)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)
OCT 1996										
18...	13.0	17	--	6.9	19	84	2.60	3.0	<1	.300
JUL 1997										
30...	.420	.54	1.3	1.7	13	56	2.30	2.5	--	17.0
30...	.360	.46	1.3	1.7	13	56	2.40	2.5	--	19.0
30...	.100	.13	1.3	1.4	11	50	2.30	2.2	--	14.0
31...	.050	.06	1.1	1.2	11	48	2.20	2.3	--	4.00
31...	.100	.13	1.4	1.5	13	55	2.20	2.2	--	6.60
AUG										
27...	.050	.06	1.5	1.6	11	49	2.00	2.0	--	7.40
27...	.270	.35	1.5	1.8	11	49	2.10	2.0	--	6.40
27...	.220	.28	1.8	2.0	9.2	41	2.00	1.9	--	6.30
27...	.130	.17	1.8	1.9	9.7	43	1.80	1.9	--	5.50
28...	.310	.40	1.6	1.9	11	48	1.90	2.0	--	5.30

07330680 SAND CREEK SITE 5CMP NEAR ARDMORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)
AUG 1997					
01-29	1028	81213	2.83	40.0	5840
AUG					
01-29	1028	81213	4.41	24.3	5720
AUG					
01-29	1028	81213	3.64	10.0	887

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	PROPANE TOTAL (UG/L) (82358)
JUL 1997				
18...	1002	1028	81213	<1.0
18...	1035	1028	81213	<1.0
18...	1143	1028	81213	<1.0
18...	1210	1028	81213	<1.0
18...	1248	1028	81213	<1.0
18...	1336	1028	81213	<1.0
18...	1409	1028	81213	<1.0
18...	1432	1028	81213	<1.0
18...	1454	1028	81213	<1.0
18...	1603	1028	81213	<1.0
18...	1648	1028	81213	<1.0
18...	1733	1028	81213	<1.0
18...	1938	1028	81213	<1.0
18...	2059	1028	81213	<1.0

07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK

LOCATION.--Lat 34°14'25", long 97°03'05", in SW ¼ NW ¼ sec.1, T.4 S., R.2 E., Carter County, Hydrologic Unit 11130303, on left downstream end of bridge on Gene Autry Road, 2.8 mi south of Gene Autry, 3.7 mi north of U.S. Highway 70, and at mile 9.5.

DRAINAGE AREA.--326 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1996 to September 1998 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 685 ft by barometer.

REMARKS.--No estimated daily discharges. Records fair. U.S. Geological Survey's satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

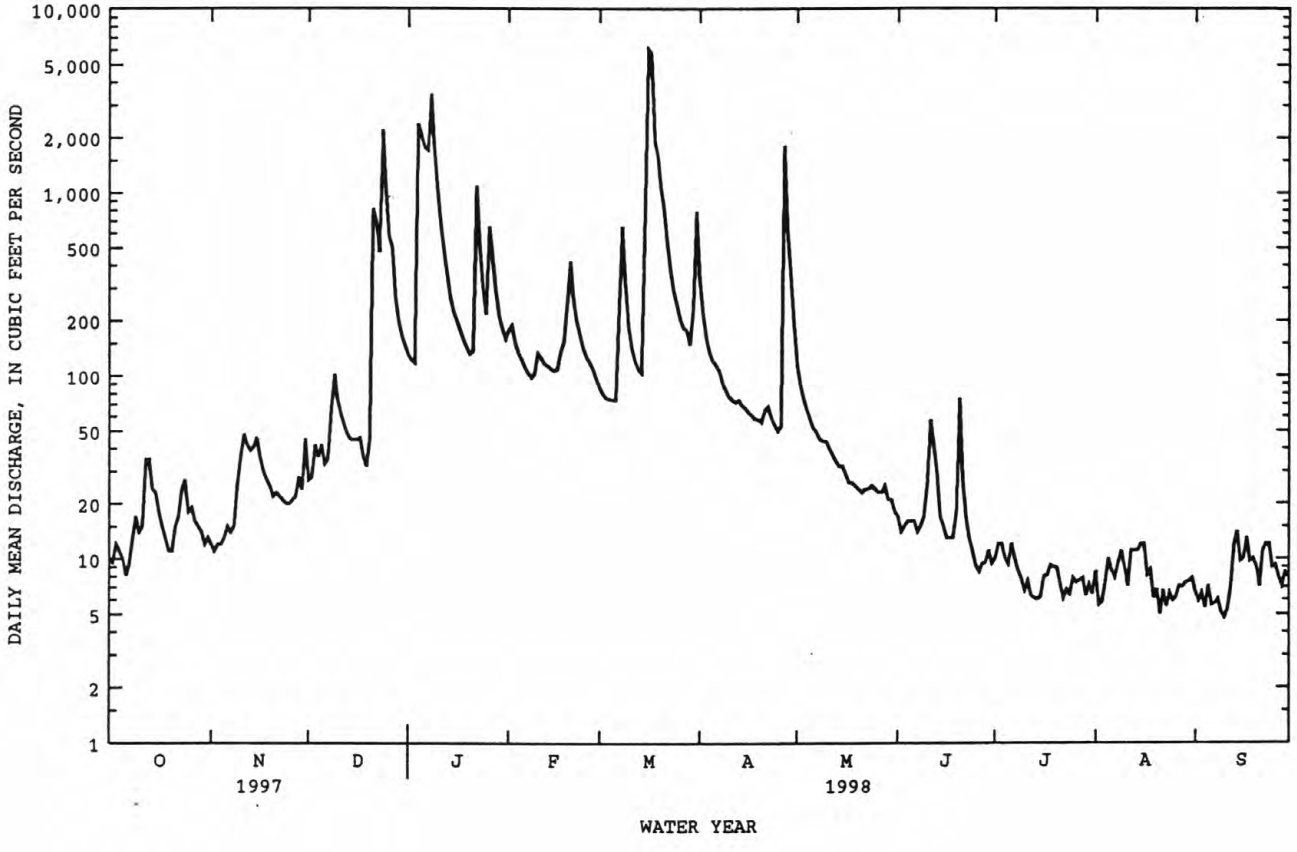
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	12	27	130	179	87	344	113	17	10	8.5	6.6
2	9.6	11	28	122	189	80	215	88	14	12	5.6	5.9
3	12	12	42	118	151	76	162	74	15	12	5.8	6.5
4	11	12	36	2380	133	75	134	65	16	10	7.5	5.4
5	10	13	42	2080	123	74	121	58	16	9.3	10	7.1
6	8.1	15	33	1770	112	74	115	52	16	12	8.6	5.6
7	9.4	14	35	1710	104	226	107	49	14	10	7.9	5.7
8	13	15	66	3450	98	654	92	45	15	8.6	9.5	6.0
9	17	25	102	1710	103	322	84	44	17	7.8	11	5.1
10	14	36	74	1040	133	186	77	44	25	6.7	8.9	4.8
11	15	48	62	684	126	140	74	40	57	7.5	7.1	5.3
12	35	42	54	487	117	120	72	37	42	6.3	11	7.0
13	35	39	48	356	114	109	74	34	29	6.1	11	12
14	24	41	45	267	110	104	69	32	17	6.0	11	14
15	23	46	45	224	107	658	67	32	15	6.2	12	9.7
16	18	36	45	201	109	6100	63	29	13	8.0	12	10
17	15	30	46	178	135	5740	61	26	13	8.1	8.2	13
18	13	27	36	158	155	1930	58	26	13	9.2	8.7	9.7
19	11	25	32	144	246	1590	58	25	18	9.0	6.1	10
20	11	22	45	132	423	1070	56	24	75	8.9	6.8	9.0
21	15	23	821	137	259	812	65	23	27	7.3	5.0	7.1
22	17	22	715	1090	197	534	68	24	17	6.1	6.7	11
23	24	21	476	527	167	377	59	24	13	6.8	5.5	12
24	27	20	2210	297	141	290	54	25	11	6.4	6.5	12
25	18	20	1030	218	126	243	50	24	9.2	7.8	5.9	9.0
26	19	21	580	657	118	203	53	23	8.5	7.4	6.2	9.2
27	16	22	501	432	108	183	1810	23	9.3	7.6	7.1	7.9
28	15	28	269	284	96	176	632	25	9.5	7.8	7.0	7.1
29	14	24	199	212	---	149	357	21	11	6.3	7.4	8.4
30	12	45	165	180	---	233	185	21	9.4	7.2	7.5	8.1
31	13	---	146	160	---	791	---	18	---	6.4	7.8	---
TOTAL	504.1	767	8055	21535	4179	23406	5436	1188	581.9	250.8	249.8	250.2
MEAN	16.3	25.6	260	695	149	755	181	38.3	19.4	8.09	8.06	8.34
MAX	35	48	2210	3450	423	6100	1810	113	75	12	12	14
MIN	8.1	11	27	118	96	74	50	18	8.5	6.0	5.0	4.8
AC-FT	1000	1520	15980	42710	8290	46430	10780	2360	1150	497	495	496

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1998, BY WATER YEAR (WY)

MEAN	49.5	269	199	369	482	439	225	128	117	13.6	47.5	90.7
MAX	82.7	512	260	695	815	755	354	324	281	21.6	121	253
(WY)	1997	1997	1998	1998	1997	1998	1997	1997	1997	1997	1996	1996
MIN	16.3	25.6	139	42.7	149	123	140	20.6	19.4	8.09	8.06	8.34
(WY)	1998	1998	1997	1997	1998	1997	1996	1996	1998	1998	1998	1998

07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1996 - 1998	
ANNUAL TOTAL	67809.1		66402.8			
ANNUAL MEAN	186		182		202	
HIGHEST ANNUAL MEAN					221	1997
LOWEST ANNUAL MEAN					182	1998
HIGHEST DAILY MEAN	5890	Feb 21	6100	Mar 16	6100	Mar 16 1998
LOWEST DAILY MEAN	7.1	Sep 20	4.8	Sep 10	4.8	Sep 10 1998
ANNUAL SEVEN-DAY MINIMUM	7.9	Sep 16	5.6	Sep 6	5.6	Sep 6 1998
INSTANTANEOUS PEAK FLOW			8780	Mar 16	8780	Mar 16 1998
INSTANTANEOUS PEAK STAGE			28.59	Mar 16	28.59	Mar 16 1998
ANNUAL RUNOFF (AC-FT)	134500		131700		146000	
10 PERCENT EXCEEDS	392		349		390	
50 PERCENT EXCEEDS	43		27		44	
90 PERCENT EXCEEDS	11		7.1		9.2	



07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK--Continued

WATER QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1996 to current year.
pH: April 1996 to current year.
WATER TEMPERATURE: April 1996 to current year.
DISSOLVED OXYGEN: April 1996 to current year.

INSTRUMENTATION.--Water-quality monitor since April 1996.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1680 microsiemens, Aug. 30, 1997; minimum, 111 microsiemens, Jan. 4, 1998.
pH: Maximum, 9.1 units, July 9, 1996; minimum, 6.8 units, Oct. 5, 1997.
WATER TEMPERATURE: Maximum, 36.0°C, July 3, 1997; minimum, 0.0°C, Dec. 19, 1996.
DISSOLVED OXYGEN: Maximum, 14.6 mg/L, Dec. 19, 1996; minimum, 2.2 mg/L, May 25, 1996, June 26, 1997.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1570 microsiemens, June 17; minimum, 111 microsiemens, Jan. 4.
pH: Maximum, 9.0 units, July 13; minimum, 6.8 units, Oct. 5.
WATER TEMPERATURE: Maximum, 34.0°C, June 28, July 7, 8, 9; minimum, 1.5°C, Dec. 13.
DISSOLVED OXYGEN: Maximum recorded (more than 20% missing record), 14.0 mg/L, July 12; minimum recorded, 2.5 mg/L, July 8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)
OCT 1996										
18...	1300	1028	81213	21	633	7.9	16.5	2.2	753	8.1
JUL 1997										
30...	1215	1028	81213	13	893	8.0	28.0	<1.0	752	8.1
30...	1730	1028	81213	17	754	8.4	31.0	2.4	760	10.9
30...	2340	1028	81213	19	866	8.0	28.0	1.0	750	6.0
31...	0530	1028	81213	15	982	7.8	26.0	2.2	752	5.5
31...	1130	1028	81213	12	1010	7.9	26.5	2.7	757	7.7
AUG										
27...	0815	1028	81213	12	1340	7.6	24.0	7.1	750	5.5
27...	1400	1028	81213	9.1	1190	8.1	28.0	3.9	750	10.1
27...	2015	1028	81213	11	1260	8.2	29.0	6.0	750	8.2
28...	0215	1028	81213	11	1300	7.7	26.0	7.0	747	5.1
28...	0815	1028	81213	12	1240	7.6	24.5	1.1	748	4.8

DATE	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, BIOCHEM CARBON. 20 (MG/L) (80087)	OXYGEN DEMAND, BIOCHEM CARBON. 20-FILT. (MG/L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)
OCT 1996										
18...	84	--	--	187	<1.0	38	1.90	.200	2.10	2.20
JUL 1997										
30...	105	2.3	1.40	161	--	--	4.21	.091	4.30	.100
30...	148	3.0	2.40	154	--	--	2.95	.050	3.00	.070
30...	78	1.8	2.10	154	--	--	3.26	.042	3.30	.060
31...	69	2.7	2.50	154	--	--	3.77	.026	3.80	.060
31...	97	3.6	2.10	153	--	--	4.36	.041	4.40	.070
AUG										
27...	67	2.6	3.10	134	--	--	6.35	.046	6.40	.070
27...	131	3.4	3.20	138	--	--	5.90	.096	6.00	.080
27...	109	4.5	3.50	133	--	--	5.40	.097	5.50	.080
28...	65	3.3	2.80	134	--	--	5.30	.096	5.40	.100
28...	59	4.3	2.60	137	--	--	6.24	.160	6.40	.200

07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	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-PHORUS HYDRO. + ORTHO TOTAL (MG/L AS P) (00678)	PHENOLS TOTAL (UG/L) (32730)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
OCT 1996									
18...	2.8	.60	2.8	4.9	22	.560	.54	<1	14.0
JUL 1997									
30...	.13	.64	.74	5.0	22	1.10	.99	--	18.0
30...	.09	.58	.65	3.7	16	.690	.64	--	13.0
30...	.08	.61	.67	4.0	18	.800	.80	--	3.40
31...	.08	.61	.67	4.5	20	.940	.96	--	3.60
31...	.09	.79	.86	5.3	23	1.00	.99	--	3.50
AUG									
27...	.09	1.1	1.2	7.6	34	1.70	1.5	--	8.00
27...	.10	1.4	1.5	7.5	33	1.50	1.4	--	7.40
27...	.10	1.3	1.4	6.9	31	1.50	1.4	--	6.00
28...	.13	1.2	1.3	6.7	30	1.60	1.4	--	.600
28...	.26	1.4	1.6	8.0	35	1.60	1.5	--	4.80

DATE	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2) (70957)
AUG 1997					
01-29	1028	81213	2.88	27.2	1440
AUG					
01-29	1028	81213	1.65	18.5	4710
AUG					
01-29	1028	81213	2.38	47.1	3760

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	PROPANE TOTAL (UG/L) (82358)
JUL 1997				
16...	1425	1028	81213	<1.0
16...	1440	1028	81213	<1.0
16...	1450	1028	81213	<1.0
16...	1500	1028	81213	3.7
16...	1512	1028	81213	6.6
16...	1522	1028	81213	10.0
16...	1540	1028	81213	16.0
16...	1600	1028	81213	17.0
16...	1615	1028	81213	17.0
16...	1645	1028	81213	11.0
16...	1725	1028	81213	3.3
16...	1805	1028	81213	<1.0
16...	1905	1028	81213	<1.0
16...	2000	1028	81213	<1.0
18...	1233	1028	81213	<1.0
18...	1400	1028	81213	<1.0
18...	1459	1028	81213	<1.0
18...	1557	1028	81213	<1.0
18...	1700	1028	81213	<1.0
18...	1721	1028	81213	<1.0
18...	1740	1028	81213	<1.0
18...	1810	1028	81213	<1.0
18...	1838	1028	81213	<1.0
18...	1939	1028	81213	<1.0
18...	2031	1028	81213	<1.0
18...	2130	1028	81213	<1.0
18...	2330	1028	81213	<1.0
19...	0130	1028	81213	<1.0
19...	0600	1028	81213	<1.0
19...	1030	1028	81213	<1.0

07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	1380	985	1200	1240	1030	1120	844	746	801	441	433	438
2	1310	996	1160	1330	1110	1220	1020	746	917	453	434	446
3	1210	861	1030	1420	1140	1270	1110	733	836	456	412	448
4	1210	899	1030	1370	1090	1210	751	654	720	477	111	217
5	1340	988	1140	1180	811	1000	740	644	691	280	187	225
6	1420	1130	1280	1160	913	1020	820	719	783	221	182	202
7	1350	906	1160	1180	1020	1090	817	736	792	222	190	209
8	1010	873	927	1230	963	1090	749	463	559	211	185	202
9	1150	812	958	1220	812	1040	658	470	588	---	---	---
10	1180	937	1020	1220	571	691	715	574	656	---	---	---
11	1050	759	913	725	544	667	601	562	573	---	---	---
12	905	695	813	1030	713	823	623	550	578	---	---	---
13	726	472	528	1030	644	774	574	533	556	---	---	---
14	653	570	598	660	575	614	557	510	535	478	447	466
15	963	591	817	635	562	592	565	510	534	512	478	489
16	1030	898	970	675	599	631	667	521	547	544	512	527
17	1000	892	948	762	664	717	739	538	617	563	542	549
18	957	800	848	786	655	716	627	509	585	581	563	570
19	1010	878	920	908	688	755	715	509	662	603	573	584
20	1010	846	908	863	648	782	890	457	719	622	598	610
21	974	776	884	868	577	772	457	167	256	626	419	610
22	1100	731	867	845	801	826	339	279	299	419	224	278
23	857	532	687	890	743	825	350	196	296	395	304	373
24	584	511	545	941	803	874	246	196	223	461	377	423
25	682	556	608	924	777	868	260	242	247	484	461	474
26	709	672	688	941	734	821	303	260	275	471	277	315
27	855	672	716	1220	855	1120	383	303	327	437	319	371
28	1080	855	950	1280	933	1070	403	370	389	495	436	464
29	1100	898	994	1280	827	930	426	403	414	519	492	499
30	1100	837	956	840	609	678	441	425	431	578	519	553
31	1070	877	956	---	---	---	441	425	433	613	575	585
MONTH	1420	472	904	1420	544	887	1110	167	543	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	616	569	586	715	688	701	567	500	544	801	631	696
2	739	602	684	733	705	719	627	567	595	868	796	827
3	644	623	630	752	720	736	692	627	662	923	864	893
4	678	622	637	761	733	752	757	691	721	---	---	---
5	686	649	666	770	704	747	799	757	782	---	---	---
6	694	651	681	815	770	792	872	799	834	---	---	---
7	707	685	695	811	346	644	908	870	886	1080	1040	1060
8	707	690	700	768	382	505	920	876	898	1040	1010	1020
9	693	683	689	533	493	515	921	890	907	1030	1000	1020
10	745	605	645	566	531	547	924	904	914	1020	970	992
11	633	613	621	586	551	570	938	907	918	1060	953	986
12	656	626	643	636	586	607	976	912	929	1120	1040	1080
13	670	630	649	687	636	659	1020	962	992	1140	1050	1090
14	658	622	636	721	687	707	1020	966	993	1130	1050	1080
15	692	658	673	729	253	519	1040	999	1020	1140	1010	1060
16	690	660	677	299	202	236	1060	991	1030	1130	1000	1070
17	732	662	694	297	212	264	1030	986	1000	1000	972	991
18	730	641	665	325	290	308	1010	988	999	1070	974	999
19	774	419	655	391	306	329	1050	987	1020	1180	1070	1120
20	609	426	510	395	373	380	1040	1000	1020	1230	1070	1130
21	562	512	546	414	363	388	1030	995	1010	1190	1000	1100
22	575	562	569	475	414	446	1020	980	997	1100	952	998
23	602	571	584	540	475	506	1120	1020	1060	1210	1080	1120
24	629	602	619	590	540	564	1140	1110	1130	1190	997	1110
25	646	629	637	624	590	607	1160	1050	1100	1100	965	1020
26	659	614	633	646	624	638	1050	876	1000	1140	956	1040
27	668	648	661	722	646	690	923	242	458	1130	903	998
28	696	668	679	731	702	716	534	368	464	1080	897	962
29	---	---	---	779	731	768	603	534	576	1190	985	1080
30	---	---	---	765	363	679	631	600	611	1290	1010	1160
31	---	---	---	844	427	517	---	---	---	1220	1130	1170
MONTH	774	419	642	844	202	573	1160	242	869	---	---	---

07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	1290	1150	1220	944	748	819	1250	997	1090	956	628	743
2	1270	1040	1180	1080	812	937	1140	1070	1120	1020	738	906
3	1130	979	1010	1080	791	928	1160	885	1010	770	562	667
4	1230	1030	1150	987	860	910	902	757	832	616	550	596
5	1030	813	880	1090	978	999	798	534	650	648	555	605
6	1180	807	968	1090	841	944	590	562	582	675	580	647
7	857	795	819	1020	890	937	590	531	548	681	609	657
8	1100	825	937	1120	957	1010	624	514	562	706	643	657
9	1060	830	981	1110	1000	1050	521	475	503	741	717	730
10	1080	743	894	1150	1080	1120	592	493	535	750	681	716
11	962	493	667	1270	1080	1220	624	574	607	704	601	660
12	781	637	713	1290	1160	1230	633	494	568	664	578	633
13	953	781	855	1210	958	1070	559	501	539	748	579	656
14	1030	940	975	979	849	907	532	438	498	848	718	781
15	1060	949	980	882	756	821	590	407	522	936	776	849
16	1460	1060	1230	761	667	701	786	558	722	962	756	874
17	1570	1410	1490	684	613	657	1030	785	952	970	702	827
18	1460	1280	1380	648	580	611	1410	646	1080	970	724	900
19	1300	821	1250	596	560	580	1380	1010	1130	1010	652	875
20	1420	821	1060	608	553	569	1070	735	869	778	710	723
21	930	842	877	635	593	618	787	646	709	1150	732	985
22	1010	930	967	657	633	649	685	600	637	1270	753	986
23	1070	928	999	660	559	612	628	590	618	1100	741	884
24	971	913	931	604	563	588	666	615	652	944	788	872
25	1190	966	1060	616	532	580	1290	649	855	960	723	890
26	998	897	941	627	585	610	1350	856	1120	988	530	791
27	897	849	865	1350	611	958	1070	776	919	762	632	656
28	852	814	831	1410	971	1190	1010	630	816	717	586	646
29	920	780	808	1320	1020	1210	731	607	666	654	579	610
30	1070	943	1010	1040	760	850	672	574	601	1010	649	796
31	---	---	---	1360	927	1250	654	583	625	---	---	---
MONTH	1570	493	998	1410	532	875	1410	407	746	1270	530	761

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.9	7.3	7.6	---	---	---	8.2	8.0	8.1	8.7	8.7	8.7
2	7.7	7.1	7.3	---	---	---	8.1	7.8	8.0	8.7	8.7	8.7
3	7.7	7.1	7.2	---	---	---	8.0	7.8	8.0	8.7	8.5	8.7
4	7.5	6.9	7.1	---	---	---	8.2	8.0	8.1	8.6	8.2	8.3
5	7.5	6.8	7.0	---	---	---	8.4	8.1	8.3	8.4	8.1	8.3
6	7.8	6.9	7.0	8.3	7.5	7.6	8.4	8.3	8.3	8.4	8.2	8.4
7	8.0	7.1	7.4	8.2	7.5	7.6	8.3	8.0	8.2	8.5	8.4	8.4
8	7.8	7.1	7.5	8.1	7.5	7.6	8.2	8.0	8.1	8.5	8.4	8.4
9	7.9	7.4	7.6	7.7	7.3	7.5	8.3	8.1	8.3	8.5	8.4	8.5
10	8.0	7.4	7.5	7.7	7.5	7.6	8.4	8.3	8.3	8.5	8.5	8.5
11	8.0	7.4	7.6	8.0	7.7	7.9	8.5	8.4	8.5	8.5	8.5	8.5
12	---	---	---	8.1	7.9	8.0	8.6	8.5	8.5	8.6	8.5	8.6
13	---	---	---	8.0	7.9	7.9	8.6	8.5	8.5	8.6	8.6	8.6
14	---	---	---	8.1	7.9	8.0	8.6	8.5	8.5	8.7	8.6	8.7
15	---	---	---	8.2	8.0	8.2	8.6	8.5	8.5	8.7	8.6	8.7
16	---	---	---	8.2	8.1	8.2	8.6	8.4	8.5	8.6	8.6	8.6
17	---	---	---	8.2	8.0	8.1	8.6	8.4	8.5	8.7	8.6	8.6
18	---	---	---	8.1	8.0	8.0	8.6	8.5	8.5	8.7	8.6	8.7
19	---	---	---	8.1	7.9	8.0	8.5	8.3	8.4	8.7	8.6	8.6
20	---	---	---	8.1	7.9	7.9	8.5	8.2	8.3	8.6	8.6	8.6
21	---	---	---	8.1	7.8	8.0	8.2	8.0	8.1	8.6	8.3	8.6
22	---	---	---	8.1	7.8	7.9	8.3	8.1	8.2	8.3	8.2	8.2
23	---	---	---	8.1	7.9	7.9	8.4	8.1	8.2	8.3	8.2	8.2
24	---	---	---	8.1	7.8	7.9	8.3	8.2	8.3	8.3	8.3	8.3
25	---	---	---	8.2	7.8	7.9	8.4	8.3	8.3	8.4	8.0	8.4
26	---	---	---	8.2	7.7	7.8	8.4	8.4	8.4	8.3	8.1	8.2
27	---	---	---	8.0	7.7	7.8	8.6	8.4	8.5	8.2	8.1	8.2
28	---	---	---	7.9	7.7	7.7	8.6	8.6	8.6	8.3	8.1	8.1
29	---	---	---	8.0	7.7	7.8	8.7	8.6	8.7	8.2	8.1	8.1
30	---	---	---	8.2	7.9	8.1	8.7	8.7	8.7	8.2	8.1	8.1
31	---	---	---	---	---	---	8.7	8.7	8.7	8.2	8.1	8.1
MAX	---	---	---	---	---	---	8.7	8.7	8.7	8.7	8.7	8.7
MIN	---	---	---	---	---	---	8.0	7.8	8.0	8.2	8.0	8.1

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN

07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

	FEBRUARY			MARCH			APRIL			MAY		
1	8.3	8.1	8.3	8.5	8.4	8.5	8.3	8.2	8.2	8.2	8.1	8.2
2	8.3	8.3	8.3	8.5	8.4	8.5	8.3	8.2	8.3	8.2	8.2	8.2
3	8.3	8.3	8.3	8.5	8.4	8.5	8.4	8.3	8.4	8.3	8.2	8.3
4	8.3	8.3	8.3	8.5	8.4	8.5	8.4	8.4	8.4	8.5	8.3	8.3
5	8.3	8.3	8.3	8.5	8.4	8.4	8.5	8.4	8.4	8.5	8.2	8.3
6	8.4	8.3	8.3	8.5	8.4	8.4	8.5	8.4	8.4	8.3	8.2	8.2
7	8.4	8.3	8.3	8.4	8.0	8.3	8.5	8.4	8.4	8.2	8.1	8.2
8	8.5	8.3	8.4	8.2	8.1	8.1	8.5	8.4	8.4	8.2	8.1	8.2
9	8.5	8.4	8.5	8.3	8.2	8.2	8.5	8.4	8.4	8.2	8.1	8.2
10	8.5	8.4	8.5	8.3	8.3	8.3	8.5	8.4	8.4	8.3	8.1	8.2
11	8.5	8.5	8.5	8.4	8.3	8.4	8.5	8.4	8.4	8.2	8.1	8.1
12	8.5	8.2	8.5	8.4	8.4	8.4	8.4	8.3	8.4	8.2	8.0	8.1
13	8.5	8.4	8.5	8.4	8.4	8.4	8.4	8.2	8.3	8.2	8.0	8.0
14	8.5	8.5	8.5	8.5	8.4	8.4	8.4	8.2	8.2	8.2	8.0	8.0
15	8.5	8.4	8.5	8.4	7.9	8.3	8.3	8.2	8.2	8.2	8.0	8.1
16	8.5	8.4	8.5	8.1	7.9	8.0	8.4	8.1	8.2	8.2	8.0	8.1
17	8.5	8.4	8.4	8.1	8.0	8.0	8.4	8.1	8.2	8.2	8.0	8.1
18	8.5	8.5	8.5	8.1	8.0	8.0	8.4	8.1	8.1	8.2	8.0	8.0
19	8.5	8.2	8.4	8.1	8.0	8.0	8.3	8.0	8.1	8.2	7.9	8.0
20	8.3	8.2	8.2	8.1	8.1	8.1	8.2	8.0	8.1	8.3	7.9	8.0
21	8.3	8.2	8.3	8.2	8.1	8.2	8.3	8.0	8.2	8.3	7.9	8.0
22	8.4	8.3	8.4	8.2	8.2	8.2	8.5	8.1	8.4	8.2	8.0	8.0
23	8.4	8.4	8.4	8.2	8.2	8.2	8.5	8.3	8.4	8.2	7.9	8.0
24	8.5	8.4	8.4	8.3	8.2	8.3	8.5	8.3	8.3	8.3	8.0	8.1
25	8.5	8.4	8.4	8.3	8.3	8.3	8.4	8.2	8.3	8.3	8.0	8.1
26	8.5	8.4	8.5	8.4	8.3	8.3	8.3	8.0	8.2	8.3	8.0	8.1
27	8.5	8.4	8.5	8.4	8.3	8.4	8.1	7.8	8.0	8.3	7.9	8.1
28	8.5	8.4	8.5	8.4	8.4	8.4	8.1	7.9	8.0	8.3	8.0	8.1
29	---	---	---	8.4	8.4	8.4	8.1	8.1	8.1	8.4	8.0	8.1
30	---	---	---	8.4	7.9	8.4	8.2	8.1	8.2	8.4	7.9	8.1
31	---	---	---	8.2	8.0	8.1	---	---	---	8.3	8.0	8.0
MAX	8.5	8.5	8.5	8.5	8.4	8.5	8.5	8.4	8.4	8.5	8.3	8.3
MIN	8.3	8.1	8.2	8.1	7.9	8.0	8.1	7.8	8.0	8.2	7.9	8.0

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.3	7.9	8.0	8.3	7.5	7.8	8.3	7.6	7.9	8.6	7.8	8.1
2	8.3	7.9	8.0	8.4	7.4	7.8	8.4	7.5	7.8	8.6	7.9	8.3
3	8.3	7.8	7.9	8.5	7.5	7.9	8.4	7.6	8.1	8.7	7.9	8.2
4	8.3	7.9	8.0	8.6	7.5	8.0	8.3	7.5	7.7	8.6	8.0	8.4
5	8.4	7.9	8.1	8.4	7.6	7.9	8.4	7.4	7.8	8.5	7.9	8.2
6	8.5	8.0	8.2	8.7	7.5	7.9	8.4	7.8	8.0	8.5	7.9	8.1
7	8.6	8.0	8.1	8.7	7.7	8.1	8.3	7.8	8.0	8.6	7.9	8.2
8	8.4	7.9	8.0	8.8	7.6	8.2	8.4	7.9	8.1	8.5	7.9	8.2
9	8.6	7.9	8.1	8.6	7.6	8.1	8.6	7.9	8.1	8.5	7.9	8.2
10	8.3	7.9	8.1	8.7	7.6	8.0	8.5	7.9	8.2	8.5	7.9	8.2
11	8.1	7.8	7.9	8.5	7.6	8.1	8.5	7.9	8.1	8.6	7.9	8.3
12	8.4	7.9	8.2	8.7	7.6	7.9	8.4	7.9	8.1	8.5	8.0	8.2
13	8.3	7.9	8.1	9.0	7.7	8.1	8.4	7.9	8.1	8.1	7.9	8.0
14	8.2	7.8	7.9	8.9	7.9	8.4	8.4	7.9	8.1	8.3	7.9	8.0
15	8.2	7.8	7.9	8.6	7.8	8.2	8.2	7.6	7.7	8.2	7.8	7.9
16	8.2	7.8	7.8	8.6	7.8	8.2	8.3	7.8	7.8	8.0	7.8	7.9
17	8.1	7.6	7.8	8.7	7.8	8.2	8.3	7.8	8.0	8.4	7.9	8.0
18	8.3	7.6	7.7	8.7	7.9	8.3	8.3	7.7	7.9	8.4	7.9	8.1
19	8.2	7.5	7.7	8.6	7.9	8.2	8.2	7.6	7.8	8.5	8.0	8.2
20	8.1	7.8	7.9	8.7	7.9	8.3	8.5	7.6	7.9	8.5	8.0	8.2
21	8.0	7.7	7.8	8.6	7.8	8.2	8.6	7.8	8.1	8.6	8.0	8.2
22	8.2	7.8	7.9	8.5	7.7	8.0	8.4	7.8	8.2	8.3	7.9	8.0
23	8.2	7.8	7.9	8.9	7.7	8.2	8.4	7.8	8.1	8.1	7.8	7.9
24	8.1	7.6	7.8	8.8	8.1	8.4	8.4	7.8	8.1	8.3	7.7	7.8
25	8.2	7.5	7.7	8.7	7.9	8.4	8.4	7.8	8.0	8.4	7.8	8.0
26	8.4	7.5	7.8	8.8	7.9	8.2	8.4	7.8	8.1	8.4	7.8	8.1
27	8.5	7.6	7.9	8.6	7.9	8.2	8.6	7.9	8.2	8.4	7.8	8.0
28	8.5	7.7	8.0	8.4	7.7	7.9	8.5	7.9	8.2	8.4	7.8	8.0
29	8.4	7.6	7.9	8.4	7.5	7.8	8.5	7.9	8.2	8.3	7.8	8.0
30	8.4	7.5	7.9	8.5	7.5	7.9	8.5	7.9	8.1	8.3	7.7	7.9
31	---	---	---	8.4	7.5	7.9	8.5	7.8	8.1	---	---	---
MAX	8.6	8.0	8.2	9.0	8.1	8.4	8.6	7.9	8.2	8.7	8.0	8.4
MIN	8.0	7.5	7.7	8.3	7.4	7.8	8.2	7.4	7.7	8.0	7.7	7.8

07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	25.5	23.0	24.0	19.0	16.0	17.5	12.0	11.5	11.5	8.0	5.0	6.0
2	27.0	22.5	24.5	16.0	13.5	14.5	11.5	11.5	11.5	12.0	8.0	10.0
3	27.0	21.0	24.0	14.5	12.0	13.0	13.5	9.0	11.5	14.5	12.0	13.5
4	26.0	20.5	23.0	15.0	11.0	13.0	9.5	6.5	8.0	15.0	12.5	14.0
5	24.5	21.0	22.5	17.5	15.0	15.5	7.5	5.5	6.5	12.5	10.5	11.5
6	24.5	22.0	23.0	15.5	12.0	13.5	7.5	4.5	6.0	11.5	11.0	11.5
7	23.5	22.0	22.5	13.0	9.5	11.5	8.0	6.5	7.0	11.0	8.0	9.5
8	24.0	21.5	22.5	14.0	10.0	12.0	9.5	7.0	8.0	8.0	6.0	6.5
9	27.0	21.5	24.0	14.0	12.5	13.0	9.0	7.5	8.0	7.0	6.0	6.5
10	26.0	23.5	24.5	14.0	9.5	11.5	8.5	6.5	7.5	7.0	7.0	7.0
11	24.5	23.0	24.0	10.0	7.5	8.5	6.5	5.5	6.0	7.0	6.5	7.0
12	23.5	21.5	23.0	10.0	9.0	9.5	5.5	4.0	5.0	8.0	7.0	7.5
13	23.0	18.5	20.5	11.0	9.5	10.0	4.0	1.5	3.0	8.0	6.0	7.0
14	20.5	15.0	18.0	10.0	8.5	9.5	5.0	2.0	4.0	6.0	5.5	6.0
15	21.0	15.5	18.0	8.5	6.5	7.5	6.5	3.0	4.5	6.5	5.0	6.0
16	21.0	16.0	18.5	7.5	4.5	5.5	7.5	4.5	6.0	7.0	5.5	6.0
17	20.5	17.0	18.5	7.5	4.0	5.5	7.0	5.0	6.0	7.5	5.5	6.5
18	19.5	15.0	17.5	10.0	6.0	7.5	8.0	4.5	6.0	8.5	6.5	7.5
19	20.5	15.0	18.0	11.0	7.0	9.0	10.5	6.0	8.0	8.0	6.5	7.5
20	20.0	17.0	17.5	11.5	9.0	10.0	9.0	7.5	8.5	9.0	7.0	8.0
21	18.5	16.0	16.5	13.0	8.5	10.5	8.0	7.0	7.0	9.0	7.0	8.5
22	17.0	13.5	15.5	13.0	10.0	11.0	7.0	6.5	6.5	7.0	6.0	6.5
23	17.5	14.5	15.5	12.0	8.0	10.0	7.5	6.5	6.5	6.0	5.0	5.5
24	19.0	15.5	17.0	13.0	9.0	11.0	6.5	6.0	6.5	6.5	4.0	5.5
25	18.0	14.5	16.5	15.5	10.5	12.5	7.0	6.5	6.5	7.0	5.5	6.0
26	14.5	10.5	11.5	16.5	14.5	15.5	7.0	6.5	6.5	8.0	7.0	7.5
27	13.0	10.0	11.5	17.5	14.0	16.0	6.5	5.5	6.0	8.5	7.0	7.5
28	14.0	10.0	12.0	18.5	15.5	17.5	6.0	5.5	5.5	10.0	7.5	9.0
29	17.0	12.5	14.0	15.5	12.0	13.0	6.0	4.5	5.5	10.0	8.0	9.5
30	19.5	16.5	17.5	12.5	11.0	11.5	6.5	4.5	5.5	10.0	7.5	9.0
31	21.5	18.0	19.5	---	---	---	6.5	5.0	5.5	10.0	9.5	10.0
MONTH	27.0	10.0	19.2	19.0	4.0	11.5	13.5	1.5	6.8	15.0	4.0	8.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.0	10.0	10.5	11.5	8.5	10.0	18.5	15.0	16.5	21.0	16.5	18.5
2	11.0	9.0	10.0	11.0	7.5	9.5	19.0	16.0	17.5	22.5	18.5	20.5
3	10.0	8.5	9.0	11.5	7.0	9.0	18.5	16.0	17.0	23.0	19.5	21.5
4	9.0	7.5	8.0	13.5	9.0	11.0	16.0	14.5	15.0	---	---	---
5	8.5	6.5	7.5	13.5	11.0	12.5	17.5	13.0	15.0	---	---	---
6	7.5	5.0	6.5	11.0	9.5	10.0	19.5	16.0	17.5	---	---	---
7	8.0	5.0	6.5	10.5	10.0	10.0	20.5	17.0	18.5	27.0	22.5	24.5
8	8.5	6.5	7.5	10.5	7.0	9.0	20.5	17.5	19.0	25.5	22.0	24.0
9	10.0	7.5	8.5	7.5	5.0	6.5	19.5	16.0	18.0	25.0	22.0	23.5
10	10.5	9.5	10.0	8.0	4.5	6.5	20.0	15.0	17.5	26.0	20.5	23.0
11	10.5	8.0	9.5	9.0	5.5	7.0	21.0	16.0	18.5	26.5	21.5	24.0
12	10.0	8.5	9.5	7.5	5.5	6.5	20.0	17.5	18.5	28.5	23.5	25.5
13	10.0	9.0	9.5	9.5	7.0	8.5	23.0	17.5	20.0	27.5	24.0	25.5
14	11.0	8.0	9.0	10.5	9.5	10.0	24.0	18.5	21.5	27.0	24.5	25.5
15	11.5	10.0	10.5	12.0	10.5	11.5	24.0	20.5	22.0	28.5	25.0	26.0
16	11.0	9.5	10.0	12.0	11.5	11.5	22.0	18.5	20.5	28.0	22.0	25.0
17	10.5	9.0	10.0	11.5	11.0	11.5	---	---	---	26.0	22.5	24.0
18	11.0	8.5	10.0	13.0	11.5	12.0	20.5	16.5	18.0	28.0	22.5	25.0
19	12.0	10.5	11.0	13.0	10.5	12.0	20.5	16.5	18.5	29.0	23.5	26.0
20	11.5	10.0	11.0	11.0	9.5	10.0	19.0	16.5	17.5	29.0	24.0	26.0
21	12.0	10.5	11.5	11.5	10.0	11.0	19.0	14.0	16.5	28.0	25.0	26.5
22	12.5	11.0	12.0	13.5	10.5	12.0	19.5	15.5	17.5	27.0	25.0	26.0
23	13.5	10.5	12.0	15.5	12.0	14.0	20.5	15.0	18.0	26.5	24.5	25.5
24	14.5	11.0	13.0	17.5	14.0	16.0	22.0	17.0	19.5	29.5	23.5	26.0
25	16.5	14.0	15.5	20.0	16.5	18.0	23.5	19.0	21.0	28.0	25.5	26.5
26	16.5	14.5	15.5	19.5	17.5	18.5	22.0	18.5	21.0	28.5	24.5	26.0
27	14.5	12.0	13.0	19.5	17.0	18.5	18.5	16.5	17.0	26.5	24.0	25.0
28	12.5	10.5	11.5	20.5	16.0	18.5	17.0	16.0	16.5	30.0	22.5	25.5
29	---	---	---	20.0	19.0	19.5	16.0	15.0	15.5	32.0	26.0	28.5
30	---	---	---	20.0	17.5	19.0	18.0	14.0	16.0	31.5	26.0	29.0
31	---	---	---	17.5	14.0	16.0	---	---	---	32.5	26.5	29.0
MONTH	16.5	5.0	10.3	20.5	4.5	12.1	---	---	---	---	---	---

07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	32.5	27.0	29.5	32.5	28.5	30.5	32.0	26.5	29.5	29.5	25.5	27.5
2	32.0	27.0	29.5	33.5	28.5	31.0	32.0	26.5	29.5	29.0	25.0	27.0
3	32.0	26.5	29.0	33.0	27.5	30.0	31.5	28.0	30.0	30.0	25.5	27.5
4	30.0	27.0	28.0	32.0	28.0	30.0	30.0	26.5	28.5	30.0	26.0	28.0
5	27.0	22.5	24.0	30.0	27.5	29.0	29.5	26.5	28.0	30.0	25.5	28.0
6	26.0	20.0	22.5	33.0	27.0	30.0	29.0	26.0	27.5	30.0	26.5	28.0
7	25.5	20.5	23.0	34.0	28.0	31.0	28.5	25.5	27.0	29.5	25.0	27.5
8	25.0	21.5	23.0	34.0	29.0	31.5	30.5	25.0	27.5	29.0	25.5	27.5
9	29.5	24.0	26.0	34.0	28.5	31.0	32.0	27.0	29.0	28.0	25.5	26.5
10	27.0	24.5	25.5	33.5	28.5	31.0	30.5	27.0	29.0	26.5	22.0	24.5
11	28.5	23.5	25.5	33.0	28.5	31.0	29.0	27.0	27.5	26.5	24.0	25.0
12	31.0	25.0	27.5	33.5	28.5	31.0	31.0	26.5	28.0	26.0	24.0	24.5
13	33.0	27.5	29.5	33.0	29.0	31.0	30.5	27.0	28.5	25.5	24.0	24.5
14	32.0	27.5	29.5	33.0	28.5	30.5	30.0	27.5	29.0	28.5	25.0	26.5
15	30.5	25.5	28.0	32.5	27.5	30.0	30.0	26.0	28.5	28.5	26.0	27.0
16	30.0	24.0	27.0	32.5	28.0	30.0	31.5	26.5	29.0	27.5	25.0	25.5
17	30.0	25.5	27.5	33.0	28.5	30.5	32.0	27.5	29.5	28.5	24.0	26.0
18	31.0	26.5	28.5	33.0	28.0	30.5	32.0	27.5	30.0	28.0	24.5	26.5
19	32.5	26.5	29.0	32.5	27.5	30.0	30.5	27.5	29.0	28.5	25.0	26.5
20	32.5	28.5	30.5	32.5	28.0	30.0	31.5	27.0	29.0	29.0	25.0	27.0
21	33.5	28.0	30.5	33.0	28.0	30.5	31.0	27.0	29.0	29.5	26.0	27.5
22	33.5	28.0	30.5	32.5	28.0	30.0	30.5	26.5	28.5	28.5	25.5	26.5
23	33.0	27.5	30.0	33.0	27.5	30.0	30.5	26.5	28.5	27.0	24.0	25.5
24	32.5	27.0	29.5	33.0	28.0	30.0	31.5	27.0	29.0	28.0	25.0	26.5
25	32.5	27.5	30.0	33.0	28.0	30.5	32.0	27.0	29.5	28.5	25.0	27.0
26	33.0	27.5	30.0	33.0	28.5	30.5	31.5	27.5	29.5	28.0	25.0	27.0
27	33.0	28.0	30.5	32.5	27.5	30.0	31.5	27.0	29.5	28.5	25.5	27.0
28	34.0	28.5	31.0	32.0	27.5	30.0	29.5	27.0	28.5	29.0	25.5	27.5
29	33.5	28.5	31.0	32.5	28.0	30.0	30.5	26.5	28.0	28.5	25.0	26.5
30	33.5	28.5	31.0	33.0	27.5	30.0	30.0	25.5	28.0	28.5	24.0	26.5
31	---	---	---	32.0	27.0	29.5	30.5	26.5	28.5	---	---	---
MONTH	34.0	20.0	28.2	34.0	27.0	30.3	32.0	25.0	28.7	30.0	22.0	26.6

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	11.4	5.6	7.6	9.8	8.1	8.6	11.9	11.2	11.6
2	---	---	---	11.5	5.8	7.9	---	---	---	11.2	10.0	10.6
3	---	---	---	12.2	6.2	8.2	---	---	---	10.0	9.5	9.7
4	---	---	---	13.7	6.4	9.0	---	---	---	9.5	8.8	9.2
5	---	---	---	12.3	5.6	7.9	---	---	---	10.1	9.4	9.7
6	---	---	---	12.5	5.5	8.0	---	---	---	10.1	9.8	9.9
7	---	---	---	12.7	6.5	8.7	---	---	---	10.8	9.8	10.3
8	---	---	---	12.3	6.2	8.4	---	---	---	11.3	10.8	11.0
9	---	---	---	8.2	5.9	6.9	---	---	---	11.3	11.1	11.2
10	8.4	4.8	5.7	8.4	6.9	7.9	---	---	---	11.2	11.0	11.1
11	8.8	5.2	6.3	10.5	8.4	9.8	11.4	10.7	11.1	11.3	11.1	11.2
12	6.3	5.4	6.0	9.7	9.1	9.3	11.7	11.0	11.3	11.2	10.9	11.0
13	7.5	5.7	6.8	9.3	8.8	9.1	---	---	---	11.4	10.9	11.2
14	8.9	6.8	7.7	10.3	9.1	9.7	13.8	11.5	12.5	11.5	11.4	11.5
15	9.1	7.2	7.9	11.2	9.8	10.5	13.0	11.0	11.9	11.7	11.3	11.5
16	9.2	6.9	7.7	12.0	10.6	11.3	12.1	10.3	11.2	11.5	11.2	11.3
17	9.8	6.8	7.9	12.1	10.8	11.4	12.1	10.2	11.0	11.8	11.1	11.4
18	9.4	6.4	7.5	11.2	9.7	10.6	12.0	10.5	11.1	11.5	11.0	11.2
19	9.3	5.8	7.1	11.2	9.3	10.1	11.4	9.7	10.4	11.5	10.9	11.2
20	11.0	5.6	8.3	10.6	9.2	9.7	10.4	9.3	9.7	11.2	10.6	10.9
21	9.6	6.3	8.0	10.4	8.7	9.5	10.6	9.1	10.0	11.6	10.6	10.9
22	10.8	6.3	8.1	10.7	8.6	9.3	10.6	9.1	10.2	11.9	11.3	11.6
23	8.9	6.8	7.7	11.1	8.7	9.6	10.9	10.6	10.8	---	---	---
24	8.1	6.8	7.3	11.2	8.0	9.4	10.7	10.0	10.5	---	---	---
25	8.7	6.8	7.4	10.9	6.8	8.8	10.9	10.6	10.8	11.8	11.5	11.7
26	10.1	7.0	8.6	10.5	6.5	7.8	11.0	10.8	10.9	11.6	11.1	11.4
27	10.6	8.3	9.2	9.2	5.5	7.0	11.8	10.8	11.3	12.1	10.9	11.4
28	11.2	7.6	9.1	8.0	5.5	6.4	11.3	11.1	11.2	11.2	10.1	10.8
29	12.0	7.4	8.8	9.4	6.0	7.5	11.8	11.1	11.4	10.5	10.0	10.3
30	12.6	6.8	8.8	9.6	7.2	8.7	11.9	11.0	11.4	10.6	9.9	10.2
31	11.7	5.7	7.9	---	---	---	12.0	11.1	11.5	10.2	9.8	10.0
MONTH	---	---	---	13.7	5.5	8.9	---	---	---	---	---	---

07330700 CADDO CREEK SITE 7CMP NEAR GENE AUTRY, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.3	10.0	10.1	11.0	9.6	10.2	---	---	---	8.2	7.5	8.0
2	---	---	---	11.2	9.8	10.4	---	---	---	7.9	7.2	7.7
3	11.0	10.2	10.6	11.5	9.8	10.5	---	---	---	8.1	7.2	7.7
4	11.3	10.6	10.9	11.1	9.1	10.1	---	---	---	---	---	---
5	11.9	10.6	11.2	9.7	9.0	9.3	---	---	---	---	---	---
6	---	---	---	10.6	9.2	9.8	---	---	---	8.4	6.8	7.4
7	12.3	11.0	11.6	9.6	9.3	9.4	---	---	---	8.4	6.6	7.4
8	11.8	10.9	11.4	10.1	9.1	9.4	---	---	---	8.6	6.6	7.3
9	11.6	10.7	11.1	11.8	10.1	10.9	---	---	---	8.6	6.6	7.4
10	11.2	10.4	10.7	12.6	10.5	11.5	---	---	---	9.1	6.8	7.6
11	11.6	10.5	11.0	12.6	10.5	11.3	---	---	---	8.7	6.4	7.2
12	11.5	10.2	10.7	13.2	10.4	11.6	---	---	---	8.4	6.0	6.8
13	11.0	10.0	10.4	11.7	10.4	11.1	---	---	---	7.9	5.5	6.4
14	11.4	9.9	10.5	---	---	---	---	---	---	7.8	5.3	6.3
15	10.8	9.6	10.1	---	---	---	---	---	---	8.3	5.5	6.8
16	10.3	9.5	9.9	---	---	---	---	---	---	8.7	6.1	7.1
17	10.8	9.7	10.1	---	---	---	---	---	---	8.9	6.3	7.3
18	11.2	9.9	10.4	---	---	---	---	---	---	9.3	6.2	7.3
19	10.1	9.6	9.8	---	---	---	---	---	---	9.4	6.0	7.1
20	10.2	9.5	9.8	---	---	---	---	---	---	9.6	5.9	7.2
21	10.1	9.5	9.8	---	---	---	---	---	---	9.4	5.9	7.1
22	10.0	9.5	9.7	---	---	---	---	---	---	8.8	5.9	7.0
23	10.5	9.5	10.0	---	---	---	10.0	7.2	8.3	8.5	6.1	7.0
24	10.4	9.2	9.8	---	---	---	9.9	6.7	8.0	9.4	6.0	7.3
25	9.7	8.6	9.1	---	---	---	9.5	6.4	7.6	8.8	6.0	7.0
26	9.7	8.4	8.9	---	---	---	8.1	6.3	7.0	9.6	6.2	7.3
27	10.3	8.8	9.5	---	---	---	7.1	5.8	6.7	9.1	6.2	7.2
28	10.6	9.3	9.9	---	---	---	8.2	7.0	7.8	10.0	6.2	7.8
29	---	---	---	---	---	---	8.4	8.2	8.3	9.5	5.7	7.0
30	---	---	---	---	---	---	8.8	8.0	8.5	9.4	4.9	6.5
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	7.8	3.8	5.4	---	---	---
2	---	---	---	12.9	5.1	8.1	8.3	3.3	5.3	---	---	---
3	9.9	4.7	6.5	13.9	5.4	8.4	7.8	3.3	5.2	---	---	---
4	8.7	4.9	6.2	13.8	5.3	8.5	7.0	3.1	4.7	10.9	5.4	7.8
5	9.4	5.2	6.9	13.2	5.1	8.3	9.1	3.7	6.0	10.9	6.0	8.0
6	9.8	6.0	7.5	13.6	5.4	8.5	9.3	5.6	7.1	11.6	5.3	7.8
7	7.8	6.1	7.0	13.7	5.3	8.5	9.0	5.7	7.1	11.7	6.0	8.0
8	9.9	5.8	6.8	13.4	2.5	7.7	9.9	6.3	7.7	11.5	6.0	7.9
9	10.0	5.2	6.8	13.0	3.7	7.6	9.9	5.7	7.2	11.3	6.0	8.0
10	7.0	4.9	5.6	13.0	4.1	7.6	9.6	5.6	7.1	11.7	6.5	8.4
11	6.1	4.8	5.5	13.1	4.5	8.1	8.5	5.8	6.7	11.2	6.7	8.1
12	7.0	5.5	6.1	14.0	3.8	7.7	9.3	5.5	7.2	10.4	6.8	8.0
13	6.7	4.7	5.5	13.5	4.0	7.8	9.4	5.6	7.0	9.1	6.9	7.6
14	6.8	4.2	5.1	12.3	4.6	7.7	9.0	5.6	7.0	9.5	6.3	7.5
15	7.1	4.1	5.1	10.1	4.3	6.8	---	---	---	9.1	5.6	7.1
16	7.0	3.6	4.9	9.4	4.1	6.2	---	---	---	8.3	5.8	6.9
17	---	---	---	9.2	4.1	6.1	10.4	5.2	7.2	9.6	6.8	7.7
18	---	---	---	8.9	4.4	6.1	10.3	4.9	7.0	9.5	6.3	7.6
19	---	---	---	8.2	4.1	5.6	9.3	3.9	5.9	9.8	5.8	7.3
20	---	---	---	8.1	4.1	5.6	8.5	3.9	5.7	9.1	6.0	7.1
21	---	---	---	---	---	---	8.3	4.3	5.8	8.4	5.4	6.4
22	---	---	---	---	---	---	8.2	4.2	5.7	8.1	5.2	6.4
23	---	---	---	---	---	---	8.3	3.9	5.5	8.7	6.1	7.0
24	---	---	---	8.3	4.1	5.8	---	---	---	8.3	5.6	6.6
25	---	---	---	7.8	4.0	5.6	---	---	---	7.7	5.1	6.0
26	---	---	---	8.2	3.9	5.5	---	---	---	---	---	---
27	---	---	---	8.1	3.8	5.3	---	---	---	---	---	---
28	---	---	---	7.6	3.3	5.1	---	---	---	---	---	---
29	---	---	---	7.9	3.0	5.0	---	---	---	---	---	---
30	---	---	---	8.4	3.2	5.3	---	---	---	---	---	---
31	---	---	---	8.6	3.6	5.5	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

07330720 CADDO CREEK SITE 8CMP NEAR GENE AUTRY, OK

LOCATION.--Lat 34°13'58", long 97°02'16", in SW ¼ SW ¼ sec.6, T.4 S., R.3 E., Carter County, Hydrologic Unit 11130303, on right bank 3.1 mi north of U.S.Highway 70, 3.8 mi south of Gene Autry, and at mile 7.1.

PERIOD OF RECORD.--October 1996 to August 1997 (discontinued).

REMARKS.--Water temperature, specific conductance, pH, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)
OCT 1996										
18...	1245	1028	81213	830	7.8	20.0	17.5	4.3	756	7.6
JUL 1997										
30...	2330	1028	81213	843	8.3	--	28.0	3.2	760	7.7
31...	0515	1028	81213	841	8.0	--	24.0	1.2	756	5.9
31...	1115	1028	81213	895	8.2	--	28.5	1.5	753	8.6
31...	1720	1028	81213	926	8.6	--	32.0	3.2	760	11.7
31...	2315	1028	81213	1010	8.3	--	29.5	4.3	751	8.2
AUG										
28...	0100	1028	81213	1270	8.1	--	27.0	18	751	7.2
28...	0700	1028	81213	1200	7.7	--	25.0	21	750	6.1
28...	1230	1028	81213	1270	8.3	--	29.5	1.6	750	9.7
28...	1830	1028	81213	1300	8.4	--	29.5	2.0	747	10.7
29...	0030	1028	81213	1250	8.0	--	27.5	8.2	746	7.1

DATE	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, BIOCHEM CARBON. 20 (MG/L) (80087)	OXYGEN DEMAND, BIOCHEM CARBON. 20-FILT. (MG/L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)
OCT 1996										
18...	80	--	--	202	<1.0	39	2.04	.260	2.30	2.00
JUL 1997										
30...	99	2.9	2.80	160	--	--	3.82	.076	3.90	.080
31...	71	3.1	1.60	159	--	--	3.35	.052	3.40	.140
31...	112	3.3	1.70	158	--	--	2.96	.044	3.00	.070
31...	161	4.3	2.50	163	--	--	3.07	.034	3.10	.050
31...	110	2.7	1.80	157	--	--	3.56	.042	3.60	.070
AUG										
28...	92	5.5	4.80	142	--	--	5.54	.058	5.60	.060
28...	75	4.5	5.10	143	--	--	4.71	.087	4.80	.120
28...	130	4.0	3.00	141	--	--	4.61	.092	4.70	.060
28...	144	4.1	3.40	141	--	--	4.71	.086	4.80	.030
29...	92	3.5	2.80	140	--	--	5.18	.120	5.30	.090

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS HYDRO. + ORTHO TOTAL (MG/L AS P) (00678)	PHENOLS TOTAL (UG/L) (32730)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)
OCT 1996									
18...	2.6	.60	2.6	4.9	22	.570	.55	<1	7.20
JUL 1997									
30...	.10	.81	.89	4.8	21	.930	.91	--	5.50
31...	.18	.72	.86	4.3	19	.850	.77	--	5.20
31...	.09	.70	.77	3.8	17	.840	.79	--	16.0
31...	.06	.70	.75	3.8	17	.880	.80	--	22.0
31...	.09	.76	.83	4.4	20	.880	.88	--	4.00
AUG									
28...	.08	1.3	1.4	7.0	31	1.40	1.3	--	8.80
28...	.15	1.3	1.4	6.2	27	1.40	1.3	--	8.50
28...	.08	1.4	1.5	6.2	27	1.40	1.3	--	12.0
28...	.04	1.6	1.6	6.4	28	1.40	1.3	--	15.0
29...	.12	1.4	1.5	6.8	30	1.40	1.3	--	9.50

07330720 CADDO CREEK SITE 8CMP NEAR GENE AUTRY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2) (70957)
AUG 1997					
01-29	1028	81213	1.02	11.6	4060
AUG					
01-29	1028	81213	.180	1.41	1690
AUG					
01-29	1028	81213	2.02	8.91	3460

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	PROPANE TOTAL (UG/L) (82358)
JUL 1997				
16...	2338	1028	81213	<1.0
16...	2348	1028	81213	<1.0
16...	2357	1028	81213	<1.0
17...	0004	1028	81213	<1.0
17...	0014	1028	81213	<1.0
17...	0025	1028	81213	<1.0
17...	0038	1028	81213	<1.0
17...	0048	1028	81213	<1.0
17...	0100	1028	81213	<1.0
17...	0111	1028	81213	<1.0
17...	0124	1028	81213	<1.0
17...	0136	1028	81213	<1.0
17...	0152	1028	81213	<1.0
17...	0237	1028	81213	<1.0
17...	0337	1028	81213	<1.0
17...	0437	1028	81213	<1.0
17...	0536	1028	81213	<1.0
17...	0606	1028	81213	<1.0
17...	0705	1028	81213	<1.0
17...	0800	1028	81213	<1.0

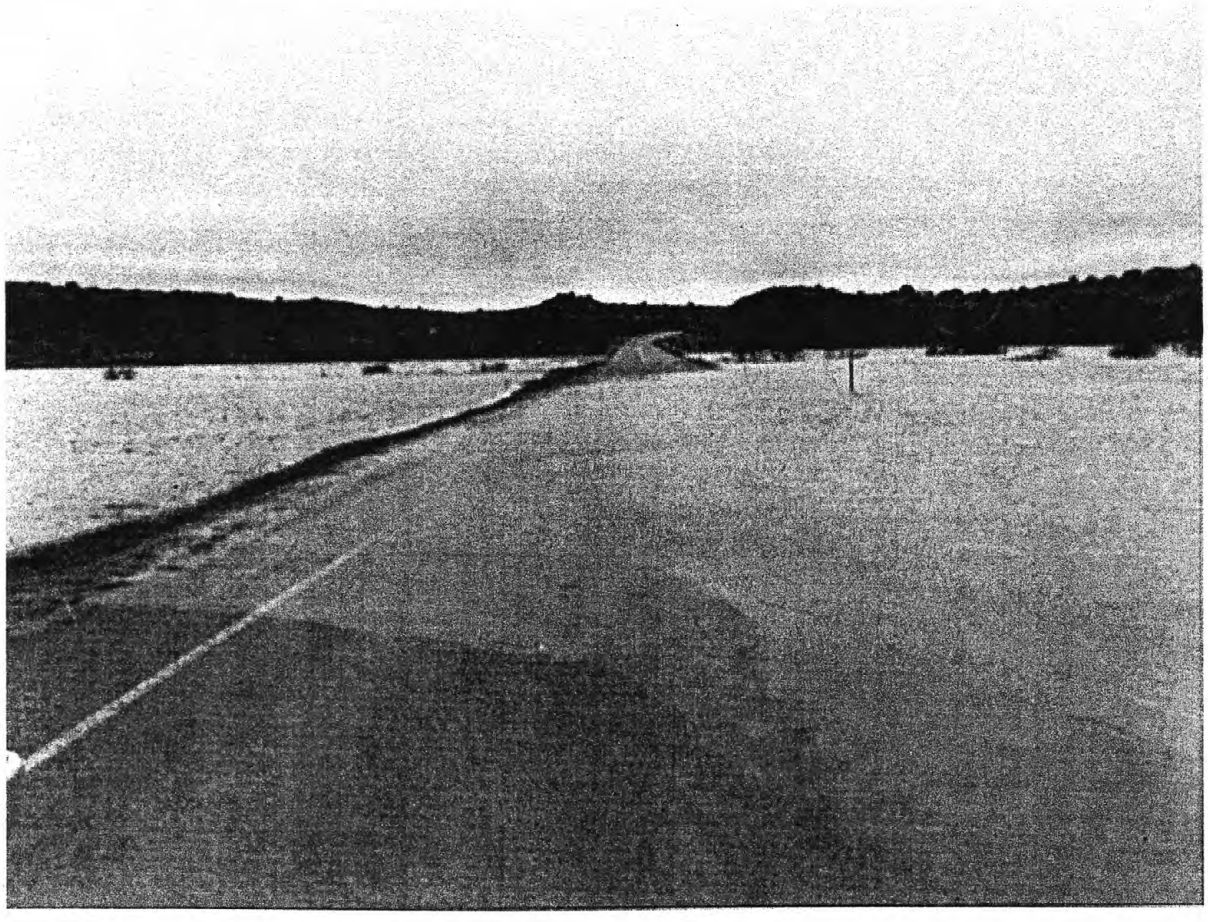
07330790 CADDO CREEK SITE 9A NEAR GENE AUTRY, OK

LOCATION.--Lat 34°13'33", long 97°00'55", in SE ¼ SW ¼ sec.8, T.4 S., R.3 E., Carter County, Hydrologic Unit 11130303, on right downstream bank 3.0 mi south of Gene Autry, 1.5 mi east, 1.4 mi south on private land, and at mile 3.9.

PERIOD OF RECORD.--October 1996 to August 1997 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2) (70957)
AUG 1997					
01-29	1028	81213	7.12	26.9	12000



07303400 Elm Fork of North Fork Red River near Carl, OK. June 3, 1995
Road overflow near peak.

07330800 CADDO CREEK SITE 9CMP NEAR GENE AUTRY, OK

LOCATION.--Lat 34°13'51", long 97°00'47" in SE $^1/_4$, SW $^1/_4$, sec.5, T.4S, R.3E, Carter County, Hydrologic Unit 11130303, on left downstream bank 3.0 mi south of Gene Autry, 1.5 mi east, 1 mi south on private land, and at mile 3.3.

PERIOD OF RECORD.--April 1997 to September 1997 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1997 to September 1997.
WATER TEMPERATURE: April 1997 to September 1997.

REMARKS.--Water temperature, specific conductance, pH, alkalinity, and dissolved oxygen were determined in the field.

EXTREMES FOR CURRENT YEAR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,480 microsiemens, Sept. 1, 1997; minimum, 119 microsiemens, May 30, 1997.
WATER TEMPERATURE: Maximum, 34.5°C, July 28, 1997; minimum, 11.0°C, Apr. 13, 1997.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	BAROMETRIC PRESSURE (MM OF HG) (00025)
OCT 1996										
18...	1315	1028	81213	21	624	8.1	18.0	17.5	3.4	756
JUL 1997										
31...	1500	1028	81213	--	909	8.5	--	32.0	10	753
31...	2015	1028	81213	--	851	8.3	--	30.5	10	750
AUG										
01...	0210	1028	81213	--	870	8.1	--	28.5	10	751
01...	0815	1028	81213	--	918	8.2	--	27.0	12	748
01...	1400	1028	81213	--	1020	8.5	--	30.0	12	754
28...	2230	1028	81213	--	1300	8.1	--	28.5	20	745
29...	0420	1028	81213	--	1210	8.0	--	26.5	11	740
29...	1020	1028	81213	--	1250	8.0	--	26.5	5.4	741
29...	1600	1028	81213	--	1290	8.3	--	31.5	5.7	740
29...	2200	1028	81213	--	1240	8.0	--	29.0	13	740

DATE	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, BIOCHEM CARBON. 20 (MG/L) (80087)	OXYGEN DEMAND, BIOCHEM CARBON. 20-FILT. (MG.L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFIDE TOTAL (MG/L AS S) (00745)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, NITRATE TOTAL (MG/L AS N) (00620)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 1996										
18...	9.7	102	--	--	173	<1.0	39	1.79	.210	2.00
JUL 1997										
31...	11.2	155	6.3	1.60	166	--	--	3.23	.066	3.30
31...	8.2	112	3.6	2.00	161	--	--	2.65	.053	2.70
AUG										
01...	6.4	84	3.3	1.50	169	--	--	2.65	.052	2.70
01...	5.8	74	3.3	1.60	168	--	--	2.45	.047	2.50
01...	10.7	144	4.7	3.50	164	--	--	3.05	.048	3.10
28...	8.0	106	4.7	3.10	150	--	--	4.44	.062	4.50
29...	6.2	80	4.4	3.50	150	--	--	4.33	.066	4.40
29...	6.7	86	3.8	4.10	152	--	--	3.92	.080	4.00
29...	10.6	148	5.9	9.20	152	--	--	4.01	.086	4.10
29...	6.9	93	4.8	3.90	154	--	--	4.20	.098	4.30

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS HYDRO. + ORTHO TOTAL (MG/L AS P) (00678)	PHENOLS TOTAL (UG/L) (32730)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)
OCT 1996										
18...	.420	.54	.50	.92	2.9	13	.370	.36	<1	2.50
JUL 1997										
31...	.050	.06	.82	.87	4.2	18	.880	.81	--	29.0
31...	.050	.06	.68	.73	3.4	15	.760	.70	--	10.0
AUG										
01...	.090	.12	.73	.82	3.5	16	.760	.70	--	8.10
01...	.100	.13	.90	1.0	3.5	15	.760	.72	--	3.20
01...	.050	.06	.83	.88	4.0	18	.770	.76	--	29.0
28...	.030	.04	1.6	1.6	6.1	27	.980	1.1	--	6.90
29...	.080	.10	1.4	1.5	5.9	26	1.10	1.1	--	13.0
29...	.070	.09	1.3	1.4	5.4	24	1.10	1.0	--	13.0
29...	.030	.04	1.6	1.6	5.7	25	1.50	1.1	--	13.0
29...	.050	.06	1.6	1.7	6.0	27	1.70	1.1	--	11.0

07330800 CADDO CREEK SITE 9CMP NEAR GENE AUTRY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M (00572)	PERIPHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M (00573)	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2) (70957)
AUG 1997					
01-29	1028	81213	3.55	50.9	1440
AUG					
01-29	1028	81213	7.11	74.4	1690
AUG					
01-29	1028	81213	2.93	5.80	1090

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	PROPANE TOTAL (UG/L) (82358)
JUL 1997				
17...	0100	1028	81213	<1.0
17...	0518	1028	81213	<1.0
17...	0815	1028	81213	<1.0
17...	0903	1028	81213	<1.0
17...	1000	1028	81213	<1.0
17...	1100	1028	81213	<1.0
17...	1200	1028	81213	<1.0
17...	1230	1028	81213	<1.0
17...	1255	1028	81213	<1.0
17...	1315	1028	81213	<1.0
17...	1335	1028	81213	<1.0
17...	1355	1028	81213	<1.0
17...	1415	1028	81213	<1.0
17...	1435	1028	81213	<1.0
17...	1455	1028	81213	<1.0
17...	1515	1028	81213	<1.0
17...	1545	1028	81213	<1.0
17...	1615	1028	81213	<1.0
17...	1645	1028	81213	<1.0
17...	1800	1028	81213	<1.0
17...	2159	1028	81213	<1.0

07331000 WASHITA RIVER NEAR DICKSON, OK

LOCATION.--Lat 34°14'00", long 96°58'32", in SW ¼ SE ¼ sec.3, T.4 S., R.3 E., Carter County, Hydrologic Unit 11130303, on right bank on downstream side of bridge on U.S. Highway 177, 1.3 mi downstream from Caddo Creek, 3.2 mi north of Dickson, 12.0 mi northeast of Ardmore, and at mile 63.4.

DRAINAGE AREA.--7,202 mi^2.

PERIOD OF RECORD.--August 1928 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to Oct. 1, 1979, published as Washita River near Durwood.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1281: 1935 (M).

GAGE.--Water-stage recorder. Datum of gage is 650.57 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Feb. 16, 1939, nonrecording gage, at same site and datum. Dec. 15, 1950, to Feb. 19, 1952, nonrecording gage, at site 500 ft upstream, at same datum. Apr. 24, 1975, to May 8, 1986, water-stage recorder, at site 500 ft upstream, at same datum.

REMARKS.--Records fair. Some diversions for irrigation upstream from station. Flow regulated by Fort Cobb Reservoir (station 07325900) since March 1959; by Foss Reservoir (station 07324300) since February 1961; and by numerous flood-retarding structures. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1270	e1100	1170	1790	2250	2100	6090	7290	1110	425	173	129
2	1120	e1030	1170	1600	6500	2080	5260	5960	1160	e414	171	124
3	1100	e980	1270	1480	6320	2050	4790	5220	1040	e400	164	121
4	1100	e1000	1310	7750	5090	1920	4390	4520	969	e390	169	119
5	1070	949	1380	21300	4600	1910	4120	3990	941	e375	173	117
6	1150	e895	1370	18400	3910	1910	4120	3530	891	e362	177	113
7	1540	e850	1330	14000	3430	2080	4340	3260	852	e355	182	108
8	e1450	e800	1440	21500	3140	3390	4600	2860	827	349	197	107
9	e1250	e1100	1400	16500	3000	3830	4190	2570	882	344	188	106
10	e1200	e1600	1310	10500	2900	3220	4090	2480	1300	382	200	99
11	e1400	e1210	1180	7970	2700	2870	3910	2490	1380	345	220	99
12	e1500	1210	1120	6390	2530	2860	3730	2380	1190	317	226	101
13	e1700	e1100	1140	5440	2320	2700	3670	2150	1740	307	257	112
14	e2000	e1150	1160	4720	2240	2460	3400	2040	1700	294	251	129
15	e1800	e1180	1160	4240	2190	3060	3360	1990	1270	286	241	144
16	e1700	e1200	1140	3850	2180	21700	4280	1970	1060	283	250	175
17	e1600	e1230	1120	3460	2230	36600	3820	1920	880	285	246	224
18	e1500	1150	1090	3250	2350	30300	3540	1810	778	277	229	205
19	e1400	1100	1050	3000	2480	23200	3290	1710	736	274	214	167
20	e1350	1100	1090	2530	2570	e18500	3160	1620	775	266	203	150
21	e1300	1090	2760	2480	2460	e16000	3110	1520	727	255	197	142
22	1280	1060	3830	3310	2420	e14700	3030	1450	678	242	182	170
23	1350	1010	2920	2890	2310	e12700	2860	1400	e640	230	168	255
24	e1800	981	10400	2560	2260	11700	2690	1360	e600	219	159	321
25	e2000	950	7000	2410	2240	9320	2600	1310	e560	209	152	246
26	e1700	942	4620	2960	2240	8150	2610	1290	e530	205	149	205
27	e1500	946	3820	2590	2250	7500	22900	1310	e500	210	141	176
28	e1450	973	3390	2380	2170	6700	22700	1550	e470	201	137	160
29	e1350	1150	2930	2350	---	6180	12600	1400	e450	195	136	155
30	e1200	1270	2590	2230	---	5740	9200	1250	e436	186	133	149
31	e1150	---	2220	2050	---	6890	---	1130	---	183	133	---
TOTAL	44280	32306	70880	187880	83280	274320	166450	76730	27072	9065	5818	4628
MEAN	1428	1077	2286	6061	2974	8849	5548	2475	902	292	188	154
MAX	2000	1600	10400	21500	6500	36600	22900	7290	1740	425	257	321
MIN	1070	800	1050	1480	2170	1910	2600	1130	436	183	133	99
AC-FT	87830	64080	140600	372700	165200	544100	330200	152200	53700	17980	11540	9180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

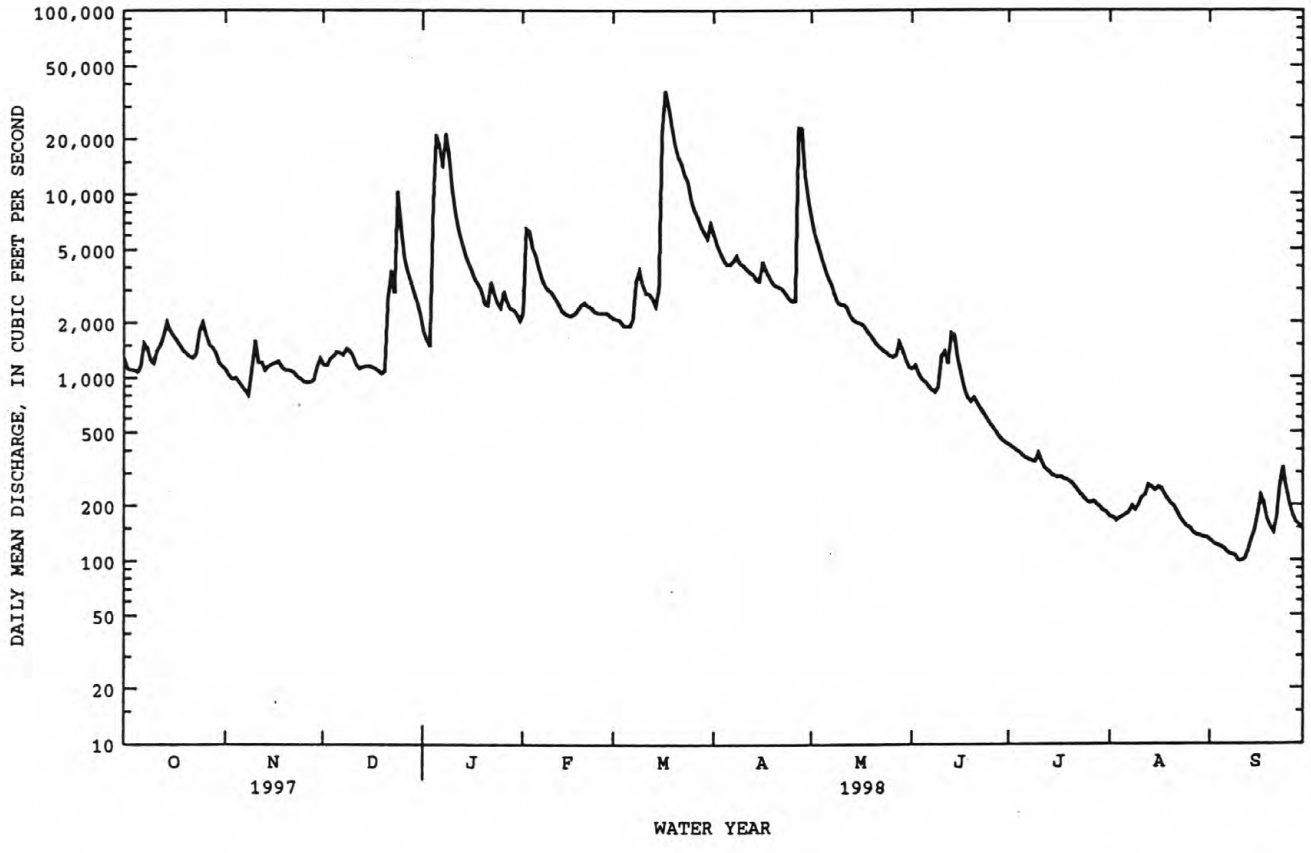
MEAN	1540	1631	1423	1222	1486	2466	2441	4214	3617	1004	631	1172
MAX	8274	5879	9324	6061	5980	10890	15940	18720	14090	4042	3048	5236
(WY)	1987	1987	1992	1998	1993	1990	1990	1993	1995	1987	1995	1991
MIN	30.4	73.5	103	103	93.6	78.4	210	249	158	31.4	12.8	42.1
(WY)	1964	1964	1967	1967	1967	1967	1971	1971	1966	1964	1972	1972

e Estimated

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	1129698		982709			
ANNUAL MEAN	3095		2692		[a]1904	
HIGHEST ANNUAL MEAN					5644	1987
LOWEST ANNUAL MEAN					340	1964
HIGHEST DAILY MEAN	26700	Feb 21	36600	Mar 17	94400	May 3 1990
LOWEST DAILY MEAN	647	Aug 6	99	Sep 10-11	[b].10	Aug 11 1964
ANNUAL SEVEN-DAY MINIMUM	681	Aug 2	105	Sep 7	.30	Aug 8 1964
INSTANTANEOUS PEAK FLOW			38000	Mar 17	[c]118000	May 3 1990
INSTANTANEOUS PEAK STAGE			27.99	Mar 17	45.24	May 30 1987
ANNUAL RUNOFF (AC-FT)	2241000		1949000		1379000	
10 PERCENT EXCEEDS	7210		5560		4330	
50 PERCENT EXCEEDS	1820		1350		714	
90 PERCENT EXCEEDS	1070		174		136	

[a]Prior to regulation, water years 1929-58, 1,573 ft^3/s.
[b]No flow Aug. 28, Sept. 14, to Oct. 1, 7-12, 1956.
[c]Gage height 44.26 ft.



07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1944 to September 1995; October 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1944 to January 1982, February 1984 to April 1990; December 1996 to current year.
WATER TEMPERATURE: April 1947 to January 1982, February 1984 to April 1990; December 1996 to current year.

REMARKS.--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 daily, 2,130 microsiemens, Aug. 23, 1997; minimum daily, 95 microsiemens, Nov. 2, 1951.
WATER TEMPERATURE: Maximum daily, 38.0°C, July 16, 1985; minimum, -0.5°C, Dec. 20, 1996, Jan. 12-18, 1997.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,960 microsiemens, Nov. 8, 9; minimum, 342 microsiemens, Apr. 27.
WATER TEMPERATURE: Maximum, 36.0°C, July 14, 15; minimum, 2.0°C, Dec. 13.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	GAGE HEIGHT (FEET) (00065)	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)
SEP											
23...	0803	203	24.0	750	1028	1028	209	10.25	1620	7.0	8.0
23...	0806	188	24.0	750	1028	1028	209	10.25	1620	7.0	8.1
23...	0809	173	24.0	750	1028	1028	209	10.25	1620	7.0	8.1
23...	0812	158	24.0	750	1028	1028	209	10.25	1610	7.0	8.1
23...	0815	143	24.0	750	1028	1028	209	10.25	1610	6.9	8.1
23...	0818	128	24.0	750	1028	1028	209	10.25	1620	7.0	8.1
23...	0821	113	24.0	750	1028	1028	209	10.25	1620	7.1	8.1
23...	0824	53.0	24.0	750	1028	1028	209	10.25	1620	7.1	8.1
23...	0827	38.0	24.0	750	1028	1028	209	10.25	1630	7.0	8.1
23...	0830	23.0	24.0	750	1028	1028	209	10.25	1620	6.9	8.1
23...	0833	8.00	24.0	750	1028	1028	209	10.25	1620	6.9	8.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT												
22...	1300	1028	80020	1280	1630	8.4	12.5	14.5	760	--	--	810
NOV												
05...	1015	1028	80020	949	1820	8.4	17.5	13.5	753	9.7	95	900
DEC												
10...	1400	1028	80020	1300	1470	8.6	5.0	7.0	752	11.2	94	730
JAN												
13...	1400	1028	80020	5420	793	8.3	1.0	6.0	755	11.9	96	350
FEB												
10...	1330	1028	80020	2880	1300	8.4	10.0	9.5	745	11.2	100	600
MAR												
18...	1420	1028	80020	29600	534	7.9	16.5	11.5	745	8.8	82	220
APR												
16...	1820	1028	80020	4260	1490	8.3	21.0	20.5	748	8.6	98	750
MAY												
20...	1230	1028	80020	1620	1570	8.2	29.0	26.0	750	8.8	111	750
JUN												
10...	1815	1028	80020	1300	1440	8.1	24.1	26.0	747	7.4	94	670
JUL												
15...	1130	1028	80020	293	1840	8.4	35.5	30.5	747	9.2	126	790
AUG												
19...	1700	1028	80020	215	1790	8.3	37.0	34.0	753	9.8	141	770
SEP												
03...	1515	1028	80020	122	1730	8.3	41.5	32.0	745	9.7	137	730

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT												
22...	620	190	82	55	13	.8	5.4	217	8	191	680	48
NOV												
05...	670	210	89	67	14	1	5.2	261	12	234	730	65
DEC												
10...	480	180	67	53	13	.8	3.6	305	*0	250	520	52
JAN												
13...	180	89	32	28	14	.6	3.6	204	0	167	200	25
FEB												
10...	390	140	57	47	14	.8	3.8	260	*0	213	430	44
MAR												
18...	90	56	20	18	15	.5	3.5	162	0	133	120	16
APR												
16...	520	180	71	54	13	.9	4.4	270	0	221	540	45
MAY												
20...	560	170	79	61	15	1	4.0	232	0	190	610	55
JUN												
10...	530	140	74	63	17	1	2.8	164	0	134	560	60
JUL												
15...	690	160	96	109	23	2	4.1	112	5	100	740	110
AUG												
19...	640	160	92	112	24	2	4.6	144	8	131	660	110
SEP												
03...	590	150	88	107	24	2	4.6	176	0	144	650	110

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2) (71856)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT												
22...	.45	16	1200	1.63	4140	320	.738	3.3	.010	.03	.748	<.020
NOV												
05...	.44	17	1340	1.82	3430	156	1.16	5.1	.032	.11	1.19	<.020
DEC												
10...	.40	14	1050	1.43	3690	180	--	--	<.010	--	.885	<.020
JAN												
13...	.31	9.7	491	.67	7180	447	.448	2.0	.013	.04	.461	<.020
FEB												
10...	.43	11	870	1.18	6770	532	.801	3.5	.019	.06	.820	.079
MAR												
18...	.24	6.9	324	.44	25900	1900	--	--	<.010	--	.347	.116
APR												
16...	.43	12	1050	1.42	12000	1130	.720	3.2	.026	.09	.746	.047
MAY												
20...	.38	11	1110	1.51	4850	251	.264	1.2	.019	.06	.283	.064
JUN												
10...	.45	7.9	993	1.35	3480	588	.056	.25	.012	.04	.068	<.020
JUL												
15...	.41	6.0	1280	1.75	1020	65	--	--	.012	.04	<.050	.054
AUG												
19...	.74	11	1230	1.68	717	84	--	--	.010	.03	<.050	.081
SEP												
03...	.61	12	1200	1.63	395	40	--	--	.014	.05	<.050	.081

*pH of filtered sample <8.3; therefore no carbonate value.

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4) (00660)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)
OCT												
22...	--	--	1.4	2.2	.454	.085	.103	.32	5	5	<100	157
NOV												
05...	--	--	.47	1.7	.312	.065	.073	.22	5	4	200	166
DEC												
10...	--	--	.45	1.3	.117	.063	.082	.25	3	3	<100	130
JAN												
13...	--	--	1.2	1.7	.566	.032	.042	.13	3	2	200	128
FEB												
10...	.10	.38	.46	1.3	.087	.055	.057	.17	4	2	<100	161
MAR												
18...	.15	1.4	1.5	1.8	.524	<.010	.011	.03	8	1	900	114
APR												
16...	.06	.62	.67	1.4	.220	.059	.056	.17	6	3	<100	226
MAY												
20...	.08	1.1	1.1	1.4	.237	<.010	<.010	--	3	2	<100	219
JUN												
10...	--	--	1.9	1.9	.588	.018	.013	.04	3	2	400	182
JUL												
15...	.07	2.1	2.1	--	.155	<.010	.018	.06	2	2	<100	188
AUG												
19...	.10	.55	.63	--	.070	.015	.019	.06	4	3	<100	158
SEP												
03...	.10	.98	1.1	--	.105	<.010	.014	.04	4	3	<100	139

DATE	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)
OCT											
22...	<1	<1.0	8	<1.0	9	<10	5900	<3.0	39	<10	400
NOV											
05...	<1	<1.0	5	<1.0	5	<10	3600	<3.0	3	<10	250
DEC											
10...	<1	<1.0	5	<1.0	4	<10	2400	<3.0	47	<10	140
JAN											
13...	<1	<8.0	10	2.1	11	<10	6600	<10	9	<100	380
FEB											
10...	<1	<8.0	11	<1.0	11	<10	7200	<10	8	<100	390
MAR											
18...	<1	<8.0	36	<1.0	43	<10	27000	<10	33	<100	1600
APR											
16...	<1	<8.0	24	1.3	23	<10	18000	<10	17	<100	1100
MAY											
20...	<1	<8.0	6	2.3	7	<10	2800	<10	3	<100	310
JUN											
10...	<1	<8.0	7	<1.0	10	<10	5800	<10	6	<100	700
JUL											
15...	<1	<8.0	1	<1.0	4	<10	410	<10	<1	<100	150
AUG											
19...	<1	<8.0	<1	<1.0	4	<10	730	<10	2	<100	150
SEP											
03...	<1	<8.0	1	<1.0	3	<10	330	<10	4	<100	110

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT											
22...	<1.0	<.10	<.1	<100	<10	<1	<1	<1	<1.0	30	<3.0
NOV											
05...	4.0	<.10	<.1	<100	<10	<1	<1	<1	<1.0	10	<3.0
DEC											
10...	11	<.10	<.1	<100	<10	<1	<1	<1	<1.0	20	<20
JAN											
13...	4.5	<.10	<.1	<100	<40	<1	<1	<1	<1.0	40	<20
FEB											
10...	<4.0	<.10	<.1	<100	<40	<1	<1	<1	<1.0	30	<20
MAR											
18...	5.5	<.10	<.1	<100	<40	<1	<1	<1	<1.0	110	<20
APR											
16...	<4.0	<.10	<.1	<100	<40	<1	<1	<1	<1.0	70	<20
MAY											
20...	4.4	<.10	<.1	<100	<40	<1	<1	<1	<1.0	1700	<20
JUN											
10...	6.0	<.10	<.1	<100	<40	<1	<1	<1	<1.0	30	<20
JUL											
15...	7.3	<.10	<.1	<100	<40	<1	<1	<1	<1.0	<10	29
AUG											
19...	<4.0	<.10	<.1	<100	<40	<1	<1	<1	<1.0	10	<20
SEP											
03...	<4.0	<.10	<.1	<100	<40	<1	<1	<1	<1.0	<10	<20

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AROCLOR 1016 PCB TOTAL (UG/L) (34671)	AROCLOR 1221 PCB TOTAL (UG/L) (39488)	AROCLOR 1232 PCB TOTAL (UG/L) (39492)	AROCLOR 1242 PCB TOTAL (UG/L) (39496)	AROCLOR 1248 PCB TOTAL (UG/L) (39500)	AROCLOR 1254 PCB TOTAL (UG/L) (39504)	AROCLOR 1260 PCB TOTAL (UG/L) (39508)
FEB										
10...	1330	1028	80020	<.100	<1.00	<.100	<.100	<.100	<.100	<.100
JUN										
10...	1815	1028	80020	<.100	<1.00	<.100	<.100	<.100	<.100	<.100

DATE	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	CHLORDANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLORDANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	DIELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ENDRIN ALDEHYDE TOTAL (UG/L) (34366)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)
FEB										
10...	<.040	<.100	<.100	<.100	<.020	<.060	<.200	<.030	<.800	<.030
JUN										
10...	<.040	<.100	<.100	<.100	<.020	<.060	<.200	<.030	<.800	<.030

DATE	TOXAPHENE, TOTAL (UG/L) (39400)	BETA BENZENE HEXACHLORIDE TOTAL (UG/L) (39338)	DELTA BENZENE HEXACHLORIDE TOTAL (UG/L) (34259)	ALPHA BHC TOTAL (UG/L) (39337)	P,P' DDT, TOTAL (UG/L) (39300)	P,P' DDD, TOTAL (UG/L) (39310)	P,P' DDE, TOTAL (UG/L) (39320)	ENDOSULFAN-I WATER WHOLE REC (UG/L) (34361)	ENDOSULFAN II TOTAL (UG/L) (34356)	ENDOSULFAN SULFATE TOTAL (UG/L) (34351)
FEB										
10...	<2.00	<.030	<.090	<.030	<.100	<.100	<.040	<.100	<.040	<.600
JUN										
10...	<2.00	<.030	<.090	<.030	<.100	<.100	<.040	<.100	<.040	<.600

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	e1200	1800	1740	1770	1760	1590	1700	1170	1020	1120
2	1380	1240	1290	1850	1790	1820	1820	1690	1770	1240	1160	1200
3	1540	1380	1460	---	---	e1830	1690	1630	1650	1330	1240	1290
4	1590	1530	1550	---	---	e1840	1650	1600	1630	1330	456	839
5	1600	1070	1250	---	---	e1850	1650	1600	1620	610	448	475
6	---	---	e1100	1870	1800	1840	1650	1600	1630	---	---	e630
7	---	---	e1150	1920	1810	1870	1650	1580	1630	---	---	e450
8	---	---	e1250	1960	1920	1940	1590	1500	1520	---	---	e620
9	---	---	e1350	1960	1640	1800	1520	1360	1450	---	---	e670
10	---	---	e1450	1640	928	1160	1500	1460	1480	---	---	e730
11	1650	1560	1610	1620	1280	1470	1480	1460	1470	---	---	e790
12	1570	1370	1460	1750	1620	1690	1480	1450	1470	---	---	e840
13	1490	1380	1440	1790	1720	1740	1650	1480	1560	---	---	e890
14	1480	1350	1450	1900	1700	1740	---	---	e1670	---	---	e940
15	1410	1300	1350	---	---	e1750	---	---	e1700	---	---	e1000
16	1400	1310	1340	---	---	e1750	---	---	e1690	---	---	e1050
17	1450	1320	1390	---	---	e1750	---	---	e1680	---	---	e1110
18	1570	1420	1500	---	---	e1750	---	---	e1670	---	---	e1160
19	1650	1540	1600	1770	1730	1750	---	---	e1650	---	---	e1220
20	1650	1580	1620	1770	1740	1750	---	---	e1210	---	---	e1270
21	1630	1560	1610	1790	1730	1760	---	---	e650	---	---	e1330
22	1680	1580	1650	1830	1770	1800	---	---	e720	1280	937	1040
23	1700	1620	1670	1840	1800	1810	---	---	e610	1150	1040	1100
24	1650	1580	1630	1830	1800	1820	---	---	e500	1240	1150	1200
25	1660	1590	1630	1850	1820	1830	742	521	595	1380	1240	1270
26	1720	1600	1650	1840	1810	1830	813	742	788	1250	1010	1080
27	1600	1440	1520	1840	1800	1820	1030	775	904	1180	1100	1130
28	1690	1580	1640	1820	1760	1790	1190	1030	1130	1250	1180	1220
29	1720	1690	1710	1780	1710	1750	1130	1080	1100	1290	1240	1270
30	1750	1720	1740	1740	1590	1700	1080	997	1020	1390	1290	1310
31	1770	1740	1750	---	---	---	1040	1010	1030	1430	1390	1420
MONTH	---	---	1480	---	---	1760	---	---	1320	---	---	1020

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1450	1410	1430	1580	1470	1510	---	---	e944	795	729	760
2	1430	776	1110	1600	1570	1580	---	---	e983	866	794	830
3	784	678	730	1610	1570	1590	---	---	e978	979	866	925
4	1010	784	902	1650	1600	1630	---	---	e967	1080	979	1030
5	1210	1010	1080	1660	1630	1640	---	---	e945	1140	1060	1080
6	1260	1180	1210	1660	1630	1640	---	---	e1040	1200	1140	1170
7	1210	1140	1160	1700	1270	1530	1240	1090	1160	1260	1200	1230
8	1190	1160	1170	1330	1140	1230	1230	1070	1120	1300	1260	1280
9	1250	1170	1200	1210	1030	1150	1240	1150	1200	1300	1290	1300
10	1300	1250	1280	1080	1000	1030	1270	1240	1260	1340	1300	1310
11	1340	1300	1320	1160	1080	1110	1300	1270	1280	1430	1340	1400
12	1360	1340	1350	1320	1160	1240	1320	1300	1310	1470	1430	1450
13	1370	1360	1360	1450	1320	1380	1350	1310	1330	1470	1400	1430
14	1400	1370	1390	1490	1450	1470	1410	1350	1360	1500	1470	1490
15	1410	1400	1410	1450	963	1220	1470	1410	1430	1520	1500	1510
16	1460	1410	1440	983	370	549	1490	1270	1440	1540	1510	1530
17	1470	1450	1460	476	366	410	1270	1090	1170	1570	1530	1550
18	1450	1410	1420	635	471	515	1410	1270	1360	1610	1570	1590
19	1420	1300	1390	650	584	616	1460	1400	1440	1610	1590	1600
20	1320	1260	1290	584	553	566	1510	1460	1480	1590	1570	1580
21	1380	1320	1350	604	551	576	1500	1470	1480	1580	1560	1570
22	1430	1370	1410	675	604	640	1530	1490	1510	1570	1550	1560
23	1440	1400	1420	716	675	701	1550	1500	1530	1580	1550	1570
24	1430	1410	1420	738	708	718	1570	1550	1550	1590	1570	1580
25	1440	1420	1430	---	---	e756	1570	1550	1560	1600	1570	1590
26	1450	1420	1430	---	---	e796	1580	1520	1560	1600	1550	1580
27	1460	1450	1450	---	---	e864	1530	342	711	1580	1560	1570
28	1470	1450	1460	---	---	e873	598	363	499	1600	1470	1550
29	---	---	---	---	---	e921	625	527	562	1510	1440	1470
30	---	---	---	---	---	e935	729	625	678	1500	1470	1490
31	---	---	---	---	---	e880	---	---	---	1530	1490	1520
MONTH	1470	678	1300	---	---	1040	---	---	1190	1610	729	1390

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	1580	1520	1550	1750	1710	1730	---	---	e1790	1750	1560	1680
2	1630	1560	1600	1750	1720	1730	---	---	e1800	1740	1690	1720
3	1690	1630	1660	1760	1720	1740	---	---	e1800	1740	1680	1720
4	1710	1660	1680	1730	1710	1720	---	---	e1800	1780	1740	1760
5	1690	1610	1650	1730	1680	1710	1840	1780	1810	1800	1760	1780
6	1680	1630	1640	1720	1650	1700	1800	1760	1780	1840	1770	1820
7	1680	1620	1660	1690	1630	1660	1810	1770	1790	1840	1820	1830
8	1650	1620	1630	1700	1650	1670	1810	1740	1780	1850	1820	1840
9	1660	1570	1630	1690	1660	1670	1780	1720	1750	1860	1820	1840
10	1590	1110	1510	1740	1690	1710	1780	1710	1750	1850	1810	1830
11	1300	1070	1150	1750	1700	1720	1790	1740	1770	1900	1840	1870
12	1370	1270	1310	1790	1730	1770	1760	1540	1690	1910	1800	1900
13	1550	1360	1450	1810	1780	1790	1580	1390	1460	1870	1790	1840
14	1550	1160	1380	1860	1690	1830	1520	1440	1480	1810	1730	1770
15	1160	1070	1110	1860	1780	1830	1600	1470	1550	1740	1690	1720
16	1270	1090	1200	1900	1550	1740	1620	1580	1600	1720	1640	1690
17	1370	1270	1310	1560	1480	1510	1680	1620	1650	1700	1620	1670
18	1450	1370	1430	1640	1530	1600	1750	1670	1700	1710	1570	1640
19	1460	1410	1420	1690	1640	1660	1820	1740	1780	1670	1540	1630
20	1500	1460	1480	1690	1650	1680	1830	1790	1810	1630	1520	1540
21	1600	1500	1570	1740	1680	1710	1820	1780	1800	1630	1550	1600
22	1620	1580	1610	1780	1740	1760	1810	1720	1760	1640	1560	1590
23	1690	1590	1660	1790	1680	1740	1740	1680	1720	1650	1560	1620
24	1720	1660	1700	---	---	e1770	1760	1680	1730	1620	561	655
25	1740	1700	1730	---	---	e1770	1730	1670	1700	---	---	e670
26	1760	1720	1740	---	---	e1780	1700	1650	1670	---	---	e700
27	1760	1730	1750	---	---	e1780	1660	1620	1640	---	---	e800
28	1800	1720	1770	---	---	e1780	1670	1600	1650	---	---	e820
29	1740	1710	1720	---	---	e1790	1640	1590	1610	---	---	e850
30	1770	1710	1730	---	---	e1790	1620	1570	1600	---	---	e900
31	---	---	---	---	---	e1790	1570	1540	1550	---	---	---
MONTH	1800	1070	1550	---	---	1730	---	---	1700	---	---	1510

e Estimated

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	18.0	16.5	17.5	10.5	10.5	10.5	6.5	4.5	5.5
2	27.0	24.0	25.5	16.5	14.0	15.0	10.5	10.0	10.5	10.5	6.5	8.5
3	27.0	24.0	25.0	14.0	12.0	13.0	10.0	8.5	9.5	13.5	10.5	12.5
4	26.5	22.5	24.5	14.0	11.0	12.5	8.5	6.5	7.5	14.0	11.0	13.5
5	26.0	22.5	24.0	16.0	13.5	14.5	7.0	5.5	6.5	11.0	9.5	10.0
6	26.0	23.5	24.5	14.0	11.5	12.5	7.0	5.0	6.0	9.5	9.0	9.5
7	24.5	23.5	24.0	12.5	9.5	11.0	6.5	5.5	6.0	9.5	7.5	8.5
8	24.5	23.0	23.5	13.0	10.0	11.5	6.5	5.5	6.0	7.5	5.0	6.0
9	26.5	23.0	24.5	12.0	11.0	11.5	9.0	6.5	7.5	6.0	5.0	5.5
10	26.0	24.5	25.0	11.0	8.5	9.5	8.0	6.0	7.0	6.0	6.0	6.0
11	25.5	23.5	24.5	9.5	7.0	8.5	6.0	5.0	5.5	6.0	5.5	6.0
12	23.5	21.0	22.5	9.0	8.5	8.5	5.0	3.5	4.0	6.5	6.0	6.5
13	21.0	18.5	19.5	9.0	8.0	8.5	4.0	2.0	3.5	---	---	---
14	19.5	16.5	18.0	9.0	8.0	8.5	---	---	---	---	---	---
15	19.5	16.5	18.0	8.5	6.5	7.5	---	---	---	---	---	---
16	20.0	17.0	18.5	7.5	5.0	6.0	---	---	---	---	---	---
17	20.0	18.0	18.5	7.0	4.5	6.0	---	---	---	---	---	---
18	19.5	17.0	18.0	8.0	5.0	6.5	---	---	---	---	---	---
19	19.5	16.5	18.0	9.5	6.5	8.0	---	---	---	---	---	---
20	19.5	17.5	18.5	9.5	8.0	8.5	---	---	---	---	---	---
21	18.0	15.5	17.0	10.5	8.5	9.5	---	---	---	---	---	---
22	16.5	14.0	15.5	11.5	9.0	10.0	---	---	---	7.0	5.5	6.0
23	15.5	14.5	15.0	11.0	8.5	10.0	---	---	---	6.0	4.5	5.0
24	17.5	14.5	15.5	11.5	9.5	10.5	---	---	---	6.0	3.5	5.0
25	18.0	15.5	16.5	13.5	10.5	11.5	6.0	5.5	5.5	5.5	5.0	5.5
26	15.5	10.5	12.5	15.5	13.5	14.0	5.5	5.0	5.5	7.0	5.5	6.5
27	12.5	10.0	11.0	15.0	13.5	14.0	5.5	4.0	4.5	8.0	6.5	7.0
28	13.0	10.5	11.5	16.0	14.5	15.5	5.0	4.0	4.5	9.5	7.5	8.5
29	14.0	12.0	12.5	14.5	12.0	13.5	5.0	3.5	4.5	10.0	8.0	9.0
30	16.5	14.0	15.0	12.0	10.5	11.5	6.0	4.0	5.0	10.0	8.0	9.0
31	19.5	16.5	18.0	---	---	---	6.0	4.5	5.5	9.5	9.0	9.5
MONTH	---	---	---	18.0	4.5	10.8	---	---	---	---	---	---

07331000 WASHITA RIVER NEAR DICKSON, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.5	9.5	9.5	11.0	9.5	10.5	---	---	---	19.5	16.0	17.5
2	10.0	9.5	10.0	10.5	8.5	9.5	---	---	---	21.0	18.0	19.5
3	10.0	8.5	9.0	10.5	8.0	9.0	---	---	---	21.5	19.0	20.5
4	8.5	7.5	8.0	12.0	9.0	10.5	---	---	---	22.0	19.5	20.5
5	8.0	6.5	7.0	12.0	10.5	11.5	---	---	---	23.0	20.0	21.5
6	7.0	5.5	6.5	10.5	9.0	9.5	---	---	---	24.5	22.0	23.0
7	7.0	5.5	6.5	9.5	9.0	9.0	18.5	16.0	17.0	25.5	22.5	24.0
8	7.5	6.5	7.0	9.5	6.0	8.0	18.5	16.5	17.5	25.0	23.0	24.0
9	8.0	7.0	7.5	6.5	4.0	5.5	18.0	15.5	17.0	24.0	22.0	23.0
10	9.5	8.0	9.0	6.5	4.0	5.5	18.5	15.5	17.0	24.5	20.5	22.5
11	10.0	8.0	9.0	7.0	4.5	6.0	19.0	16.0	17.5	25.5	22.0	24.0
12	9.5	8.0	9.0	6.5	5.0	5.5	18.0	16.5	17.5	26.5	23.0	24.5
13	9.5	8.5	9.5	7.0	5.5	6.0	20.5	17.5	19.0	26.5	24.0	25.5
14	10.5	8.5	9.5	8.5	7.0	8.0	21.5	19.0	20.0	26.0	24.0	25.0
15	11.0	10.0	10.5	11.0	8.5	9.5	22.5	20.0	21.5	27.0	25.0	25.5
16	10.5	9.5	10.0	11.5	11.0	11.5	21.5	19.0	20.0	27.0	23.5	25.5
17	10.5	9.0	9.5	11.5	10.5	11.0	19.0	16.5	17.5	26.0	24.0	25.0
18	11.0	9.0	10.0	11.5	10.5	11.0	19.5	17.0	18.0	27.0	24.0	25.5
19	11.5	10.5	11.0	11.5	9.5	11.0	20.0	17.0	18.5	28.0	25.0	26.5
20	12.5	10.0	11.5	9.5	8.5	9.0	19.0	16.5	18.0	28.5	25.5	27.0
21	12.0	10.5	11.5	9.5	8.5	9.0	18.0	15.0	16.5	28.0	26.0	27.0
22	12.0	11.0	11.5	10.5	8.5	9.5	19.0	16.0	17.5	27.0	26.0	26.5
23	13.5	10.5	12.0	12.0	10.5	11.0	20.0	16.0	18.0	26.0	25.0	25.5
24	14.5	11.5	13.0	13.5	11.5	12.5	21.0	18.0	19.5	28.0	23.5	25.5
25	16.0	14.0	15.0	16.0	13.5	14.5	22.0	18.5	20.0	27.0	25.0	26.0
26	16.5	14.5	15.5	17.0	15.5	16.0	21.0	19.5	20.5	28.0	25.0	26.5
27	14.5	12.5	13.5	---	---	---	19.5	16.0	17.0	27.0	25.0	26.0
28	13.0	11.0	12.0	---	---	---	16.0	15.5	16.0	28.5	24.0	26.0
29	---	---	---	---	---	---	15.5	15.0	15.0	31.0	27.0	29.0
30	---	---	---	---	---	---	17.0	14.0	15.5	31.0	27.5	29.5
31	---	---	---	---	---	---	---	---	---	31.0	27.0	29.0
MONTH	16.5	5.5	10.1	---	---	---	---	---	---	31.0	16.0	24.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	31.5	28.0	29.5	34.0	29.5	31.5	---	---	---	33.0	26.5	29.5
2	31.0	27.5	29.0	35.0	29.5	32.0	---	---	---	32.0	26.5	29.5
3	31.5	27.5	29.5	34.0	28.5	31.5	---	---	---	33.0	27.0	29.5
4	30.0	27.5	28.5	33.5	29.0	31.0	---	---	---	33.5	27.0	30.0
5	27.5	23.5	24.5	31.5	28.0	30.0	31.5	27.0	29.0	32.5	27.0	29.5
6	25.5	21.0	23.0	34.0	28.0	31.0	31.5	26.5	29.0	32.5	27.0	29.5
7	25.5	22.0	23.5	35.0	29.0	32.0	30.5	26.5	28.5	33.5	26.0	29.5
8	24.0	22.0	23.0	35.0	29.5	32.5	32.5	25.5	29.0	33.0	27.0	29.5
9	28.5	23.5	25.5	35.5	30.0	33.0	33.0	27.5	30.0	30.0	25.0	27.5
10	26.5	24.5	25.5	35.0	29.5	32.5	31.5	27.5	29.5	29.0	22.5	26.0
11	27.5	23.5	25.5	34.5	29.5	32.0	29.0	26.5	28.0	28.5	24.0	26.0
12	30.0	25.0	27.5	35.5	29.5	32.5	32.0	26.5	28.5	25.5	23.5	24.5
13	31.5	28.0	29.5	35.0	30.0	32.5	32.5	26.5	29.5	26.5	24.0	25.0
14	31.5	28.0	29.5	36.0	29.5	32.5	32.0	27.5	30.0	29.0	25.0	26.5
15	30.5	27.0	29.0	36.0	29.5	32.5	33.0	27.0	30.0	31.0	26.0	28.0
16	30.0	26.0	28.0	35.5	29.0	32.5	33.5	27.5	30.5	27.5	25.0	26.0
17	30.0	26.0	28.0	35.0	29.0	32.0	34.0	27.5	30.5	30.5	24.0	27.0
18	30.5	26.5	28.5	35.0	29.5	32.5	33.5	28.0	31.0	31.5	25.5	28.5
19	32.5	27.0	29.5	34.5	29.0	32.0	34.0	28.5	31.0	31.0	26.0	28.5
20	32.5	28.5	30.5	34.5	29.0	32.0	34.0	28.5	31.0	31.0	26.0	28.5
21	33.0	28.5	30.5	34.0	28.5	31.5	33.5	28.0	30.5	31.5	26.5	29.0
22	33.0	28.0	30.5	34.5	28.5	31.0	32.5	28.0	30.5	29.0	26.0	27.5
23	32.5	28.5	30.5	34.0	28.5	31.5	33.5	27.5	30.5	28.0	24.0	26.0
24	32.5	27.5	30.0	34.5	28.5	31.5	33.5	28.5	31.0	29.5	25.5	27.0
25	32.5	27.5	30.0	34.5	28.5	31.5	34.0	28.0	31.0	30.0	25.5	27.5
26	33.0	27.5	30.5	34.5	28.5	31.5	34.0	28.5	31.0	29.0	25.5	27.5
27	33.5	28.0	31.0	34.5	28.5	31.5	34.0	28.5	31.0	30.5	26.0	28.0
28	34.0	29.0	31.5	34.0	28.5	31.5	32.0	28.0	30.0	32.0	27.0	29.5
29	34.0	29.5	31.5	---	---	---	33.5	27.5	30.0	31.5	26.5	29.0
30	34.5	29.0	31.5	---	---	---	33.0	26.5	30.0	30.5	26.0	28.5
31	---	---	---	---	---	---	33.5	28.0	30.5	---	---	---
MONTH	34.5	21.0	28.5	---	---	---	---	---	---	33.5	22.5	27.9

07303400 Elm Fork of North Fork Red River near Carl, OK. June 3, 1995. Near peak.

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX

LOCATION.--Lat 33°49'08", long 96°33'47", Grayson County, Hydrologic Unit 11140101, on right bank 1,800 ft downstream from Denison Dam powerhouse, 0.4 mi upstream from Shawnee Creek (spillway flow return), 4.5 mi north of Denison, and at mile 725.5.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--39,720 mi^2, of which 5,936 mi^2 is probably noncontributing. At site used prior to October 1961 drainage area was 39,777 mi^2, of which 5,936 mi^2 probably was noncontributing.

PERIOD OF RECORD.--October 1923 to September 1989; December 1996 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1934, published as "near Denison, TX", and October 1934 to September 1961, published as "near Colbert, OK". Gage-height records collected at various sites in this vicinity 1892-93, 1906-28, 1931-49 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 807: 1935 (M). WSP 1211: Drainage area. WSP 1241: 1924-29, 1932-33, 1934 (M), 1935.

GAGE.--Water-stage recorder. Datum of gage is 495.00 ft above National Geodetic Vertical Datum of 1929. Oct. 9, 1923, to Sept. 24, 1934, nonrecording gage, and July 29, 1942, to Sept. 30, 1961, water-stage recorder, at county road bridge 2.5 mi downstream. Prior to Oct. 1, 1931, at datum 11.85 ft higher; Oct. 1, 1931, to Sept 24, 1934, at datum 12.07 ft higher; and July 29, 1942, to Sept. 30, 1961, at datum 2.36 ft higher; Sept. 25, 1934, to July 28, 1942, water-stage recorder at railway bridge 1.9 mi downstream at datum 12.36 ft higher. July 29, 1942 to Sept. 30, 1989, at same site and datum 5.00 ft higher.

REMARKS.--Records fair. Flow regulated since October 1943 by Lake Texoma (station 07331500). U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 26, 1908, reached a stage of 45.5 ft (at site and datum used July 29, 1942, to Sept. 30, 1961); from record of National Weather Service.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5630	2580	1070	12700	13700	16100	40600	8610	3970	4120	3160	2320
2	5610	188	1640	12700	13700	14600	45200	8630	4320	4310	2410	2310
3	5600	2410	2690	12700	13700	14600	48600	8590	4280	4250	4230	2310
4	2430	2510	2930	13200	14600	5660	48500	8620	4320	564	4420	2410
5	2390	2480	2960	5220	15900	112	48100	8640	4230	130	4530	295
6	1690	2390	2290	1890	15800	95	39100	8600	471	3830	4400	141
7	1980	2320	235	5360	15900	1070	23400	8600	154	4230	4440	2080
8	2050	192	3210	9870	15900	535	16300	8650	2080	4230	558	2330
9	2020	117	3250	14800	13700	253	16700	8570	2350	4290	125	2360
10	2040	1980	3290	17400	11500	6130	15200	8570	2350	4300	4030	2360
11	200	1990	3280	17400	11700	16700	13300	8650	2380	547	4430	2400
12	137	1970	280	20800	11700	18100	13300	8600	2290	125	4450	413
13	1940	2010	110	26300	11800	16500	13700	8660	387	4060	4470	147
14	3970	1970	106	29000	11800	14400	13300	8670	128	4280	4450	2250
15	3160	1360	3050	31400	11800	14500	14800	864	2010	4530	561	2550
16	3190	1350	3110	32400	11800	12300	13100	178	2260	4390	124	2560
17	3170	1970	3210	32500	11800	11600	12400	173	2550	4300	3990	2560
18	2660	1970	3200	32400	11800	20600	12400	5260	2230	558	4440	2560
19	206	1970	3220	32500	11800	28400	11200	5650	2220	128	4470	460
20	2580	1990	3390	32600	11800	32700	12400	5410	396	3920	4440	127
21	2690	1990	522	32500	11900	38600	11300	5300	143	4310	4450	2270
22	2690	117	3410	32700	11900	46600	12300	5340	2220	4310	563	2620
23	2720	104	3730	32700	14000	e46400	12300	619	2430	4310	131	349
24	2690	1970	3670	32700	16000	e47200	10900	173	2440	4300	4030	2270
25	2640	1740	3520	26800	16100	51900	8820	3550	2250	4920	4450	2580
26	2630	1960	3520	21800	16000	43700	8800	485	2270	4710	4470	470
27	2680	118	3520	14800	16000	40000	8750	3570	342	4310	4460	132
28	2700	115	3470	12600	16000	41100	8630	3860	142	4330	4460	2090
29	2710	102	5840	11200	---	41000	8670	3840	1910	4350	2690	2920
30	2710	100	10700	15000	---	41000	8660	484	2200	4590	342	2310
31	2580	---	12700	13700	---	40600	---	152	---	5440	2120	---
TOTAL	82093	44033	101123	639640	380100	723055	570730	165568	61723	110972	100294	52954
MEAN	2648	1468	3262	20630	13580	23320	19020	5341	2057	3580	3235	1765
MAX	5630	2580	12700	32700	16100	51900	48600	8670	4320	5440	4530	2920
MIN	137	100	106	1890	11500	95	8630	152	128	125	124	127
AC-FT	162800	87340	200600	1269000	753900	1434000	1132000	328400	122400	220100	198900	105000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

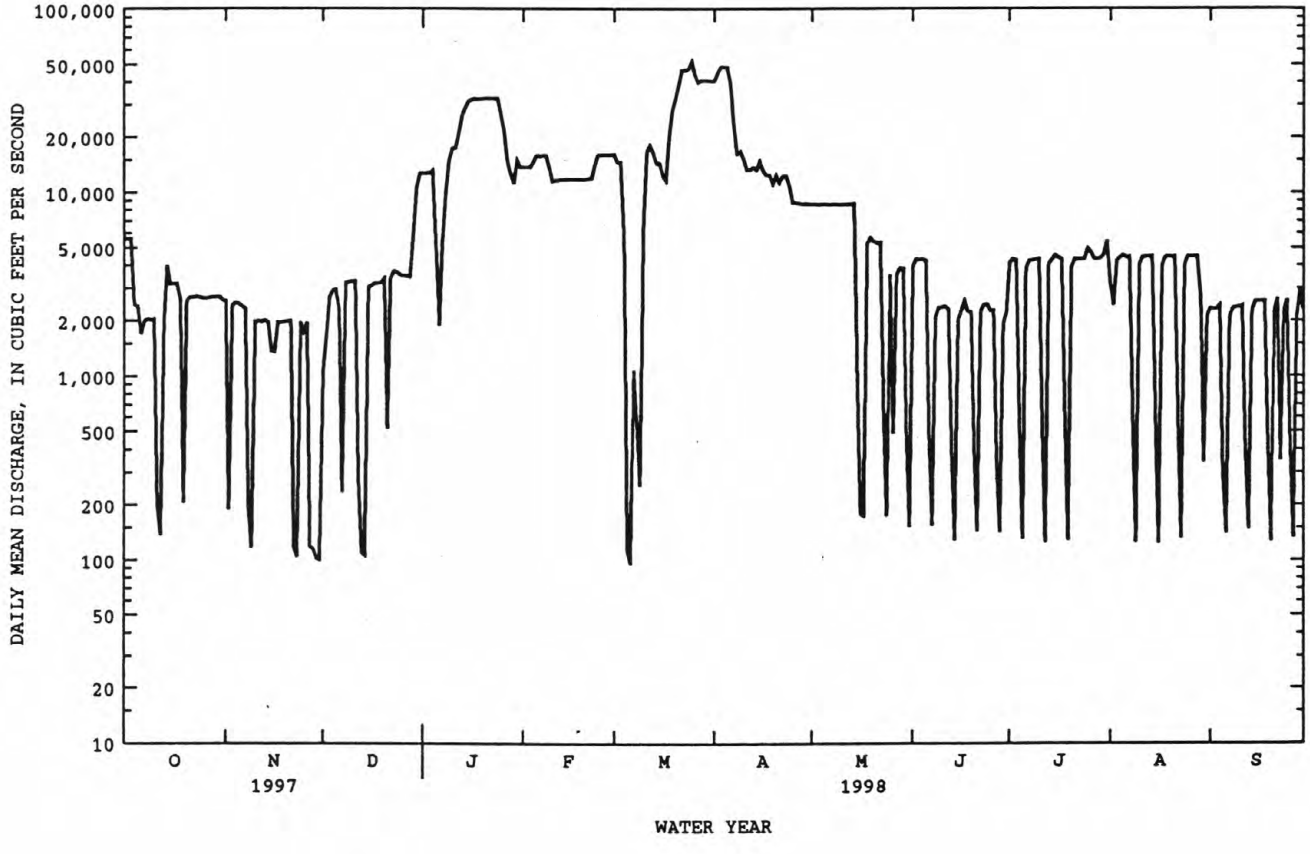
MEAN	5085	3670	3390	3622	3523	4512	4805	7713	11710	5467	3513	2695
MAX	27860	18880	13320	20630	13800	24760	20400	34710	66960	21820	25570	10330
(WY)	1987	1975	1997	1998	1987	1987	1945	1957	1957	1982	1950	1950
MIN	66.7	79.6	569	271	678	614	789	712	1449	1580	953	325
(WY)	1957	1957	1981	1945	1945	1976	1978	1959	1956	1956	1972	1984

e Estimated

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1945 - 1998	
ANNUAL TOTAL	2914774		3032285			
ANNUAL MEAN	7986		8308		[a]4919	
HIGHEST ANNUAL MEAN					16030	1987
LOWEST ANNUAL MEAN					1510	1964
HIGHEST DAILY MEAN	30300	May 12	51900	Mar 25	96200	Jun 5 1957
LOWEST DAILY MEAN	100	Nov 30	95	Mar 6	27	Nov 14 1982
ANNUAL SEVEN-DAY MINIMUM	729	Nov 26	729	Nov 26	46	Oct 23 1944
INSTANTANEOUS PEAK FLOW			57400	Mar 25	[b]102000	Jun 5 1957
INSTANTANEOUS PEAK STAGE			20.48	Mar 25	[c]26.26	Jun 5 1957
ANNUAL RUNOFF (AC-FT)	5781000		6015000		3564000	
10 PERCENT EXCEEDS	18400		19100		10700	
50 PERCENT EXCEEDS	5350		4060		2830	
90 PERCENT EXCEEDS	345		269		198	

[a]Prior to regulation, water years 1924-43, 5,684 ft^3/s.
[b]Maximum discharge for period of record, 201,000 ft^3/s May 21, 1935.
[c]Maximum gage height for period of record, 32.00 ft Apr. 25, 1942, site and datum then in use.



07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1944 to August 1989; October 1996 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1944 to September 1989; February 1997 to current year.
WATER TEMPERATURE: October 1945 to September 1989; February 1997 to current year.

INSTRUMENTATION.--Water-quality monitor February 1997 to current year.

REMARKS.--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 daily, 3,520 microsiemens Aug. 14, 1944; minimum daily, 656 microsiemens Oct. 16, 1945.
WATER TEMPERATURE: Maximum daily, 31.0°C July 17, 1969; minimum daily, 3.0°C Feb. 2-4, 7, 1966.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,190 microsiemens May 15; minimum, 1,310 microsiemens July 25.
WATER TEMPERATURE: Maximum, 26.5°C Aug. 28, 29, Sept. 1, 2, 3, 7, 8; minimum, 7.5°C many days during winter months.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	GAGE HEIGHT (FEET) (00065)	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)
SEP											
22...	0945	270	22.5	755	1028	1028	209	5.28	1680	.6	7.0
22...	0948	250	22.4	755	1028	1028	209	5.28	1680	3.5	7.0
22...	0951	230	22.4	755	1028	1028	209	5.28	1680	.1	7.0
22...	0954	210	22.3	755	1028	1028	209	5.28	1680	.2	7.0
22...	0957	190	22.4	755	1028	1028	209	5.28	1680	.3	7.0
22...	1000	170	22.4	755	1028	1028	209	5.28	1680	.6	7.0
22...	1003	150	22.3	755	1028	1028	209	5.28	1680	.6	7.0
22...	1006	130	22.8	755	1028	1028	209	5.28	1690	.7	7.1
22...	1009	110	24.4	755	1028	1028	209	5.28	1690	4.8	7.1
22...	1012	90.0	24.7	755	1028	1028	261	5.28	1690	4.6	7.2
22...	1015	70.0	24.6	755	1028	1028	209	5.28	1690	5.4	7.2
22...	1018	50.0	24.6	755	1028	1028	209	5.28	1690	5.5	7.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	BAROMETRIC PRESSURE (MM OF HG) (00025)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT												
22...	1830	1028	80020	7420	1990	8.2	17.7	22.1	758	6.8	79	490
NOV												
04...	1730	1028	80020	5940	1950	8.2	22.0	17.9	754	8.8	94	490
DEC												
09...	1500	1028	80020	445	1990	8.4	19.1	12.2	744	10.4	100	510
JAN												
14...	1600	1028	80020	29400	1950	8.3	3.8	8.0	754	11.2	96	510
FEB												
11...	1130	1028	80020	11700	1800	8.3	14.1	7.8	755	12.4	106	450
MAR												
19...	1100	1028	80020	26300	1790	8.4	6.8	9.3	751	12.0	107	440
APR												
17...	1500	1028	80020	15700	1400	8.3	16.2	16.5	758	8.9	92	360
MAY												
21...	0730	1028	80020	291	1940	7.7	26.5	18.0	750	5.4	58	460
JUN												
11...	1215	1028	80020	225	1860	8.0	24.7	20.0	751	8.4	94	460
JUL												
14...	1600	1028	80020	5100	1630	8.3	40.2	24.0	750	3.0	36	420
AUG												
19...	0745	1028	80020	241	1690	7.8	31.0	21.7	753	7.0	81	440
SEP												
02...	1800	1028	80020	5790	1740	7.8	37.1	26.3	750	4.8	61	440

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CARBONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
OCT 22...	370	120	46	206	47	4	6.0	143	0	117	390	330
NOV 04...	380	120	46	202	47	4	6.6	143	0	117	390	310
DEC 09...	410	130	49	205	46	4	6.0	110	5	98	410	320
JAN 14...	380	120	48	203	46	4	6.0	149	0	122	400	310
FEB 11...	320	110	42	180	46	4	5.0	155	0	127	350	280
MAR 19...	290	110	41	188	48	4	5.3	177	4	151	330	290
APR 17...	230	93	31	136	45	3	4.5	151	0	124	240	210
MAY 21...	320	120	41	201	48	4	5.4	172	0	141	330	320
JUN 11...	320	120	40	194	48	4	4.4	172	0	141	320	310
JUL 14...	280	100	38	155	44	3	4.7	170	0	130	290	240
AUG 19...	290	110	40	173	46	4	5.6	181	0	148	300	270
SEP 02...	300	110	42	177	47	4	4.8	170	0	139	310	270

DATE	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NITRATE DISSOLVED (MG/L AS NO3) (71851)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2) (71856)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
OCT 22...	.33	9.2	1180	1.61	23700	6	--	--	<.010	--	.167	<.015
NOV 04...	.35	8.8	1160	1.58	18600	1	.132	.58	.042	.14	.174	<.020
DEC 09...	.35	9.2	1180	1.61	1420	4	--	--	<.010	--	.180	<.020
JAN 14...	.38	9.3	1170	1.59	92800	12	.222	.98	.017	.06	.239	<.020
FEB 11...	.34	8.4	1050	1.43	33200	3	.295	1.3	.011	.04	.306	.087
MAR 19...	.28	7.9	1070	1.45	75800	12	--	--	<.010	--	.362	.063
APR 17...	.27	7.8	797	1.08	33800	4	.351	1.6	.021	.07	.372	.125
MAY 21...	.27	6.2	1110	1.51	871	4	.447	2.0	.017	.06	.464	.060
JUN 11...	.24	7.6	1070	1.46	653	7	.400	1.8	.023	.08	.423	.090
JUL 14...	.32	7.7	929	1.26	12800	7	.139	.62	.024	.08	.163	.178
AUG 19...	.33	10	999	1.36	650	4	--	--	.011	.04	<.050	.611
SEP 02...	.32	8.5	1000	1.37	15700	4	--	--	.013	.04	<.050	.418

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4) (71846)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4) (00660)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)
OCT 22...	--	--	.35	.52	.045	<.010	.016	.05	2	2	200	151
NOV 04...	--	--	.34	.51	.017	<.010	.018	.06	2	2	<100	156
DEC 09...	--	--	.40	.58	.037	.033	.014	.04	2	2	<100	154
JAN 14...	--	--	.42	.66	.030	.026	.030	.09	2	2	100	148
FEB 11...	.11	.40	.48	.79	.038	.024	.033	.10	1	2	<100	132
MAR 19...	.08	.41	.47	.83	.034	<.010	.010	.03	<2	1	<100	130
APR 17...	.16	.40	.53	.90	.042	.019	.017	.05	1	2	<100	132
MAY 21...	.08	.32	.38	.84	--	.060	.029	.09	2	2	<100	154
JUN 11...	.12	.29	.38	.81	.072	.064	.057	.17	3	4	200	153
JUL 14...	.23	.34	.52	.68	.041	.039	.046	.14	4	3	<100	144
AUG 19...	.79	.36	.98	--	.166	.146	.146	.45	4	4	<100	150
SEP 02...	.54	.37	.79	--	.060	.058	.064	.20	3	3	<100	145

DATE	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)
OCT 22...	<1	<1.0	<1	<1.0	<1	<10	100	<3.0	--	17	37
NOV 04...	<1	<1.0	<1	<1.0	1	<10	90	<3.0	<1	<10	23
DEC 09...	<1	<8.0	<1	<1.0	1	<10	60	<3.0	22	<10	20
JAN 14...	<1	<8.0	3	2.1	3	<10	110	<10	20	<100	13
FEB 11...	<1	<8.0	3	1.9	2	<10	70	<10	91	<100	12
MAR 19...	<1	<8.0	3	<1.0	2	<10	90	<10	6	<100	16
APR 17...	<1	<8.0	3	2.2	2	<10	110	<10	39	<100	12
MAY 21...	<1	<8.0	2	1.3	2	<10	90	<10	<1	<100	92
JUN 11...	<1	<8.0	<1	<1.0	1	<10	130	<10	34	<100	310
JUL 14...	<1	<8.0	2	<1.0	2	<10	40	<10	<1	<100	250
AUG 19...	<1	<8.0	<1	<1.0	2	<10	210	<10	23	<100	480
SEP 02...	<1	<8.0	1	<1.0	1	<10	40	<10	3	<100	330

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT											
22...	2.7	<.10	<.1	<100	<10	<1	<1	<1	<1.0	<10	<3.0
NOV											
04...	3.5	<.10	<.1	<100	<10	<1	1	<1	<1.0	<10	5.9
DEC											
09...	7.2	<.10	<.1	<100	<10	<1	<1	<1	<1.0	<10	<20
JAN											
14...	<4.0	<.10	<.1	<100	<40	1	<1	<1	<1.0	30	26
FEB											
11...	<4.0	<.10	<.1	<100	<40	<1	<1	2	<1.0	20	<20
MAR											
19...	<4.0	<.10	<.1	--	<40	<1	<1	<1	<1.0	10	<20
APR											
17...	<4.0	<.10	<.1	<100	<40	<1	<1	<1	<1.0	10	<20
MAY											
21...	80	<.10	<.1	<100	<40	1	1	<1	<1.0	<10	<20
JUN											
11...	323	<.10	<.1	<100	<40	<1	<1	<1	<1.0	20	<20
JUL											
14...	266	<.10	<.1	<100	<40	<1	<1	<1	<1.0	10	<20
AUG											
19...	574	<.10	<.1	<100	<40	<1	<1	<1	<1.0	<10	<20
SEP											
02...	351	<.10	<.1	<100	<40	<1	<1	<1	<1.0	<10	<20

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	AROCLOR 1016 PCB TOTAL (UG/L) (34671)	AROCLOR 1221 PCB TOTAL (UG/L) (39488)	AROCLOR 1232 PCB TOTAL (UG/L) (39492)	AROCLOR 1242 PCB TOTAL (UG/L) (39496)	AROCLOR 1248 PCB TOTAL (UG/L) (39500)	AROCLOR 1254 PCB TOTAL (UG/L) (39504)	AROCLOR 1260 PCB TOTAL (UG/L) (39508)
FEB										
11...	1130	1028	80020	<.100	<1.00	<.100	<.100	<.100	<.100	<.100
JUN										
11...	1215	1028	80020	<.100	<1.00	<.100	<.100	<.100	<.100	<.100

DATE	ALDRIN, TOTAL (UG/L) (39330)	CHLORDANE, TECHNICAL TOTAL (UG/L) (39350)	CHLORDANE CIS WATER WHOLE TOTAL (UG/L) (39062)	CHLORDANE TRANS WATER WHOLE TOTAL (UG/L) (39065)	DIELDRIN TOTAL (UG/L) (39380)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ENDRIN ALDEHYDE TOTAL (UG/L) (34366)	HEPTACHLOR, TOTAL (UG/L) (39410)	HEPTACHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)
FEB										
11...	<.040	<.100	<.100	<.100	<.020	<.060	<.200	<.030	<.800	<.030
JUN										
11...	<.040	<.100	<.100	<.100	<.020	<.060	<.200	<.030	<.800	<.030

DATE	TOXAPHENE, TOTAL (UG/L) (39400)	BETA BENZENE HEXACHLORIDE TOTAL (UG/L) (39338)	DELTA BENZENE HEXACHLORIDE TOTAL (UG/L) (34259)	ALPHA BHC TOTAL (UG/L) (39337)	P,P' DDT, TOTAL (UG/L) (39300)	P,P' DDD, TOTAL (UG/L) (39310)	P,P' DDE, TOTAL (UG/L) (39320)	ENDOSULFAN-I WATER WHOLE REC (UG/L) (34361)	ENDOSULFAN II TOTAL (UG/L) (34356)	ENDOSULFAN SULFATE TOTAL (UG/L) (34351)
FEB										
11...	<2.00	<.030	<.090	<.030	<.100	<.100	<.040	<.100	<.040	<.600
JUN										
11...	<2.00	<.030	<.090	<.030	<.100	<.100	<.040	<.100	<.040	<.600

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	e1920	1950	1930	1940	2070	1970	2000	2050	2030	2040
2	---	---	e1950	1980	1930	1950	2080	2010	2030	2040	2030	2040
3	---	---	e1950	2000	1960	1980	2070	1960	1990	2050	2040	2040
4	---	---	e1950	1980	1950	1960	1980	1950	1970	2050	2010	2040
5	---	---	e1950	1980	1970	1980	1980	1950	1970	2050	1990	2030
6	---	---	e1950	1980	1970	1980	1990	1960	1980	2040	1980	2000
7	---	---	e1960	1990	1970	1980	1980	1830	1950	2020	1980	2010
8	---	---	e1960	1990	1970	1980	1980	1920	1970	2030	2010	2020
9	---	---	e1960	1980	1770	1910	2010	1960	1980	2030	2020	2030
10	---	---	e1960	1960	1910	1950	2010	1980	1990	2030	2020	2020
11	---	---	e1960	1960	1920	1950	2000	1970	1990	2030	2020	2020
12	---	---	e1960	1960	1770	1920	2000	1960	1970	2020	2010	2020
13	---	---	e1970	1950	1810	1920	1990	1970	1980	2020	2010	2020
14	---	---	e1960	1930	1900	1920	2000	1980	1990	2020	1880	1970
15	---	---	e1990	1940	1790	1910	2010	1990	2000	1930	1840	1870
16	2010	1980	2000	1940	1920	1930	2010	2000	2000	2000	1920	1960
17	2060	1980	2020	1940	1920	1930	2010	1990	2000	1960	1920	1940
18	2060	2010	2030	1960	1940	1950	2010	2000	2010	1970	1920	1940
19	2030	2000	2010	1970	1950	1960	2010	1990	2010	1940	1930	1930
20	2020	1980	2000	1970	1950	1960	2010	1950	2000	1950	1910	1930
21	2010	1940	1990	1970	1950	1960	2000	1870	1930	1910	1900	1910
22	2020	1980	2000	1970	1940	1960	2010	1990	2000	1900	1840	1870
23	2020	2010	2010	1970	1940	1960	2030	1990	2010	1860	1840	1850
24	2020	2000	2020	1970	1960	1960	2020	1970	2010	1860	1830	1850
25	2030	2010	2020	2050	1960	2010	2020	2000	2020	1870	1830	1870
26	2030	1970	2000	2070	2010	2030	2020	1980	2020	1850	1840	1850
27	2010	1990	2000	2060	2010	2030	2020	2000	2020	1850	1840	1850
28	2020	2000	2010	2070	1980	2030	2030	2000	2020	1880	1840	1860
29	2000	1980	1990	2050	2000	2030	2040	2020	2030	1880	1870	1870
30	1990	1960	1970	2110	1970	2030	2040	2030	2030	1870	1870	1870
31	1960	1930	1940	---	---	---	2050	2030	2030	1880	1860	1870
MONTH	---	---	1980	2110	1770	1970	2080	1830	2000	2050	1830	1950

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1890	1870	1870	1790	1780	1790	---	---	e1580	1540	1500	1510
2	1890	1860	1870	1790	1770	1780	---	---	e1570	1560	1500	1520
3	1870	1860	1870	1770	1760	1760	---	---	e1560	1550	1510	1520
4	1880	1860	1870	---	---	e1750	---	---	e1540	1570	1520	1540
5	1870	1850	1860	---	---	e1740	---	---	e1520	1600	1430	1500
6	---	---	e1840	---	---	e1750	---	---	e1490	1640	1530	1590
7	---	---	e1820	---	---	e1750	---	---	e1470	1620	1480	1530
8	1810	1810	1810	---	---	e1770	---	---	e1460	1670	1550	1590
9	1830	1810	1820	---	---	e1790	---	---	e1440	1770	1450	1550
10	1820	1790	1810	---	---	e1780	---	---	e1430	1780	1520	1590
11	1820	1800	1810	---	---	e1800	---	---	e1440	1760	1580	1640
12	1810	1800	1810	---	---	e1790	---	---	e1430	1840	1660	1710
13	1810	1800	1810	---	---	e1780	---	---	e1410	1870	1600	1700
14	1810	1800	1810	---	---	e1800	---	---	e1420	1920	1650	1710
15	1810	1800	1810	---	---	e1820	---	---	e1410	2190	1690	2020
16	1810	1800	1800	---	---	e1830	---	---	e1400	2180	2140	2160
17	1810	1800	1800	---	---	e1840	---	---	e1400	2160	2110	2140
18	1810	1790	1800	---	---	e1820	1430	1400	1410	2160	1670	1930
19	1800	1790	1800	---	---	e1800	1440	1400	1420	2030	1660	1780
20	1800	1790	1800	---	---	e1780	1440	1400	1410	2060	1620	1780
21	1800	1780	1790	---	---	e1760	1410	1390	1400	2080	1640	1770
22	1800	1790	1790	---	---	e1740	1420	1400	1410	2060	1660	1800
23	1790	1780	1790	---	---	e1720	1430	1410	1410	2130	1740	2000
24	1790	1770	1790	---	---	e1700	1460	1410	1440	2130	2070	2110
25	1790	1780	1790	---	---	e1680	1540	1460	1510	2100	1570	1890
26	1820	1790	1800	---	---	e1680	1550	1450	1480	2070	1670	1960
27	1800	1790	1790	---	---	e1660	1490	1430	1460	2060	1570	1870
28	1790	1780	1790	---	---	e1650	1510	1460	1470	2010	1630	1780
29	---	---	---	---	---	e1630	1510	1460	1480	2020	1610	1790
30	---	---	---	---	---	e1610	1530	1480	1490	2050	1690	1950
31	---	---	---	---	---	e1600	---	---	---	2050	2040	2050
MONTH	---	---	1820	---	---	1750	---	---	1460	2190	1430	1770

e Estimated

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	2050	1710	1910	1750	1570	1650	1690	1630	1660	1710	1690	1700
2	1980	1600	1780	1780	1580	1660	1710	1640	1670	1750	1690	1710
3	2000	1610	1770	1780	1580	1670	1710	1660	1680	1770	1710	1740
4	2000	1530	1760	1780	1640	1730	1720	1680	1690	1760	1730	1740
5	1930	1550	1700	1770	1760	1770	1740	1680	1700	1740	1720	1730
6	1970	1660	1880	1770	1610	1700	1740	1690	1710	1740	1720	1730
7	1990	1970	1970	1750	1600	1660	1750	1690	1710	1760	1720	1740
8	1990	1690	1870	1760	1610	1660	1760	1700	1740	1760	1720	1740
9	1950	1670	1830	1740	1600	1660	1760	1750	1750	1770	1710	1740
10	1930	1670	1810	1750	1610	1670	1770	1730	1750	1770	1720	1740
11	1880	1670	1770	1750	1650	1720	1770	1730	1750	1770	1710	1740
12	1890	1630	1780	1750	1730	1740	1790	1670	1740	1760	1710	1730
13	1900	1690	1840	1740	1610	1680	1750	1680	1710	1720	1700	1710
14	1890	1860	1880	1730	1610	1660	1730	1670	1690	1750	1710	1730
15	1870	1570	1780	1740	1610	1660	1720	1670	1700	1750	1730	1740
16	1840	1590	1720	1720	1620	1660	1730	1710	1720	1750	1740	1730
17	1810	1590	1690	1730	1630	1670	1730	1690	1710	1760	1740	1750
18	1810	1610	1720	1740	1650	1710	1720	1670	1690	1750	1730	1740
19	1790	1580	1700	1740	1720	1730	1730	1690	1710	1750	1720	1750
20	1780	1630	1740	1730	1620	1680	1730	1710	1720	1740	1720	1730
21	1780	1750	1770	1720	1640	1670	1750	1710	1730	1760	1720	1740
22	1770	1550	1700	1720	1640	1670	1760	1720	1740	1760	1720	1740
23	1740	1530	1660	1720	1650	1680	1750	1720	1740	1760	1720	1740
24	1750	1560	1660	1730	1320	1540	1750	1720	1740	1760	1720	1740
25	1750	1580	1670	1380	1310	1340	1760	1730	1740	1760	1730	1740
26	1760	1570	1670	1390	1320	1360	1750	1730	1740	1750	1730	1740
27	1760	1630	1720	1600	1390	1490	1740	1730	1740	1740	1730	1730
28	1760	1720	1750	1640	1600	1620	1750	1690	1730	1760	1720	1740
29	1760	1550	1700	1670	1610	1630	1720	1670	1700	1760	1720	1750
30	1760	1560	1670	1680	1620	1640	1700	1680	1700	1760	1730	1750
31	---	---	---	1690	1630	1650	1710	1680	1700	---	---	---
MONTH	2050	1530	1760	1780	1310	1650	1790	1630	1720	1770	1690	1740

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	25.0	24.0	24.5	20.0	18.0	19.0	13.0	12.5	13.0	8.5	8.5	8.5
2	24.5	23.5	24.5	19.5	15.5	17.5	13.0	12.5	13.0	8.5	8.5	8.5
3	24.5	23.5	24.0	18.5	14.5	17.0	13.0	12.0	12.5	8.5	8.5	8.5
4	24.5	23.5	24.0	19.0	16.5	17.5	13.5	11.0	12.5	9.0	8.5	8.5
5	24.5	23.0	24.0	19.5	17.0	18.0	13.0	11.0	12.0	9.5	9.0	9.0
6	24.5	23.5	24.0	18.0	16.0	17.0	12.5	11.0	12.0	10.0	9.0	9.5
7	24.0	23.0	23.5	18.5	16.0	17.0	12.0	10.0	11.0	9.5	9.0	9.0
8	24.5	23.0	23.5	18.5	15.5	16.5	12.0	10.5	11.5	9.0	8.5	8.5
9	24.5	23.0	23.5	16.0	14.5	15.5	13.0	11.5	12.0	8.5	8.5	8.5
10	24.0	23.0	23.5	16.5	14.5	16.0	11.5	10.5	11.0	8.5	8.5	8.5
11	23.5	23.0	23.0	17.0	14.0	15.5	11.0	10.5	11.0	8.5	8.5	8.5
12	23.0	22.0	22.5	16.0	14.5	15.5	10.5	9.0	10.0	8.5	8.5	8.5
13	23.5	19.5	21.5	16.0	14.5	15.5	11.5	8.5	9.5	8.5	8.0	8.0
14	23.5	21.5	22.5	15.5	13.0	15.0	12.0	8.5	10.0	8.0	7.5	8.0
15	23.5	21.5	22.5	15.5	12.0	14.0	11.5	8.5	10.0	8.0	7.5	7.5
16	23.5	21.0	22.5	15.5	12.0	14.0	11.5	9.5	10.5	8.0	8.0	8.0
17	23.0	21.0	22.0	14.5	12.5	14.0	11.5	9.5	10.5	8.0	8.0	8.0
18	24.0	21.0	22.5	15.0	13.0	14.0	11.5	9.5	10.5	8.0	8.0	8.0
19	24.5	21.0	22.5	15.0	13.0	14.0	11.5	10.0	10.5	8.0	8.0	8.0
20	24.5	21.0	22.5	14.0	13.0	14.0	10.5	10.0	10.0	8.0	8.0	8.0
21	22.5	21.5	22.0	14.5	13.0	14.0	10.0	9.0	9.5	8.0	7.5	7.5
22	23.0	21.0	22.0	15.0	12.5	13.5	10.5	8.5	9.5	7.5	7.5	7.5
23	22.0	17.0	20.5	15.0	11.5	13.0	10.0	9.5	9.5	7.5	7.5	7.5
24	23.0	20.5	21.5	14.0	12.0	13.5	10.0	9.0	9.5	7.5	7.5	7.5
25	22.0	19.0	21.0	14.0	12.5	13.5	10.0	9.0	9.5	7.5	7.5	7.5
26	20.5	16.5	19.0	14.5	13.0	14.0	9.5	9.0	9.5	7.5	7.5	7.5
27	20.5	18.0	19.5	14.5	13.0	14.0	10.0	8.0	9.0	7.5	7.5	7.5
28	20.0	17.5	19.0	14.5	12.5	14.0	9.0	8.5	9.0	7.5	7.5	7.5
29	20.0	18.0	19.0	14.0	12.0	12.5	8.5	7.5	8.5	7.5	7.5	7.5
30	20.0	18.5	19.0	12.5	11.5	12.0	8.5	8.5	8.5	7.5	7.5	7.5
31	21.0	18.5	19.0	---	---	---	8.5	8.5	8.5	7.5	7.5	7.5
MONTH	25.0	16.5	22.1	20.0	11.5	15.0	13.5	7.5	10.4	10.0	7.5	8.1

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.0	7.5	7.5	9.5	9.0	9.5	---	---	---	17.5	15.5	17.0
2	8.0	7.5	8.0	9.5	9.0	9.0	---	---	---	17.0	16.0	17.0
3	8.5	8.0	8.0	9.5	9.0	9.5	---	---	---	18.0	16.0	17.0
4	8.0	8.0	8.0	11.0	9.0	10.0	---	---	---	17.5	16.0	17.0
5	8.0	8.0	8.0	11.5	10.0	10.5	---	---	---	17.0	16.5	17.0
6	---	---	---	10.5	8.0	9.5	---	---	---	17.5	17.0	17.5
7	---	---	---	10.0	7.0	9.5	---	---	---	18.5	17.0	18.0
8	7.5	7.5	7.5	10.0	7.5	8.5	---	---	---	18.0	17.0	17.5
9	8.0	7.5	7.5	11.5	6.5	8.5	---	---	---	19.5	17.0	18.0
10	8.0	7.5	8.0	10.0	7.0	8.5	---	---	---	19.0	17.5	18.5
11	8.0	7.5	8.0	9.5	9.0	9.0	---	---	---	18.5	17.0	18.0
12	8.0	7.5	8.0	9.0	9.0	9.0	---	---	---	18.0	17.5	18.0
13	8.0	8.0	8.0	9.0	9.0	9.0	---	---	---	18.5	17.5	18.0
14	8.0	8.0	8.0	9.0	9.0	9.0	---	---	---	18.5	18.0	18.0
15	8.0	8.0	8.0	9.0	9.0	9.0	---	---	---	20.5	18.0	19.0
16	8.0	8.0	8.0	9.0	9.0	9.0	---	---	---	21.0	17.0	19.0
17	8.0	8.0	8.0	9.5	9.0	9.0	---	---	---	20.0	17.5	18.5
18	8.5	8.0	8.0	9.5	9.0	9.5	17.0	16.0	16.5	19.0	17.5	18.5
19	8.0	8.0	8.0	9.5	9.5	9.5	17.0	15.5	16.5	19.0	17.5	18.5
20	9.0	8.0	8.5	9.5	9.0	9.5	17.0	15.5	16.5	19.0	18.0	18.5
21	8.5	8.0	8.0	9.5	9.5	9.5	17.5	16.5	17.0	19.0	18.0	18.5
22	8.5	8.0	8.0	9.5	8.0	9.5	17.5	16.5	17.0	19.0	18.0	18.5
23	8.5	8.0	8.5	---	---	---	17.5	16.5	17.0	20.0	18.0	18.5
24	8.5	8.5	8.5	---	---	---	17.0	16.0	16.5	20.5	17.5	19.0
25	8.5	8.0	8.0	---	---	---	16.5	15.5	16.5	20.0	18.0	19.0
26	9.5	8.5	9.0	---	---	---	17.0	16.0	16.5	20.5	18.0	19.5
27	10.0	9.0	9.5	---	---	---	17.5	16.0	17.0	19.5	18.0	18.5
28	9.5	9.5	9.5	---	---	---	17.5	15.5	17.0	21.0	18.0	19.0
29	---	---	---	---	---	---	17.0	15.5	17.0	21.0	18.0	19.0
30	---	---	---	---	---	---	17.5	15.5	17.0	21.5	18.0	19.5
31	---	---	---	---	---	---	---	---	---	21.5	18.0	19.5
MONTH	---	---	---	---	---	---	---	---	---	21.5	15.5	18.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.5	18.0	19.0	24.0	19.5	21.5	25.0	21.0	23.5	26.5	21.0	23.5
2	20.5	18.0	19.0	23.5	20.0	21.5	25.0	21.0	23.0	26.5	21.0	23.5
3	20.5	18.5	19.5	23.5	19.5	21.5	25.0	21.0	23.0	26.5	21.5	24.0
4	21.5	18.5	19.5	22.5	20.0	21.0	25.5	21.0	23.5	26.0	21.0	23.5
5	23.0	18.5	20.5	22.0	19.0	20.5	25.5	21.0	23.5	24.5	21.5	22.5
6	22.0	18.0	20.0	23.5	19.0	21.0	25.5	21.0	23.5	24.5	20.5	22.0
7	21.0	17.0	19.0	23.0	20.0	22.0	25.5	21.0	23.5	26.5	20.5	23.0
8	20.5	18.0	19.0	24.0	20.0	22.0	24.0	21.5	23.0	26.5	21.5	24.0
9	22.5	18.5	20.0	23.5	20.0	22.0	24.0	20.5	22.0	26.0	21.0	23.5
10	21.0	19.0	20.0	23.5	20.0	22.0	25.5	20.0	22.5	26.0	20.5	23.0
11	21.5	19.0	19.5	23.0	20.0	21.5	25.5	21.5	23.5	25.0	21.5	23.0
12	22.5	18.5	20.0	24.0	19.5	21.5	26.0	21.5	24.0	24.5	21.5	22.0
13	22.5	19.0	20.5	24.0	19.5	22.0	26.0	21.5	24.0	22.5	21.5	21.5
14	22.5	18.5	20.0	24.0	20.0	22.5	25.5	21.5	24.0	24.5	21.0	22.5
15	22.5	18.0	20.0	24.0	20.0	22.5	25.0	21.5	23.5	24.5	22.5	24.0
16	22.0	18.5	20.0	24.5	20.5	22.5	25.0	20.5	22.5	24.5	22.5	23.5
17	22.0	18.5	20.0	24.0	20.5	22.5	26.0	20.5	23.0	25.0	22.5	24.0
18	21.5	19.0	20.0	24.0	20.5	22.0	26.0	21.5	24.0	25.0	22.0	23.5
19	23.0	19.0	20.5	23.0	19.5	21.0	26.0	21.5	24.0	25.0	22.0	23.5
20	23.0	19.0	20.5	24.5	19.5	22.0	25.5	21.5	24.0	24.5	21.0	22.5
21	22.5	19.0	20.5	24.0	20.5	22.5	26.0	21.5	24.0	25.0	21.0	23.0
22	22.5	19.0	20.5	24.5	20.5	22.5	25.5	21.5	23.5	25.0	22.5	24.0
23	22.5	19.0	20.5	24.5	20.5	22.5	24.0	20.5	22.0	25.0	22.5	23.5
24	22.5	19.0	20.5	24.5	20.5	22.5	25.5	20.5	23.0	25.0	21.5	23.0
25	22.5	19.0	20.5	24.5	20.5	23.0	26.0	21.5	24.0	25.0	22.0	23.5
26	23.5	19.5	21.0	24.5	20.5	23.0	26.0	22.0	24.5	24.5	22.0	23.0
27	23.5	19.5	21.0	25.0	20.5	23.0	26.0	21.5	24.0	26.0	21.5	23.0
28	23.5	19.0	21.5	24.5	20.5	23.0	26.5	22.0	24.5	26.0	21.5	23.5
29	23.0	19.0	21.0	24.5	20.5	23.0	26.5	21.5	24.5	26.0	22.0	24.0
30	23.0	19.5	21.5	24.5	20.5	23.0	25.0	21.5	23.0	26.0	22.0	24.0
31	---	---	---	25.0	20.5	23.0	26.0	20.5	23.0	---	---	---
MONTH	23.5	17.0	20.2	25.0	19.0	22.1	26.5	20.0	23.5	26.5	20.5	23.2

07332500 BLUE RIVER NEAR BLUE, OK

LOCATION.--Lat 33°59'49", long 96°14'27", on line between sec.27 and 34, T.6 S., R.10 E., Bryan County, Hydrologic Unit 11140102, on left bank on downstream side near end of bridge on U.S. Highway 70, 1.0 mi west of Blue, 7.0 mi east of Durant, 7.7 mi upstream from Caddo Creek, and at mile 38.8.

DRAINAGE AREA.--476 mi^2.

PERIOD OF RECORD.--June 1936 to current year. Monthly discharge only for some periods, published in WSP 1311, 1731.

REVISED RECORDS.--WSP 957: 1938. WSP 1241: 1936, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 503.60 ft above sea level. Prior to Mar. 13, 1945, nonrecording gage and Mar. 13, 1945, to Feb. 2, 1960, water-stage recorder at site 1.2 mi downstream at datum 5.00 ft lower.

REMARKS.--Records fair. Some regulation at low flow by a State fish hatchery, 16.0 mi upstream from station. Small diversion for municipal water supply for city of Durant upstream from station. U.S. Army Corps of Engineers' satellite telemeter at station. No flow also occurred Aug. 4, 1936, result of regulation at fish hatchery, and no flow Sept. 19 to Oct. 16, 1956.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 24	0500	4,240	16.92	Mar 8	0400	4,180	16.78
Jan 5	0300	6,210	19.88	Mar 17	2300	7,200	21.11

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e31	36	47	135	342	236	706	192	84	51	e18	15
2	28	35	49	127	347	214	458	180	82	49	e18	13
3	28	33	286	125	359	202	381	172	79	47	e17	8.3
4	27	31	111	1780	310	198	346	163	76	47	e17	7.3
5	26	32	70	5720	283	198	324	151	95	46	e17	7.1
6	25	32	54	5420	270	195	317	147	94	46	e17	5.8
7	e25	32	50	4230	259	1090	312	146	79	44	20	6.3
8	e22	34	96	5630	249	3900	303	141	77	46	e18	12
9	e80	38	106	3840	246	1310	293	143	77	48	e19	12
10	e66	89	94	1170	242	529	276	148	96	47	19	9.3
11	e56	56	69	672	239	374	264	138	184	46	21	7.6
12	e53	51	59	528	229	314	258	114	473	44	20	8.8
13	e49	57	55	453	223	285	255	116	242	42	25	16
14	e52	59	52	400	217	276	250	118	131	37	40	31
15	51	50	51	368	214	613	246	121	95	34	53	40
16	44	45	50	346	219	5150	251	119	82	29	32	41
17	37	41	50	319	279	6970	234	113	75	23	26	33
18	36	39	49	296	339	5520	223	110	71	27	23	30
19	34	40	49	278	296	1500	217	108	70	23	22	28
20	34	41	415	266	372	1340	216	105	68	22	20	25
21	34	41	3050	260	314	812	218	103	66	22	19	22
22	36	41	1320	698	610	639	213	101	63	21	18	21
23	42	41	838	873	402	566	200	100	61	24	17	22
24	92	41	3390	485	291	519	204	99	59	26	17	25
25	71	40	1150	358	257	482	200	97	56	25	16	24
26	50	39	433	1570	337	446	199	95	55	25	15	22
27	42	39	315	1740	478	421	334	98	53	24	13	20
28	40	107	250	705	289	423	435	112	52	24	12	20
29	37	142	201	480	---	403	308	100	52	22	11	18
30	37	60	171	395	---	380	214	94	52	21	14	16
31	37	---	148	351	---	579	---	89	---	e19	17	---
TOTAL	1322	1462	13128	40018	8512	36084	8655	3833	2899	1051	631	566.5
MEAN	42.6	48.7	423	1291	304	1164	289	124	96.6	33.9	20.4	18.9
MAX	92	142	3390	5720	610	6970	706	192	473	51	53	41
MIN	22	31	47	125	214	195	199	89	52	19	11	5.8
AC-FT	2620	2900	26040	79380	16880	71570	17170	7600	5750	2080	1250	1120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1998, BY WATER YEAR (WY)

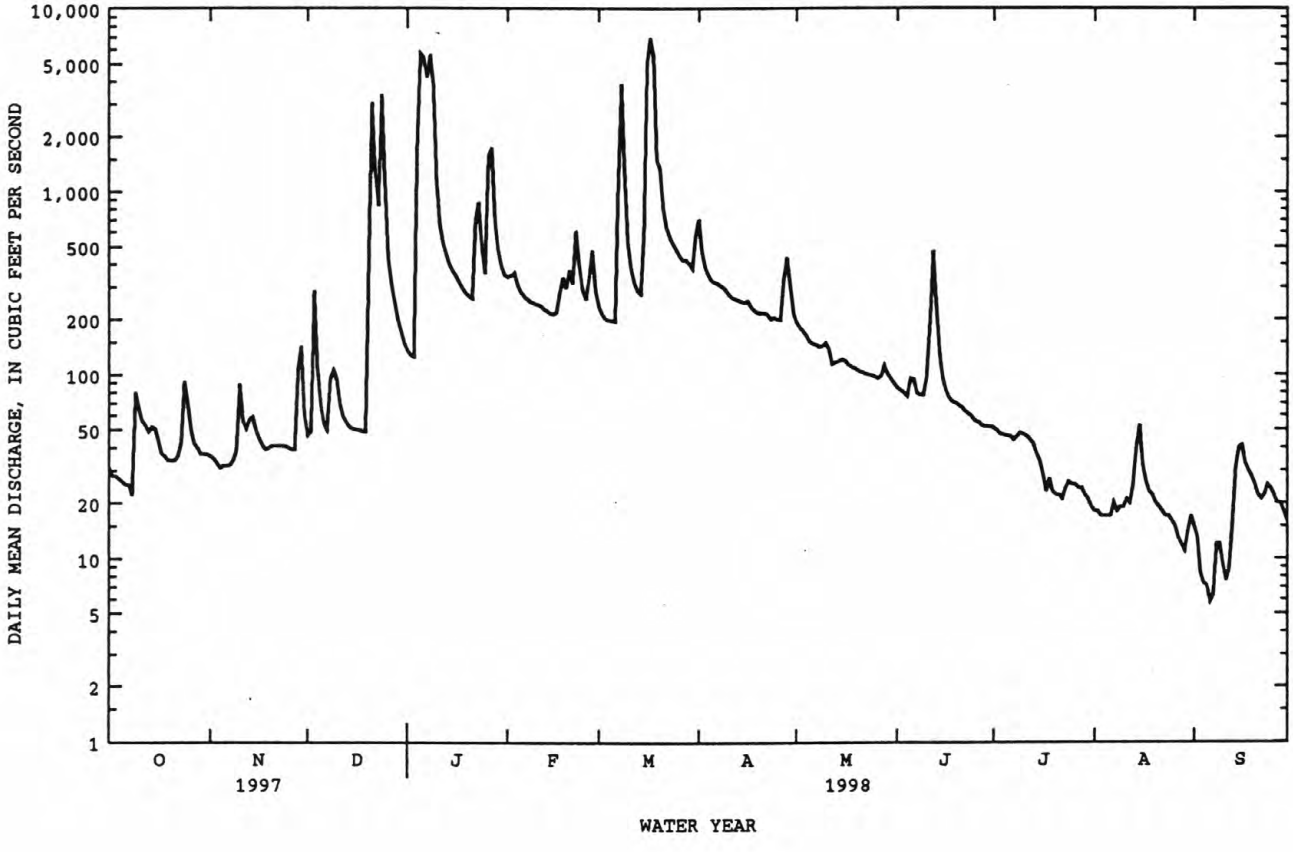
MEAN	250	277	263	238	380	470	582	650	438	150	79.0	162
MAX	3613	1813	1384	1291	2156	3089	3846	2953	2510	780	755	1501
(WY)	1982	1997	1972	1998	1938	1945	1990	1990	1945	1950	1950	1957
MIN	4.37	11.3	17.8	18.1	27.0	22.8	51.5	33.2	24.2	5.23	.94	.42
(WY)	1940	1940	1940	1940	1967	1940	1956	1939	1939	1956	1956	1956

e Estimated

07332500 BLUE RIVER NEAR BLUE, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1936 - 1998	
ANNUAL TOTAL	102050		118161.5			
ANNUAL MEAN	280		324		328	
HIGHEST ANNUAL MEAN					972	1945
LOWEST ANNUAL MEAN					30.8	1956
HIGHEST DAILY MEAN	5970	Feb 21	6970	Mar 17	45500	Oct 14 1981
LOWEST DAILY MEAN	22	Oct 8	5.8	Sep 6	[a].00	Aug 3 1936
ANNUAL SEVEN-DAY MINIMUM	26	Oct 2	8.4	Sep 3	.00	Sep 19 1956
INSTANTANEOUS PEAK FLOW			7200	Mar 17	65200	Oct 14 1981
INSTANTANEOUS PEAK STAGE			21.11	Mar 17	[b]44.20	Oct 14 1981
ANNUAL RUNOFF (AC-FT)	202400		234400		237700	
10 PERCENT EXCEEDS	509		499		551	
50 PERCENT EXCEEDS	142		82		89	
90 PERCENT EXCEEDS	32		20		28	

[a]Result of regulation at fish hatchery and no flow Sept. 19 to Oct. 16, 1956.
[b]From high-water mark.



07334000 MUDDY BOGGY CREEK NEAR FARRIS, OK

LOCATION.--Lat 34°16'17", long 95°54'43", in NE ¼ NW ¼ sec.26, T.3 S., R.13 E., Atoka County, Hydrologic Unit 11140103, on downstream left bank of bridge on State Highway 3, 1.3 mi downstream from McGee Creek, 2.8 mi northwest of Farris, and at mile 57.7.

DRAINAGE AREA.--1,087 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 439.58 ft above sea level. Prior to Mar. 13, 1945, nonrecording gage, and Mar. 13, 1945, to Sept. 30, 1961, water-stage recorder at same site at datum 7 ft higher. Prior to Oct. 1, 1989, water-stage recorder at same site and datum 5 ft higher.

REMARKS.--Records good. Some regulation since June 1959 by Atoka Reservoir, drainage area, 176 mi^2; pipeline diversions to Oklahoma City since November 1963, and since April 1987 by McGee Creek Lake, drainage area 178 mi^2. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	35	112	1860	1160	753	3430	161	69	19	14	13
2	14	30	85	1700	1030	512	2100	119	56	18	14	13
3	15	27	259	1550	1090	352	998	97	48	18	14	13
4	15	24	289	4260	796	212	786	86	43	18	15	13
5	15	26	274	13300	576	179	587	79	40	17	14	13
6	15	23	174	13700	480	172	337	73	36	17	14	13
7	15	22	118	14000	419	1270	233	69	36	17	15	13
8	16	22	152	16000	374	6510	214	63	37	16	15	13
9	17	26	507	15100	291	6550	266	62	30	16	14	13
10	19	34	517	11200	192	3210	215	62	167	16	14	13
11	17	32	303	7530	190	2190	168	59	558	16	15	14
12	23	33	186	3200	187	1920	145	55	467	16	15	14
13	42	37	125	2770	162	1430	128	52	426	16	15	16
14	46	47	90	2810	150	920	116	50	201	16	14	19
15	36	62	70	2640	150	2050	110	49	113	15	14	16
16	81	64	58	e2450	160	8910	144	47	73	15	14	25
17	67	59	51	2390	233	12000	116	45	55	15	14	22
18	50	51	46	2300	453	11300	105	44	46	15	14	17
19	38	45	43	2210	747	11800	103	42	39	15	13	15
20	31	41	206	2120	713	10800	97	41	35	15	13	16
21	28	38	4060	2060	604	5900	93	40	32	15	13	15
22	25	34	4870	2510	696	2410	90	39	29	14	13	15
23	33	31	3070	4000	620	1970	86	39	27	14	13	15
24	41	29	7060	3120	517	1590	85	39	25	14	13	15
25	34	27	6290	2470	360	1610	86	38	23	14	13	15
26	30	26	4810	4700	776	2240	84	44	22	14	e13	15
27	33	25	1730	8020	2820	2180	139	40	21	14	12	15
28	79	28	1410	7520	1650	2140	150	347	20	14	13	15
29	78	42	1480	3970	---	2100	267	363	20	14	13	14
30	57	143	1890	1990	---	1950	256	154	19	14	13	14
31	43	---	1930	1260	---	2280	---	94	---	14	13	---
TOTAL	1067	1163	42265	164710	17596	109410	11734	2592	2813	481	426	452
MEAN	34.4	38.8	1363	5313	628	3529	391	83.6	93.8	15.5	13.7	15.1
MAX	81	143	7060	16000	2820	12000	3430	363	558	19	15	25
MIN	14	22	43	1260	150	172	84	38	19	14	12	13
AC-FT	2120	2310	83830	326700	34900	217000	23270	5140	5580	954	845	897

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1998, BY WATER YEAR (WY)

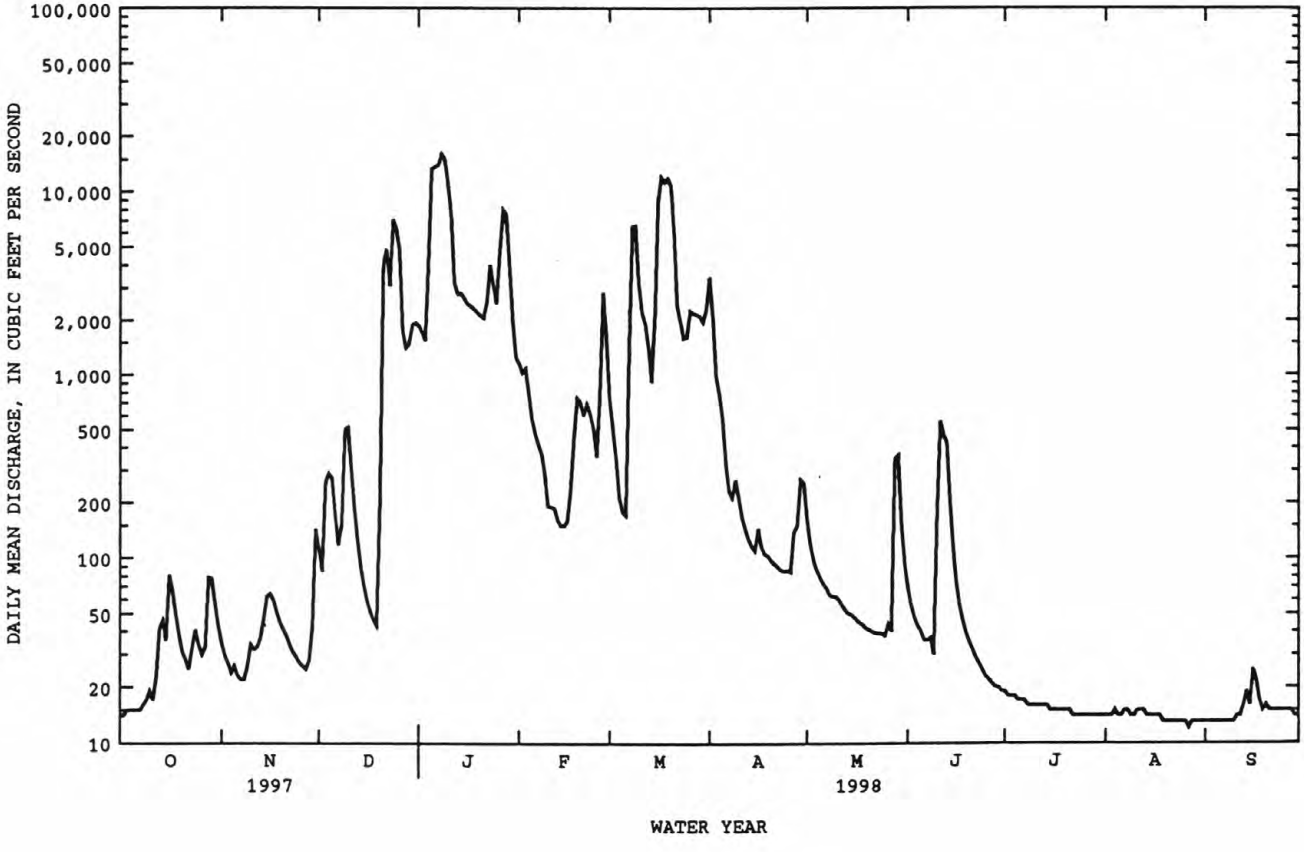
MEAN	291	1103	1648	1299	1204	2122	1805	2383	1166	313	276	476
MAX	1489	4184	4223	5313	2830	4541	6622	8384	2764	1854	1525	1026
(WY)	1992	1997	1992	1998	1993	1990	1990	1990	1991	1992	1992	1992
MIN	15.9	27.6	25.5	121	41.5	404	391	34.7	25.0	15.5	13.7	13.8
(WY)	1989	1990	1990	1997	1996	1996	1998	1988	1988	1998	1998	1988

e Estimated

07334000 MUDDY BOGGY CREEK NEAR FARRIS, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1988 - 1998	
ANNUAL TOTAL	227655		354709			
ANNUAL MEAN	624		972		[a]1174	
HIGHEST ANNUAL MEAN					2145	1990
LOWEST ANNUAL MEAN					470	1996
HIGHEST DAILY MEAN	9870	Feb 21	16000	Jan 8	45700	May 5 1990
LOWEST DAILY MEAN	13	Sep 10	12	Aug 27	9.9	Nov 9 1988
ANNUAL SEVEN-DAY MINIMUM	14	Sep 26	13	Aug 21	[b]11	Oct 18 1991
INSTANTANEOUS PEAK FLOW			16300	Jan 8	[c]49800	May 5 1990
INSTANTANEOUS PEAK STAGE			38.60	Jan 8	[d]48.73	May 5 1990
ANNUAL RUNOFF (AC-FT)	451600		703600		850500	
10 PERCENT EXCEEDS	1540		2490		2830	
50 PERCENT EXCEEDS	112		55		192	
90 PERCENT EXCEEDS	20		14		21	

[a]Prior to regulation, water years 1938-86, 880 ft^3/s.
[b]No flow at times in many years prior to regulation.
[c]Maximum discharge for period of record 61,900 ft^3/s, June 17, 1945, from rating curve above 37,000 ft^3/s.
[d]Maximum gage height for period of record 51.94 ft, June 17, 1945, present datum.



07334200 BYRDS MILL SPRING NEAR FITTSTOWN, OK

LOCATION.--Lat 34°35'40", long 96°39'55", in SW ¼ SW ¼ sec.34, T.2 N., R.6 E., Pontotoc County, Hydrologic Unit 11140104, upstream from weir outlet of spring, 0.5 mi upstream from Big Spring Creek, 2.0 mi west of Fittstown, and 12.0 mi south of Ada.

PERIOD OF RECORD.--Creek only, April 1959 to current year. Combined flow from December 1989 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 1,021.17 ft above sea level. Flow meters on diversion pipe and wells, to City of Ada.

REMARKS.--Records fair. Prior to December 1989 records do not include diversion of about 6 to 15 ft^3/s by City of Ada for municipal water supply, a part of which is discharged as effluent to Sandy Creek, tributary to Canadian River. Records of zero flow do not include seepage of up to 0.10 ft^3/s. Satellite telemeter at station.

AVERAGE DISCHARGE.--Creek only: 39 years, 9.04 ft^3/s. Combined spring flow: 8 years, 21.0 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Combined flow: maximum daily discharge, 43 ft^3/s, May 4, 5, 1990; minimum daily discharge, 12 ft^3/s, in 1996 and 1997.

EXTREMES FOR CURRENT YEAR.--Combined flow: maximum daily discharge, 27 ft^3/s, Mar. 24, 25, 27, 29; minimum daily discharge, 13 ft^3/s, at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	5.4	3.8	7.1	14	14	18	15	10	6.3	5.1	4.1
2	5.1	5.3	3.8	7.1	14	14	18	15	11	6.1	5.0	4.0
3	4.4	5.3	3.7	7.1	14	14	18	14	11	6.0	6.1	5.5
4	4.3	5.2	3.7	7.7	14	14	18	14	9.9	6.0	7.5	6.2
5	4.3	5.1	3.7	8.3	14	14	18	14	10	6.0	6.1	5.9
6	4.3	5.1	3.7	8.9	14	14	18	14	9.9	5.9	4.8	5.2
7	4.3	5.1	3.8	9.7	14	14	18	13	9.8	5.8	4.8	4.5
8	4.3	5.1	3.8	11	14	14	18	13	9.8	6.3	4.7	4.4
9	4.4	5.1	3.8	12	14	14	18	13	9.6	6.4	4.6	4.9
10	5.1	5.0	3.8	12	14	14	17	13	9.7	6.0	4.6	5.3
11	5.1	5.0	4.2	12	14	14	17	13	9.7	5.9	4.6	3.9
12	5.1	5.0	4.8	13	14	14	17	13	12	6.9	4.9	3.4
13	5.0	5.1	4.8	e13	14	14	17	13	9.4	6.4	5.2	3.9
14	5.0	5.0	4.7	e13	14	14	17	13	9.5	5.8	5.0	5.7
15	4.9	4.9	4.8	13	14	14	17	13	9.4	7.2	4.8	5.0
16	4.9	4.7	4.8	13	14	15	17	13	9.4	7.0	4.7	5.2
17	4.9	4.3	4.7	13	14	16	17	12	9.3	6.2	4.9	5.6
18	4.9	4.3	4.8	13	14	16	16	12	9.3	6.1	5.6	5.6
19	4.9	4.3	4.7	13	14	16	16	12	9.1	6.1	5.7	5.5
20	4.8	4.2	4.8	13	14	17	16	11	9.0	5.4	5.7	5.4
21	4.8	4.1	5.1	13	14	17	16	11	9.0	5.2	5.6	4.9
22	4.8	4.1	5.3	13	14	17	16	11	8.8	5.9	5.5	5.1
23	4.8	4.1	5.5	14	14	17	16	11	8.6	6.2	5.4	5.6
24	4.8	4.1	6.1	14	14	18	16	11	8.1	5.6	5.4	6.3
25	4.7	4.0	6.4	14	14	18	16	11	5.8	5.4	5.4	6.1
26	4.6	3.9	6.4	14	14	18	16	11	5.8	4.7	5.4	6.1
27	4.6	3.9	6.7	14	14	18	16	11	5.3	3.0	5.3	6.1
28	6.9	3.9	6.7	14	14	18	16	10	5.0	4.2	5.3	5.0
29	5.1	3.9	6.8	14	---	18	15	10	5.0	5.2	5.2	4.4
30	5.3	3.8	7.0	14	---	18	15	10	5.9	6.2	5.1	4.6
31	5.4	---	7.1	14	---	18	---	10	---	5.2	4.8	---
TOTAL	151.1	138.3	153.8	371.9	392	485	504	380	264.1	180.6	162.8	153.4
MEAN	4.87	4.61	4.96	12.0	14.0	15.6	16.8	12.3	8.80	5.83	5.25	5.11
MAX	6.9	5.4	7.1	14	14	18	18	15	12	7.2	7.5	6.3
MIN	4.3	3.8	3.7	7.1	14	14	15	10	5.0	3.0	4.6	3.4
AC-FT	300	274	305	738	778	962	1000	754	524	358	323	304

CAL YR 1997 TOTAL 3564.1 MEAN 9.76 MAX 18 MIN 2.8 AC-FT 7070
WTR YR 1998 TOTAL 3337.0 MEAN 9.14 MAX 18 MIN 3.0 AC-FT 6620

e Estimated

07334200 BYRDS MILL SPRING NEAR PITTSTOWN, OK--Continued

DISCHARGE, CUBIC FEET PER SECOND, COMBINED FLOW, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e15	14	13	15	23	22	26	23	20	17	15	14
2	e15	14	13	15	23	22	26	23	20	17	15	14
3	e15	14	13	15	23	22	26	23	20	17	16	14
4	e15	14	13	16	23	22	26	24	20	17	16	14
5	e15	14	13	17	23	22	26	24	19	17	16	15
6	e15	14	13	17	23	22	26	24	19	17	15	14
7	e15	14	13	18	23	22	26	23	19	17	15	14
8	e15	14	13	19	23	22	26	23	19	17	15	14
9	e15	14	13	20	23	22	26	22	19	17	15	14
10	e15	14	13	20	23	23	25	22	19	17	15	14
11	e15	14	13	21	23	22	25	23	19	17	15	13
12	e15	14	13	21	23	22	25	22	20	17	15	13
13	e15	14	13	e21	23	22	25	23	19	17	15	13
14	e15	14	13	e22	23	22	25	22	19	16	15	14
15	e15	13	13	22	23	22	25	22	19	17	15	14
16	e15	13	13	20	23	23	25	22	19	17	15	14
17	e15	14	13	22	23	25	25	21	19	16	15	14
18	e15	14	13	22	23	25	24	21	19	16	15	14
19	e15	14	13	22	23	25	24	22	19	16	15	14
20	e15	14	13	22	23	26	24	21	19	16	15	14
21	e15	13	13	22	23	26	24	21	19	16	15	13
22	e15	13	14	22	23	26	24	21	18	16	15	13
23	e15	13	14	23	23	26	24	21	18	16	15	13
24	e15	13	14	23	23	27	24	21	18	16	15	14
25	e15	13	15	23	23	27	24	21	17	16	15	14
26	e15	13	15	23	22	26	24	21	16	15	15	14
27	e15	13	15	23	22	27	24	21	17	15	14	14
28	e15	13	15	23	23	26	24	20	16	15	15	13
29	e15	13	15	23	---	27	23	20	16	16	14	14
30	e15	13	15	23	---	26	23	20	17	16	14	13
31	14	---	15	23	---	26	---	20	---	15	14	---
TOTAL	464	408	420	638	642	745	744	677	557	507	464	413
MEAN	15.0	13.6	13.5	20.6	22.9	24.0	24.8	21.8	18.6	16.4	15.0	13.8
MAX	15	14	15	23	23	27	26	24	20	17	16	15
MIN	14	13	13	15	22	22	23	20	16	15	14	13
AC-FT	920	809	833	1270	1270	1480	1480	1340	1100	1010	920	819

CAL YR 1997 TOTAL 6812 MEAN 18.7 MAX 25 MIN 12 AC-FT 13510
WTR YR 1998 TOTAL 6679 MEAN 18.3 MAX 27 MIN 13 AC-FT 13250

e Estimated

07335300 MUDDY BOGGY CREEK NEAR UNGER, OK

LOCATION.--Lat 34°01'36", long 95°45'00", in SE ¼ SE ¼ sec.17, T.6 S., R.15 E., Choctaw County, Hydrologic Unit 11140103, at bridge on U.S. Highway 70, 3.5 mi west of Soper, 1.8 mi east of Unger and at mile 18.6.

DRAINAGE AREA.--2,273 mi^2.

PERIOD OF RECORD.--August 1982 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 392.72 ft above sea level. Prior to Sept. 19, 1985, gage 500 ft downstream at same datum.

REMARKS.--Records good. Some regulation by Atoka and McGee Creek Reservoirs. U.S. Army Corp of Engineers' telemeter at site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e70	149	200	2660	3590	3170	3920	644	272	88	e35	35
2	e70	132	254	2470	2370	1790	4770	493	225	83	e33	35
3	e72	118	362	2200	2070	1300	3550	406	196	81	e30	33
4	e72	108	451	2880	2040	1030	2270	354	174	78	35	e32
5	e72	104	436	9580	1690	815	1870	321	169	81	38	35
6	e71	102	404	11100	1370	720	1590	318	149	81	37	e33
7	e74	104	365	14800	1190	1270	1250	304	139	79	37	e33
8	78	102	439	e18000	1060	4590	881	277	129	75	35	e32
9	114	101	408	e21000	969	7150	701	263	124	73	37	e32
10	99	113	551	e23000	875	7960	691	249	148	70	38	e32
11	87	125	690	e25000	742	8550	636	244	246	66	37	e31
12	87	134	558	26000	691	7220	557	235	742	65	37	33
13	163	154	437	e20000	662	3960	512	222	853	61	42	40
14	175	183	356	e16000	617	2430	477	209	1070	57	41	49
15	151	184	296	e13000	591	2730	446	203	626	53	40	58
16	144	178	261	7630	635	6550	628	196	397	52	40	82
17	159	180	238	6370	837	8840	512	186	296	51	40	88
18	177	187	225	4080	1060	12100	448	179	241	50	41	85
19	161	188	214	3550	1220	15500	413	174	207	47	44	76
20	140	179	526	3280	1580	17200	380	167	181	46	52	65
21	122	170	4370	3070	1520	19200	381	159	161	45	54	64
22	113	163	6520	3960	1800	18200	374	154	148	44	53	63
23	112	157	7180	4330	1890	15600	351	151	135	43	51	62
24	160	148	7930	5310	1570	12000	334	148	124	43	47	59
25	190	140	8540	5340	1310	8690	316	143	115	43	45	55
26	163	135	9160	4490	3470	5300	310	146	109	41	42	53
27	145	132	9720	6020	3000	3920	414	174	104	41	39	51
28	135	134	8880	7490	4430	3630	494	191	100	41	38	49
29	131	157	7300	8500	---	3440	565	336	95	40	35	50
30	162	174	3700	8920	---	3230	701	541	91	37	35	51
31	164	---	2850	7300	---	3350	---	359	---	37	35	---
TOTAL	3833	4335	83821	297330	44849	211435	30742	8146	7766	1792	1243	1496
MEAN	124	145	2704	9591	1602	6820	1025	263	259	57.8	40.1	49.9
MAX	190	188	9720	26000	4430	19200	4770	644	1070	88	54	88
MIN	70	101	200	2200	591	720	310	143	91	37	30	31
AC-FT	7600	8600	166300	589800	88960	419400	60980	16160	15400	3550	2470	2970

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

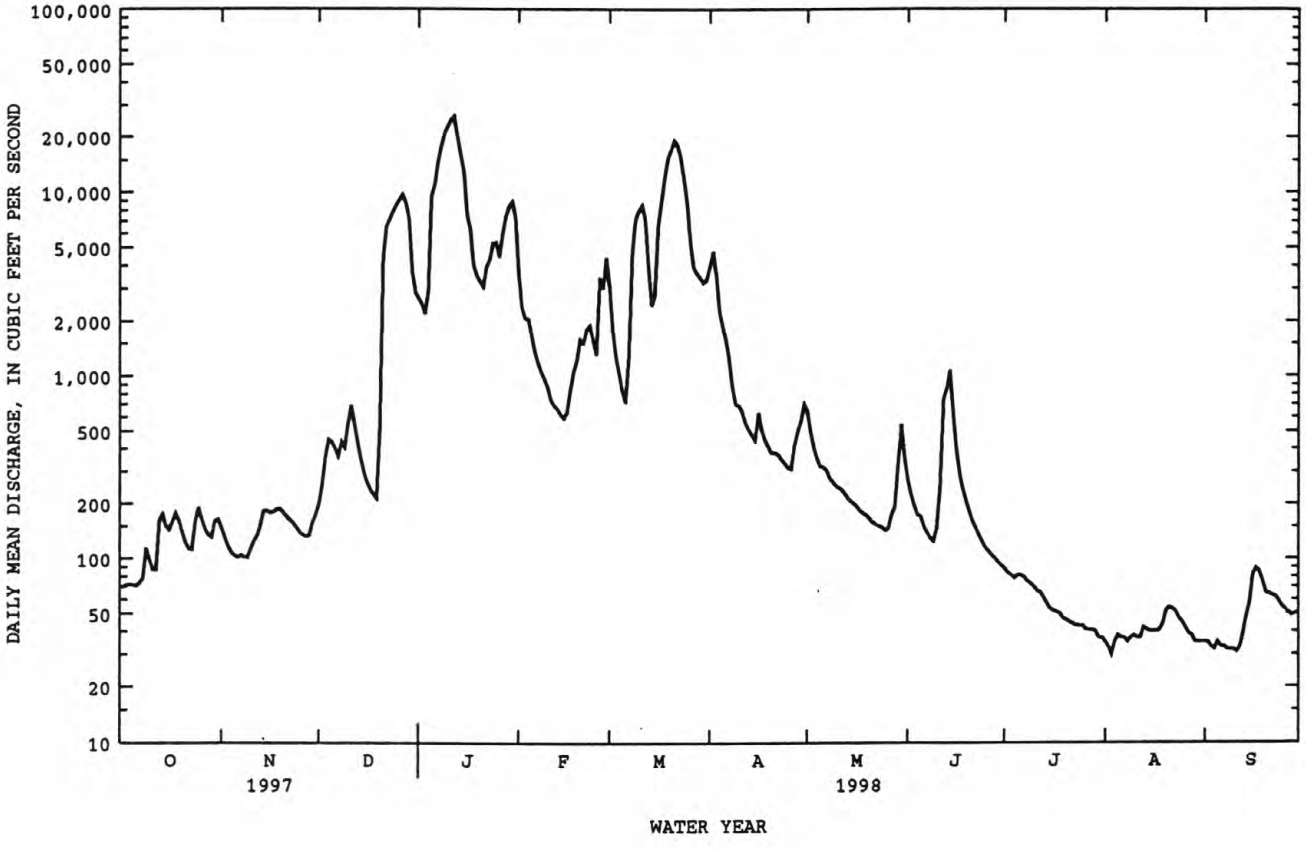
MEAN	826	2240	3009	2300	2687	4055	3687	4999	2511	629	409	774
MAX	3713	9607	9832	9591	5911	10970	14270	21720	7293	4536	2517	2218
(WY)	1985	1997	1992	1998	1993	1990	1990	1990	1991	1992	1992	1996
MIN	34.0	84.0	76.3	177	195	677	480	92.3	49.8	57.8	28.7	26.6
(WY)	1989	1989	1990	1984	1996	1986	1987	1988	1988	1998	1988	1988

e Estimated

07335300 MUDDY BOGGY CREEK NEAR UNGER, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	523908		696788			
ANNUAL MEAN	1435		1909		2342	
HIGHEST ANNUAL MEAN					4951	1990
LOWEST ANNUAL MEAN					520	1984
HIGHEST DAILY MEAN	14600	Feb 24	26000	Jan 12	76000	May 6 1990
LOWEST DAILY MEAN	65	Sep 11	30	Aug 3	1.8	Sep 8 1984
ANNUAL SEVEN-DAY MINIMUM	68	Sep 10	32	Sep 6	2.6	Sep 3 1984
INSTANTANEOUS PEAK FLOW			27400	Jan 12	76700	May 6 1990
INSTANTANEOUS PEAK STAGE			[a]44.05	Jan 12	55.27	May 6 1990
ANNUAL RUNOFF (AC-FT)	1039000		1382000		1696000	
10 PERCENT EXCEEDS	4590		6790		7120	
50 PERCENT EXCEEDS	420		191		545	
90 PERCENT EXCEEDS	87		41		58	

[a]From high-water mark.



07335500 RED RIVER AT ARTHUR CITY, TX

LOCATION.--Lat 33°52'30", long 95°30'06", in NW ¼ sec.11, T.8 S., R.17 E., Choctaw County, OK, Hydrologic Unit 11140101, on right downstream bank of bridge on U.S. Highway 271 at Arthur City, 10.6 mi downstream from Muddy Boggy River, 26.0 mi upstream from Kiamichi River, and at mile 633.1.

DRAINAGE AREA.--44,531 mi^2, of which 5,936 mi^2 probably is noncontributing.

PERIOD OF RECORD.--January to September 1905 (gage heights and discharge measurements only), October 1905 to Decem- ber 1911, July 1936 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at same site since 1891 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 1241: Drainage area. WSP 1311: 1906-11.

GAGE.--Water-stage recorder. Datum of gage is 380.07 ft above sea level. From 1905-11 nonrecording gage at St. Louis-San Francisco Railway Co. bridge 200 ft upstream at same datum. July 1, 1936, to Mar. 24, 1940, nonrecording gage at present site and datum.

REMARKS.--Records fair. Flow regulated since October 1943 by Lake Texoma (station 07331500), 92.8 mi upstream from sta- tion. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2570	3670	1770	20400	24500	25200	46400	10300	2740	837	4400	2690
2	4270	3630	e1500	21100	21600	22000	47000	9950	1620	1970	4410	1710
3	5800	3590	1890	20800	20600	20000	47900	9660	2700	3380	3750	2560
4	5730	2250	4220	20900	20100	19400	49800	9420	4230	4120	3150	2750
5	5750	1890	5910	47300	19700	16300	48800	9230	4460	4250	3680	2750
6	3610	3450	5540	51700	20400	9320	48000	9090	4640	3040	4380	2890
7	2820	3590	5540	41700	20300	7130	44100	9020	4510	1360	4470	2450
8	2570	3640	6080	44000	20100	11600	33800	8870	2680	1800	3770	1440
9	2440	3690	5100	47500	19900	22000	23600	8730	1480	3970	e2800	1200
10	2910	2700	5510	45300	19600	19400	21800	8600	1440	4200	e2100	2340
11	3040	e1400	6710	44100	16400	15800	20800	8440	2590	4150	1590	2700
12	2790	2430	6340	43900	15600	22800	17700	8340	3230	e3500	2250	2860
13	2320	3540	6020	43200	15400	26300	17100	8210	e3120	3000	4410	2980
14	1100	3690	3800	42500	15300	24100	16900	8070	e3080	1400	4740	2800
15	1500	3690	1990	41800	15200	23500	15200	8010	2960	1890	4730	1780
16	3950	3620	e1400	41900	15200	38200	17700	7550	1880	4000	4670	1650
17	3960	2980	2710	41200	15600	50300	17500	3390	1590	4300	3340	2690
18	3870	2750	5030	39200	16300	43500	15400	2320	2420	4440	1680	2950
19	3880	3270	5290	38500	16400	43600	14800	1890	2600	4290	2200	2950
20	3580	3470	5860	38600	16700	46900	14000	4070	2540	3060	4350	2940
21	2190	3480	23200	38400	16700	47500	14000	5430	2460	1420	4600	2750
22	1660	3470	34900	40600	16800	50100	14100	5300	2120	1840	4610	1630
23	3410	3490	26800	42500	20100	52100	13400	5210	1160	3970	4640	1260
24	3780	1870	27800	41300	19100	53100	13900	5200	1050	4220	3330	2460
25	4050	e1500	32000	40700	20000	51600	13600	2810	2260	4260	1670	2620
26	4030	2220	24800	38700	30500	50400	11300	1760	2500	4290	2170	1590
27	3840	3330	20600	39500	35600	45900	10900	2850	2460	4720	4370	2480
28	3580	3610	19400	37900	30300	44600	11200	2670	2390	4700	4620	2680
29	3640	2340	17500	34000	---	45500	10900	3010	2080	4440	4670	1590
30	3640	1830	13600	31600	---	45500	10600	4360	1080	4370	4690	1200
31	3680	---	15700	29800	---	46400	---	4320	---	4360	3860	---
TOTAL	105960	90080	344510	1190600	554000	1040050	702200	196080	76070	105547	114100	69340
MEAN	3418	3003	11110	38410	19790	33550	23410	6325	2536	3405	3681	2311
MAX	5800	3690	34900	51700	35600	53100	49800	10300	4640	4720	4740	2980
MIN	1100	1400	1400	20400	15200	7130	10600	1760	1050	837	1590	1200
AC-FT	210200	178700	683300	2362000	1099000	2063000	1393000	388900	150900	209400	226300	137500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

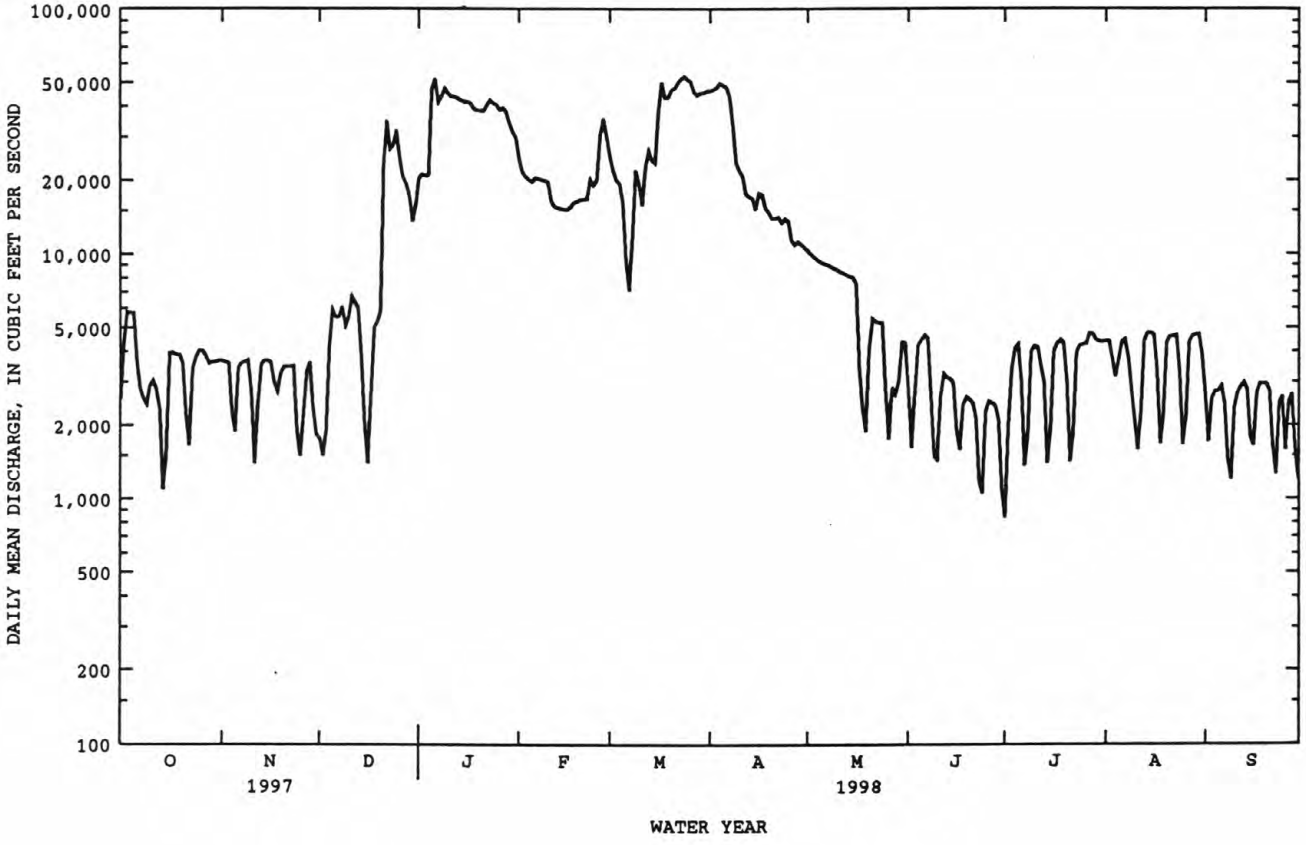
MEAN	7052	7534	7434	7084	8536	10930	11760	17320	18420	7861	4961	4905
MAX	40240	37170	32340	39930	24200	38610	55500	103900	83820	27700	34840	19010
(WY)	1982	1975	1992	1992	1946	1987	1990	1990	1957	1989	1950	1950
MIN	263	242	894	1126	1138	1118	1344	2837	2074	1586	1108	859
(WY)	1957	1957	1957	1964	1959	1967	1956	1980	1956	1956	1972	1988

e Estimated

07335500 RED RIVER AT ARTHUR CITY, TX--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1945 - 1998	
ANNUAL TOTAL	4207765		4588537			
ANNUAL MEAN	11530		12570		[a]9478	
HIGHEST ANNUAL MEAN					23290	1990
LOWEST ANNUAL MEAN					2754	1964
HIGHEST DAILY MEAN	43900	Feb 21	53100	Mar 24	269000	May 4 1990
LOWEST DAILY MEAN	800	Sep 24	837	Jul 1	134	[b]Dec 11 1956
ANNUAL SEVEN-DAY MINIMUM	1180	Sep 20	1900	Jun 26	134	Dec 11 1956
INSTANTANEOUS PEAK FLOW			56500	Jan 6	[c]275000	May 4 1990
INSTANTANEOUS PEAK STAGE			16.84	Jan 6	[d]34.21	May 4 1990
ANNUAL RUNOFF (AC-FT)	8346000		9101000		6867000	
10 PERCENT EXCEEDS	27500		41200		24800	
50 PERCENT EXCEEDS	6710		4440		4320	
90 PERCENT EXCEEDS	2060		1860		1370	

[a]Prior to regulation, water years 1906-11, 1937-43, 9,266 ft^3/s.
[b]Also occurred Dec. 12, 1956.
[c]Maximum discharge for period of record, 400,000 ft^3/s, May 28, 1908.
[d]Maximum gage height for period of record, 43.2 ft, May 28, 1908.



07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK
(Hydrologic benchmark station)

LOCATION.--Lat 34°38'18", long 94°36'45", in SW ¼ SE ¼ sec.18, T.2 N., R.26 E., Le Flore County, Hydrologic Unit 11140105, in Ouachita National Forest, on downstream side of right bank pier of bridge on State Highway 63, 0.2 mi upstream from Rattlesnake Creek, 1.1 mi upstream from Big Branch, 2.1 mi east of Big Cedar, and at mile 157.6.

DRAINAGE AREA.--40.1 mi^2.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 886.97 ft above sea level.

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 ft^3/s:

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 9	1600	3,790	10.82	Jan 5	0300	8,720	13.87
Dec 23	2400	4,400	11.34	Feb 10	2200	3,010	10.11

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	100	125	83	67	124	207	26	19	.00	.00	.00
2	.00	70	110	84	59	103	154	23	12	.00	.00	.00
3	.00	54	405	91	52	87	124	19	7.1	.00	.00	.00
4	.00	44	215	435	47	76	98	16	4.7	.00	.00	.00
5	.00	77	151	2660	43	83	83	24	4.9	.00	.00	.00
6	.00	71	116	593	39	69	71	38	3.6	.00	.00	.00
7	.00	64	99	641	37	127	62	34	3.0	.00	.00	.00
8	.00	57	174	731	34	205	55	28	2.6	.00	.00	.00
9	615	51	151	345	31	169	48	26	2.5	.00	.00	.00
10	135	56	127	230	689	139	43	26	6.6	.00	.00	.00
11	52	48	105	191	1060	119	37	21	8.3	.00	.00	.00
12	57	50	89	162	302	102	33	16	6.5	.00	.00	.00
13	499	157	75	133	193	91	31	13	12	.00	.00	34
14	122	188	66	118	145	82	28	10	5.6	.00	.00	197
15	72	145	57	107	123	93	26	9.8	3.1	.00	.00	210
16	50	112	50	94	113	510	28	7.3	2.2	.00	.00	213
17	38	90	45	81	294	732	27	5.2	1.7	.00	.00	156
18	28	74	39	71	243	370	23	4.1	1.4	.00	.00	91
19	21	62	36	63	189	791	21	3.3	1.5	.00	.00	63
20	15	53	163	58	149	392	18	2.6	1.4	.00	.00	45
21	12	47	682	55	122	234	17	1.9	.93	.00	.00	34
22	11	41	365	68	114	172	16	1.7	.60	.00	.00	42
23	24	35	809	59	96	136	13	1.4	.38	.00	.00	34
24	68	30	1280	55	81	110	12	1.3	.23	.00	.00	25
25	55	28	361	54	74	92	11	1.2	.17	.00	.00	19
26	48	26	241	95	292	80	12	39	.07	.00	.00	14
27	40	24	189	113	207	94	48	33	.01	.00	.00	10
28	35	36	157	108	156	94	34	65	.00	.00	.00	7.8
29	29	274	139	96	---	79	29	54	.00	.00	.00	5.9
30	26	170	113	84	---	90	28	38	.00	.00	.00	4.4
31	154	---	94	73	---	368	---	28	---	.00	.00	---
TOTAL	2206.00	2334	6828	7831	5051	6013	1437	616.8	112.09	0.00	0.00	1205.10
MEAN	71.2	77.8	220	253	180	194	47.9	19.9	3.74	.000	.000	40.2
MAX	615	274	1280	2660	1060	791	207	65	19	.00	.00	213
MIN	.00	24	36	54	31	69	11	1.2	.00	.00	.00	.00
AC-FT	4380	4630	13540	15530	10020	11930	2850	1220	222	.00	.00	2390
CFSM	1.77	1.94	5.49	6.30	4.50	4.84	1.19	.50	.09	.00	.00	1.00
IN.	2.05	2.17	6.33	7.26	4.69	5.58	1.33	.57	.10	.00	.00	1.12

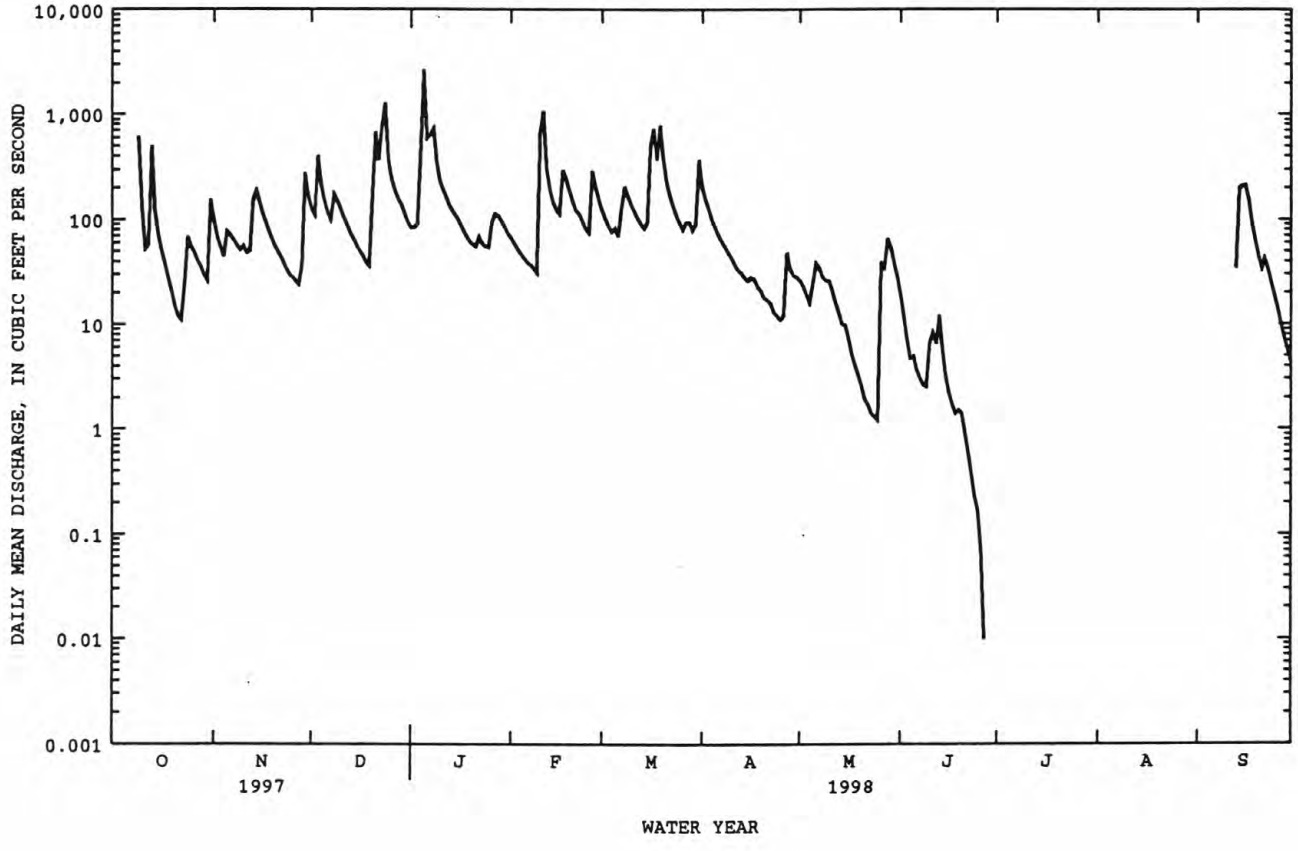
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1998, BY WATER YEAR (WY)

MEAN	61.6	104	129	101	117	149	130	135	55.4	21.2	7.49	21.2
MAX	514	533	445	253	340	362	362	614	178	128	51.0	283
(WY)	1985	1997	1972	1998	1989	1973	1991	1990	1973	1991	1988	1992
MIN	.000	.000	.92	2.50	6.12	28.8	34.5	6.97	.078	.000	.000	.000
(WY)	1984	1967	1967	1967	1967	1967	1972	1977	1988	1988	1972	1983

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK--Continued
(Hydrologic benchmark station)

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1998	
ANNUAL TOTAL	34099.22		33633.99			
ANNUAL MEAN	93.4		92.1		85.9	
HIGHEST ANNUAL MEAN					152	1985
LOWEST ANNUAL MEAN					33.9	1978
HIGHEST DAILY MEAN	2560	Feb 20	2660	Jan 5	5960	May 13 1982
LOWEST DAILY MEAN	.00	Aug 27	.00	at times	.00	most years
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 27	.00	Oct 1	.00	Oct 16 1966
INSTANTANEOUS PEAK FLOW			8720	Jan 5	[a]27400	May 19 1990
INSTANTANEOUS PEAK STAGE			13.87	Jan 5	19.60	May 19 1990
ANNUAL RUNOFF (AC-FT)	67640		66710		62220	
ANNUAL RUNOFF (CFSM)	2.33		2.30		2.14	
ANNUAL RUNOFF (INCHES)	31.63		31.20		29.10	
10 PERCENT EXCEEDS	188		200		176	
50 PERCENT EXCEEDS	40		36		26	
90 PERCENT EXCEEDS	.00		.00		.16	

[a]From rating curve extended above 9,000 ft^3/s.



07335790 KIAMICHI RIVER NEAR CLAYTON, OK

LOCATION.--Lat 34°34'29", long 95°20'26", in NE 1/4 SE 1/4 sec.7, T.1 N., R.19 E., Pushmataha County, Hydrologic Unit 11140105, on left bank near downstream bridge abutment on U.S. Highway 271, approximately 1 mi southeast of Clayton, and at mile 101.6.

DRAINAGE AREA.--708 mi^2.

PERIOD OF RECORD.--November 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 520.00 ft above sea level.

REMARKS.--Records good. Some regulation since December 1982 by Sardis Lake (station 07335775), on Jackfork Creek 4.5 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.4	2610	1310	4010	1250	1260	3120	248	100	6.9	5.1	.00
2	e2.6	1480	2090	3670	1370	1090	1990	207	74	6.1	1.8	.00
3	e2.5	1210	4460	3410	1330	1000	975	177	58	5.5	.87	2.7
4	e2.2	757	4030	6820	757	830	933	149	48	5.3	.58	4.7
5	e2.0	625	2170	17600	435	535	828	148	41	4.7	.39	2.8
6	e1.8	955	1400	18900	390	529	656	543	33	6.3	.14	8.0
7	e1.7	638	1250	9430	354	937	507	897	28	12	.00	2.0
8	e2.7	505	1650	7300	321	2460	512	227	24	9.2	.00	.84
9	5.8	425	1660	6990	304	2260	421	157	24	7.0	.00	.38
10	510	477	1410	5660	306	2230	354	129	44	5.7	.00	.05
11	682	604	1250	5190	1810	1980	302	115	49	4.5	.00	.00
12	326	529	849	4840	2000	1570	259	103	43	3.8	.00	.15
13	2480	1350	529	4470	1020	1020	223	89	40	3.4	.00	2.3
14	1520	2320	476	4320	790	638	191	78	35	3.3	.00	1780
15	695	1670	424	4200	662	721	170	68	31	3.2	.00	3030
16	371	1230	374	4220	632	2930	205	59	27	2.8	.00	4490
17	241	1010	333	4090	1660	5650	364	54	23	2.4	.00	5360
18	161	814	289	4000	2770	3820	266	48	21	1.9	.00	1830
19	116	506	252	3920	1790	4810	191	43	1640	1.6	.00	810
20	87	436	1100	2990	1360	5970	153	38	1240	1.2	.00	577
21	70	369	9330	1580	841	3360	138	35	1010	1.0	.00	441
22	58	317	5400	1390	778	2820	123	31	1220	.78	.00	1060
23	56	263	2940	1290	1090	3120	109	28	1270	.60	.00	1660
24	347	218	9760	961	1210	3690	95	25	91	.46	.00	1130
25	397	177	7130	878	927	3580	84	21	29	1.3	.00	357
26	622	151	2890	1400	2720	2770	83	32	20	1.3	.00	231
27	568	133	3250	2130	2410	1340	921	149	14	.73	.00	158
28	348	228	2700	1990	1560	1320	1640	357	11	.45	.00	114
29	238	1130	3190	1630	---	1200	983	242	9.4	.75	.00	85
30	178	1030	4140	1210	---	1140	310	142	7.9	.82	.00	66
31	3220	---	4180	1140	---	4880	---	130	---	4.1	.00	---
TOTAL	13314.7	24167	82216	141629	32847	71460	17106	4769	7305.3	109.09	8.88	23202.92
MEAN	430	806	2652	4569	1173	2305	570	154	244	3.52	.29	773
MAX	3220	2610	9760	18900	2770	5970	3120	897	1640	12	5.1	5360
MIN	1.7	133	252	878	304	529	83	21	7.9	.45	.00	.00
AC-FT	26410	47940	163100	280900	65150	141700	33930	9460	14490	216	18	46020

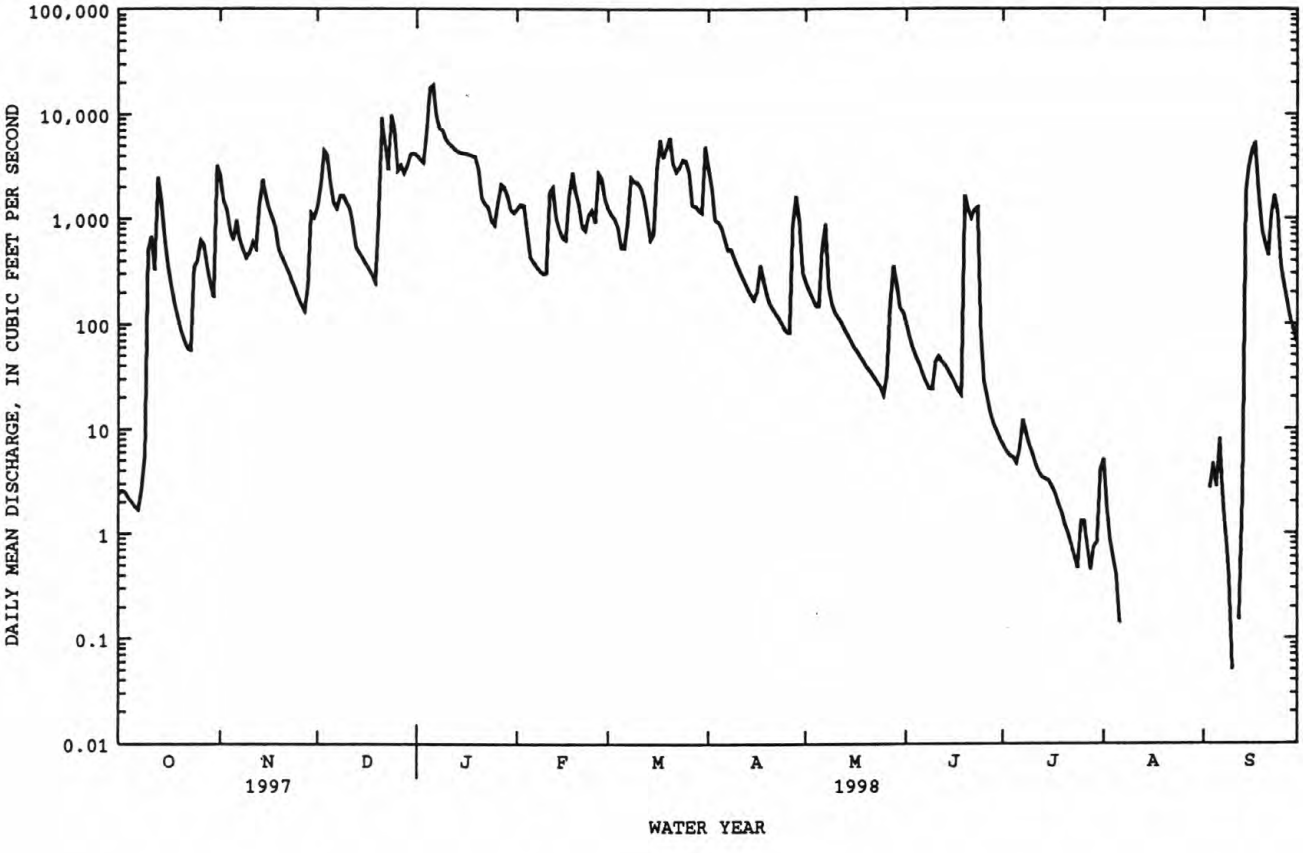
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1998, BY WATER YEAR (WY)

MEAN	706	1507	1606	1367	1552	1555	1542	2050	903	228	210	323
MAX	4628	4837	3376	4569	4196	3184	2935	7658	2288	984	1268	2735
(WY)	1985	1985	1988	1998	1990	1990	1991	1990	1986	1992	1992	1992
MIN	3.12	5.30	24.5	88.3	116	595	226	53.7	7.33	3.52	.29	2.35
(WY)	1984	1996	1990	1986	1996	1986	1982	1988	1988	1998	1998	1983

e Estimated

07335790 KIAMICHI RIVER NEAR CLAYTON, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1982 - 1998	
ANNUAL TOTAL	297872.3		418134.89			
ANNUAL MEAN	816		1146		1127	
HIGHEST ANNUAL MEAN					1967	1990
LOWEST ANNUAL MEAN					547	1984
HIGHEST DAILY MEAN	13000	Feb 21	18900	Jan 6	36800	May 4 1990
LOWEST DAILY MEAN	1.7	Oct 7	.00	at times	.00	at times
ANNUAL SEVEN-DAY MINIMUM	2.1	Sep 17	.00	Aug 7	.00	Oct 3 1983
INSTANTANEOUS PEAK FLOW			20100	Jan 6	40200	May 4 1990
INSTANTANEOUS PEAK STAGE			17.52	Jan 6	22.23	May 4 1990
ANNUAL RUNOFF (AC-FT)	590800		829400		816200	
10 PERCENT EXCEEDS	2420		3380		3210	
50 PERCENT EXCEEDS	250		348		275	
90 PERCENT EXCEEDS	6.3		.59		5.1	



07336200 KIAMICHI RIVER NEAR ANTLERS, OK

LOCATION.--Lat 34°14'55", long 95°36'18", in SW ¼ sec.35, T.3 S., R.16 E., Pushmataha County, Hydrologic Unit 11140105, on right bank, 50 ft downstream from bridge on U.S. Highway 271 and State Highway 2, 2.0 mi northeast of Antlers, 7.7 mi downstream from Tenmile Creek, 5.4 mi upstream from Cedar Creek and at mile 59.6.

DRAINAGE AREA.--1,138 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 419.82 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Some regulation since December 1982 by Sardis Lake (station 07335775), located on Jackfork Creek, 42.0 miles upstream from station. Small diversion for municipal water supply for city of Antlers upstream from station. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4380	1380	4790	1890	2000	5810	355	134	34	.00	.00
2	3.0	2120	1970	4590	1940	1630	3430	282	115	30	.00	.00
3	3.0	1460	5340	4010	2070	1400	1970	239	95	33	.00	.00
4	2.7	1200	6160	7090	1580	1250	1300	207	76	29	.00	.00
5	2.5	941	3780	28800	952	969	1160	328	62	23	.00	.00
6	2.2	919	2260	30200	662	693	1010	639	52	19	.00	.00
7	2.1	967	1710	25800	583	1500	769	749	41	16	.00	.00
8	4.8	635	2310	16700	525	5070	606	922	34	13	.00	.00
9	15	493	2830	11600	480	4280	573	370	30	11	.00	.00
10	19	425	2250	8210	446	3580	471	226	41	9.2	.00	.00
11	17	446	1810	6870	426	2950	400	185	455	7.8	.00	.00
12	483	613	1550	6260	2880	2570	347	156	1450	8.3	.00	.00
13	836	987	945	5850	1670	1860	308	138	481	11	.00	.00
14	2730	2940	665	5490	1090	1250	273	123	222	12	.00	.00
15	1060	2690	572	5280	868	2320	244	108	125	10	.00	2930
16	540	1830	500	5180	758	10600	243	93	82	9.1	.00	5390
17	353	1360	441	5000	1020	12300	262	80	59	7.6	.00	7930
18	253	1110	392	4860	3520	8020	371	69	45	6.4	.00	4110
19	196	837	349	4750	3030	5860	322	60	36	5.2	.00	1680
20	155	530	848	4600	2500	8390	251	52	1580	4.2	.00	909
21	130	443	13200	2520	1630	5980	218	46	1140	3.4	.00	640
22	109	377	15000	2300	1380	4160	196	41	969	2.8	.00	511
23	106	331	5880	2490	1330	3530	179	36	1340	2.2	.00	1390
24	212	289	14700	1760	1660	4520	161	32	1110	1.7	.00	1870
25	307	252	13300	1400	1560	4480	145	29	340	1.3	.00	932
26	476	222	5750	2040	2630	4260	135	30	135	1.0	.00	425
27	628	199	4700	3810	4800	2380	156	370	82	.80	.00	313
28	560	300	4030	3270	2790	1670	1520	203	60	.53	.00	246
29	368	2120	3400	2740	---	1670	1840	219	48	.22	.00	199
30	273	1930	4610	2000	---	1490	844	268	39	.04	.00	163
31	361	---	5010	1660	---	3800	---	188	---	.00	.00	---
TOTAL	10210.1	33346	127642	221920	46670	116432	25514	6843	10478	312.79	0.00	29638.00
MEAN	329	1112	4117	7159	1667	3756	850	221	349	10.1	.000	988
MAX	2730	4380	15000	30200	4800	12300	5810	922	1580	34	.00	7930
MIN	2.1	199	349	1400	426	693	135	29	30	.00	.00	.00
AC-FT	20250	66140	253200	440200	92570	230900	50610	13570	20780	620	.00	58790

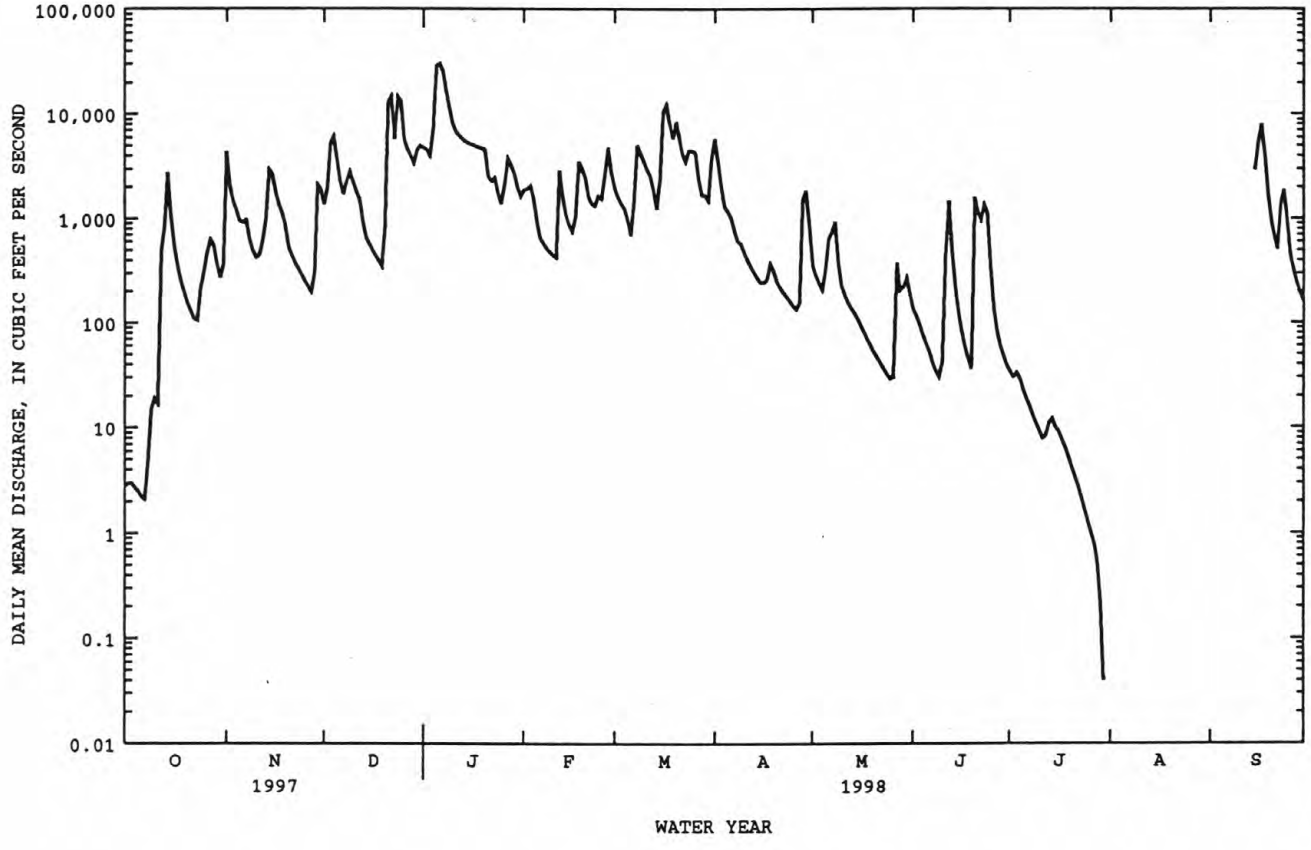
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1998, BY WATER YEAR (WY)

MEAN	1033	2543	2486	2128	2384	2777	2751	3177	1438	401	307	477
MAX	7763	8614	5288	7159	6316	5601	6400	12700	3784	1704	2017	2961
(WY)	1985	1997	1993	1998	1990	1990	1990	1990	1992	1992	1992	1992
MIN	10.8	5.19	7.84	154	154	923	456	77.9	21.5	10.1	.000	4.73
(WY)	1990	1990	1990	1986	1996	1996	1987	1988	1988	1998	1998	1997

07336200 KIAMICHI RIVER NEAR ANTLERS, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1984 - 1998	
ANNUAL TOTAL	518168.3		629005.89			
ANNUAL MEAN	1420		1723		[a]1821	
HIGHEST ANNUAL MEAN					3184	1990
LOWEST ANNUAL MEAN					786	1984
HIGHEST DAILY MEAN	22200	Feb 21	30200	Jan 6	57000	May 4 1990
LOWEST DAILY MEAN	2.1	Oct 7	.00	Jul 31-Sep 14	[b].00	Jul 31-Sep 14 1998
ANNUAL SEVEN-DAY MINIMUM	2.6	Sep 16	.00	Jul 31	.00	Jul 31 1998
INSTANTANEOUS PEAK FLOW			32900	Jan 5	62300	May 3 1990
INSTANTANEOUS PEAK STAGE			30.30	Jan 5	42.65	May 3 1990
ANNUAL RUNOFF (AC-FT)	1028000		1248000		1319000	
10 PERCENT EXCEEDS	3820		4770		4980	
50 PERCENT EXCEEDS	406		441		434	
90 PERCENT EXCEEDS	8.3		.00		10	

[a]Prior to regulation by Sardis Lake, 1973-82, 1,484 ft^3/s.
[b]Prior to regulation by Sardis Lake, no flow many years.



07336820 RED RIVER NEAR DE KALB, TX

LOCATION.--Lat 33°40'59", long 94°41'39", Bowie County, Hydrologic Unit 11140106, on right bank at downstream side of bridge on U.S. Highway 259, 4.8 mi upstream from North Mill Creek, 13 mi north of De Kalb, and at mile 556.9.

DRAINAGE AREA.--47,348 mi^2, of which 5,936 mi^2 probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Dec 1967 to Sep 1998 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 302.92 ft above sea level. Satellite telemeter at station.

REMARKS.--No estimated daily discharges. Records good. Since installation of gage in Dec 1967, at least 10% of contributing drainage area has been regulated by Lake Texoma (station 07331500) located approximately 169 mi upstream, and low flows may be affected by releases for the generation of electric power. Storage and/or releases from Lake Hugo on the Kiamichi River, a tributary to the Red River about 45 mi upstream, may also affect flows.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1957, 205,000 ft^3/s Jun 1957 (gage height, 32.2 ft), from rating curve extended above 186,500 ft^3/s. The greatest flood since 1936 occurred in Feb 1938, stage unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3400	4160	4120	31500	42900	38000	56200	9510	4440	2280	4560	4490
2	3590	4120	4090	34800	37400	30800	56100	9170	4140	1670	4560	3570
3	3690	4060	6980	34200	32300	26900	55900	8790	2560	1700	4610	2420
4	5220	4140	8880	33600	28800	24400	56100	8400	1920	2430	4570	1780
5	6180	4610	9520	45000	27700	21500	56900	8190	3350	3710	3870	2240
6	6260	3960	10500	72100	22300	17400	56100	8000	4520	4590	3320	2390
7	5970	5090	9220	76200	19900	10000	55000	7920	4780	4650	3930	2400
8	4650	5670	10700	68700	19600	7040	50100	7870	4900	3230	4490	2490
9	4690	4790	14300	70600	19000	10100	39600	7820	4470	2000	4620	2040
10	5580	4710	14900	71000	20800	22600	26700	7830	2670	2600	4720	1360
11	4540	4650	12400	66700	32700	25500	22800	7810	1870	4140	4620	1230
12	4510	3790	9640	67400	26800	22300	21000	7770	2060	4540	3130	1980
13	4980	3350	7490	65200	22800	26000	17800	7740	2930	4680	1970	2590
14	4890	4640	6120	65500	19300	28300	16300	7790	3800	4620	2780	3220
15	3770	5470	5120	64300	16300	25600	15700	7770	4210	3170	4350	4240
16	2840	6400	3460	62100	15200	27900	14400	7840	4320	1950	4790	5530
17	3230	6400	2670	61700	15400	50600	15700	7780	3100	2580	4820	4490
18	4500	6100	2410	60500	18000	59300	16700	5120	2130	4100	4670	3720
19	4530	5530	3640	58300	19600	58000	14600	2900	2110	4620	3110	7980
20	4470	5400	4570	57200	19800	63100	13500	2180	2650	4740	1860	6430
21	4480	5480	9120	57300	19500	65800	13000	2310	2820	4550	2560	5920
22	4150	4370	31900	56500	19300	67300	12200	4700	2780	3100	4100	5820
23	3190	4080	39000	56700	19000	71300	12800	5240	2710	1880	4460	5340
24	3580	4020	36800	55800	21200	72100	12000	5170	2220	2470	4540	4170
25	4520	3820	36100	53100	23100	68100	12400	5150	1630	3990	4510	2540
26	4690	2910	35800	52400	26600	64800	12500	4440	1670	4370	3040	2890
27	4700	2470	31200	52400	40000	61300	11500	2600	2480	4450	1790	2440
28	4630	3300	29300	53400	43900	54900	10400	2440	2770	4550	2460	1790
29	4400	4480	27900	51100	---	52100	10400	3530	2740	4960	4040	2230
30	4220	5010	28800	47400	---	52800	10100	2670	2670	4930	4420	2290
31	4200	---	29300	45200	---	54600	---	3570	---	4660	4530	---
TOTAL	138250	136980	485950	1747900	689200	1280440	794500	190020	91420	111910	119800	102020
MEAN	4460	4566	15680	56380	24610	41300	26480	6130	3047	3610	3865	3401
MAX	6260	6400	39000	76200	43900	72100	56900	9510	4900	4960	4820	7980
MIN	2840	2470	2410	31500	15200	7040	10100	2180	1630	1670	1790	1230
AC-FT	274200	271700	963900	3467000	1367000	2540000	1576000	376900	181300	222000	237600	202400

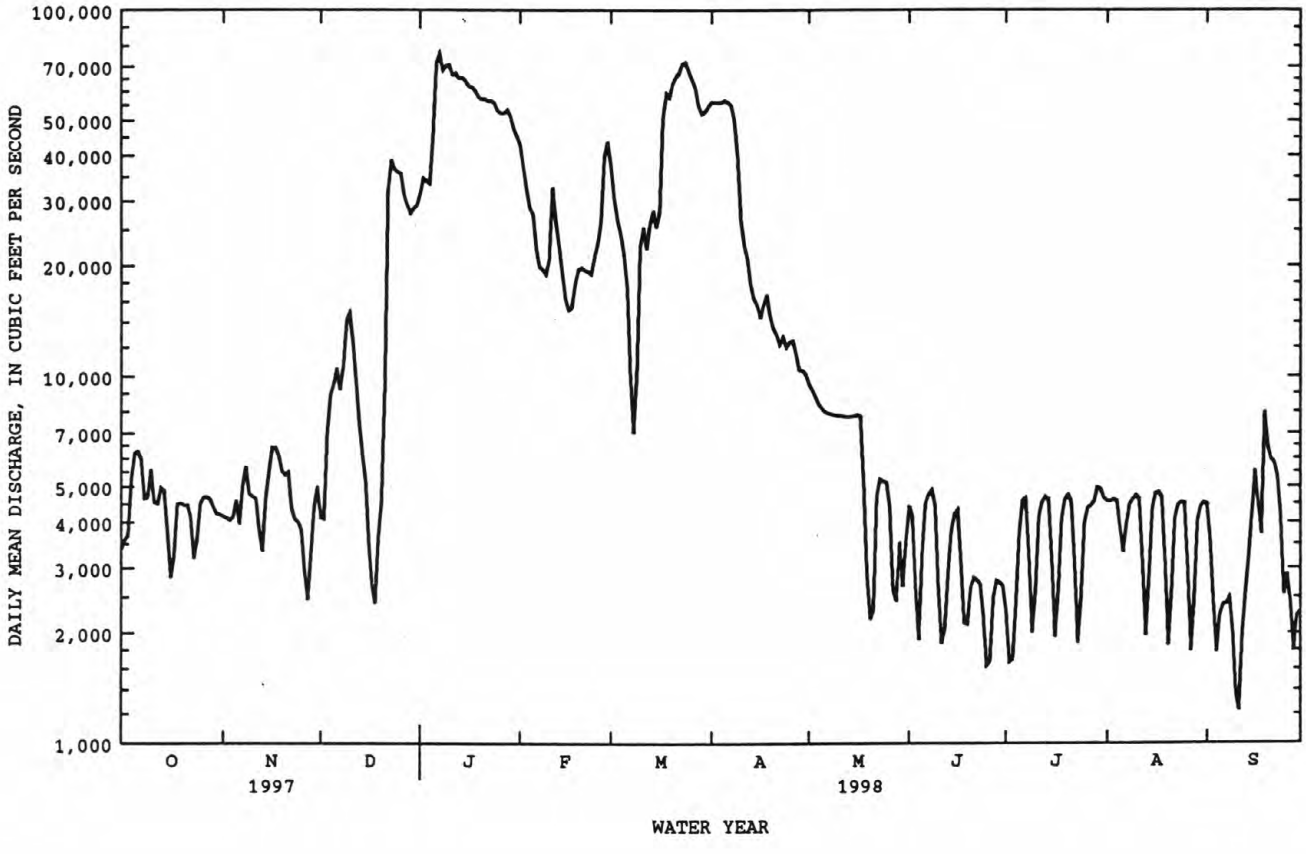
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1998z, BY WATER YEAR (WY)

MEAN	9114	14670	14850	12810	14820	20770	19130	24990	25860	9562	5811	6064
MAX	39980	53170	45440	56380	31000	48590	62330	125500	67360	35030	21150	24010
(WY)	1982	1975	1972	1998	1969	1987	1990	1990	1987	1982	1995	1974
MIN	1783	2105	1608	1699	2876	2492	3005	4707	2909	2598	1418	1368
(WY)	1979	1980	1978	1981	1976	1980	1981	1972	1988	1972	1972	1988

07336820 RED RIVER NEAR DE KALB, TX--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1968 - 1998z	
ANNUAL TOTAL	5607180		5888390			
ANNUAL MEAN	15360		16130		14810	
HIGHEST ANNUAL MEAN					30100	1990
LOWEST ANNUAL MEAN					4690	1980
HIGHEST DAILY MEAN	67700	Feb 22	76200	Jan 7	278000	May 7 1990
LOWEST DAILY MEAN	2400	Sep 26	1230	Sep 11	254	Nov 29 1979
ANNUAL SEVEN-DAY MINIMUM	2750	Sep 21	1980	Sep 6	529	Aug 31 1972
INSTANTANEOUS PEAK FLOW			79100	Jan 7	279000	May 6 1990
INSTANTANEOUS PEAK STAGE			25.00	Jan 7	34.42	May 6 1990
ANNUAL RUNOFF (AC-FT)	11120000		11680000		10730000	
10 PERCENT EXCEEDS	34200		54900		40900	
50 PERCENT EXCEEDS	9460		5120		7130	
90 PERCENT EXCEEDS	3820		2470		2220	

z Period of regulated streamflow.



07336820 RED RIVER NEAR DE KALB, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: Jan 1968 to Sep 1998(discontinued). Pesticide analyses: Oct 1970 to Jul 1981. Sediment analyses: Nov 1979 to Sep 1998(discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Jan 1968 to Sep 1991.
WATER TEMPERATURE: Jan 1968 to Sep 1991.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,140 microsiemens, Jul 13, 1980; minimum daily, 114 microsiemens, Oct 31, 1984.
WATER TEMPERATURE (1968-89): Maximum daily, 34.0°C, on several days during Jul and Aug of 1969 and 1970; minimum daily, 0.0°C, Jan 11, 1977.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	COLOR (PLATINUM-COBALT UNITS) (00080)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
DEC											
16...	0944	3290	1040	7.7	7.0	--	--	11.8	98	2.3	370
FEB											
25...	1140	23600	1060	8.0	9.5	--	--	10.8	97	1.6	270
MAY											
06...	1235	8000	1290	8.4	25.0	21	23	8.4	104	1.9	340
JUL											
09...	1150	2000	1320	7.7	33.0	--	--	7.8	110	3.2	340
AUG											
06...	0915	3300	1480	8.2	28.5	--	--	6.6	86	2.1	380

DATE	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT DIS FIX END FIELD CACO3 (MG/L) (39036)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)
DEC											
16...	270	97	31	130	3	5.5	98	260	190	.28	8.7
FEB											
25...	170	71	23	98	3	3.9	100	190	140	.22	7.2
MAY											
06...	190	88	29	119	3	4.5	150	220	180	.28	7.2
JUL											
09...	210	84	31	128	3	4.6	130	230	190	.29	.26
AUG											
06...	240	92	36	147	3	5.1	140	260	210	.34	6.2

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	RESIDUE FIXED NON FILTERABLE (MG/L) (00540)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N) (00607)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)
DEC											
16...	781	--	--	--	<.010	<.050	.021	.36	.38	.033	.038
FEB											
25...	593	--	--	--	<.010	.285	.040	.24	.28	.016	.022
MAY											
06...	730	46	8	38	<.010	.258	.032	.24	.28	<.010	<.010
JUL											
09...	750	--	--	--	<.010	<.050	.036	.25	.29	.032	.019
AUG											
06...	840	--	--	--	<.010	<.050	.033	.26	.30	<.010	<.010

07336820 RED RIVER NEAR DE KALB, TX--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	PHOSPHATE, ORTHO, DISSOLVED (MG/L AS PO4) (00660)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
DEC											
16...	.12	--	--	--	--	--	--	--	--	--	--
FEB											
25...	.07	--	1	98	<1.0	<8.0	<14	<12	<10	<10	<100
MAY											
06...	--	7.4	--	--	--	--	--	--	--	--	--
JUL											
09...	.06	--	2	155	<1.0	<8.0	<14	<12	<10	<10	<100
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
DEC										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
25...	15	10	<.1	<60	<40	<1	<4.0	785	<10	23
MAY										
06...	--	--	--	--	--	--	--	--	--	--
JUL										
09...	18	17	<.1	<60	<40	<1	<4.0	1010	<10	<20
AUG										
06...	--	--	--	--	--	--	--	--	--	--

07337900 GLOVER RIVER NEAR GLOVER, OK

LOCATION.--Lat 34°05'51", long 94°54'07", in NW ¼ NE ¼ sec.28, T.5 S., R.23 E., McCurtain County, Hydrologic Unit 11140107, on right downstream end of bridge on State Highways 3 and 7, 2.0 mi north of Glover, 11.0 mi northwest of Broken Bow, and at mile 9.2.

DRAINAGE AREA.--315 mi^2.

PERIOD OF RECORD.--October 1961 to current year. Prior to October 1990, published as Glover Creek near Glover.

GAGE.--Water-stage recorder. Datum of gage is 378.70 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1961 reached a stage of 28.84 ft, from floodmark. Flood in 1908 was higher than in May 1961, from information provided by local residents.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft^3/s.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 13	0930	8,200	9.24	Dec 24	0600	18,500	13.78
Oct 31	1330	10,900	10.60	Jan 5	1030	32,000	18.40
Nov 5	1500	14,700	12.27	Feb 11	0230	9,660	9.98
Dec 21	1630	10,800	10.56	Sep 14	2230	13,100	11.61

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

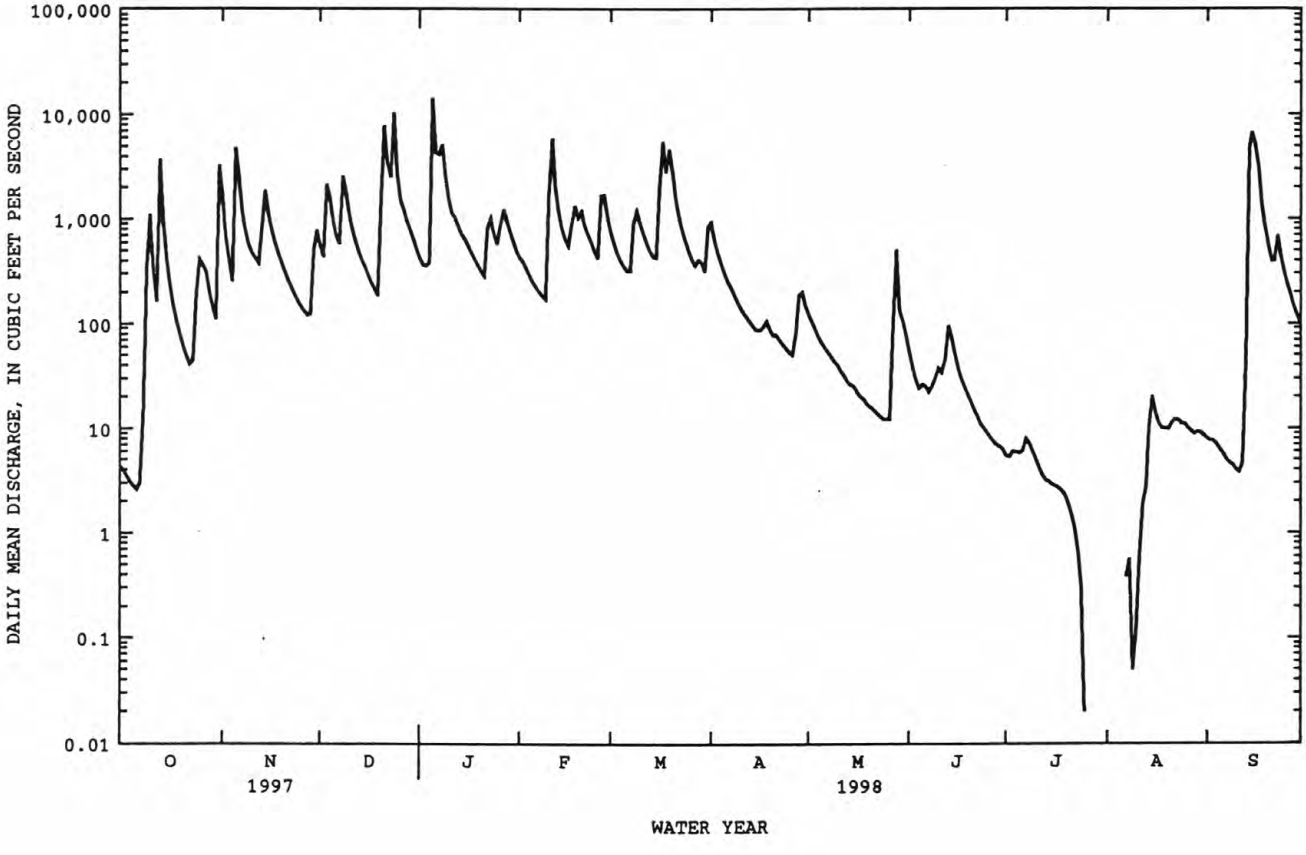
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	1730	549	421	430	757	926	121	53	5.4	.00	8.0
2	4.0	677	434	365	393	589	616	103	38	5.3	.00	7.6
3	3.5	397	2140	356	336	475	471	88	29	6.0	.00	7.6
4	3.1	255	1610	384	288	400	377	75	24	5.9	.00	7.0
5	2.8	4800	969	14200	249	353	307	66	26	5.8	.00	6.3
6	2.6	2550	681	4310	223	319	256	59	25	6.0	.00	5.7
7	3.0	1170	577	4140	201	320	223	53	22	7.9	.38	5.0
8	14	772	2550	5110	184	918	192	48	25	7.2	.56	4.6
9	363	566	1820	2530	171	1200	163	43	30	6.1	.05	4.5
10	1100	470	1120	1550	1780	928	141	40	37	5.1	.11	4.0
11	323	423	798	1130	5860	729	125	35	34	4.2	.60	3.8
12	163	380	614	1030	1960	590	114	32	45	3.6	1.9	4.6
13	3690	816	489	845	1150	496	103	28	94	3.2	2.8	43
14	974	1860	406	715	813	437	93	26	74	3.1	9.8	4840
15	419	1140	347	644	641	430	86	25	52	2.9	20	6670
16	239	796	290	557	559	2020	87	22	38	2.8	14	5080
17	152	595	246	481	891	5480	93	20	30	2.7	11	3110
18	107	473	211	418	1340	2810	105	19	25	2.5	10	1280
19	80	387	184	364	1040	4660	89	17	21	2.3	10	824
20	61	318	1500	319	1190	2960	77	16	18	1.9	9.9	554
21	49	266	7810	288	872	1600	78	15	15	1.5	11	391
22	41	225	3450	838	717	1080	70	14	13	1.1	12	397
23	44	191	2540	1020	607	799	63	13	11	.69	12	680
24	189	166	10300	718	495	622	58	12	10	.32	11	431
25	410	146	2770	579	422	500	53	12	9.1	.02	11	308
26	360	131	1540	877	1690	414	50	12	8.1	.00	10	229
27	311	121	1240	1230	1700	360	78	94	7.4	.00	9.5	181
28	195	123	968	957	1050	408	186	500	6.9	.00	8.9	147
29	141	510	798	756	---	384	199	129	6.6	.00	9.2	121
30	110	780	647	606	---	315	147	105	6.2	.00	9.1	102
31	3260	---	516	495	---	850	---	76	---	.00	8.5	---
TOTAL	12818.3	23234	50114	48233	27252	34203	5626	1918	833.3	93.53	203.30	25456.7
MEAN	413	774	1617	1556	973	1103	188	61.9	27.8	3.02	6.56	849
MAX	3690	4800	10300	14200	5860	5480	926	500	94	7.9	20	6670
MIN	2.6	121	184	288	171	315	50	12	6.2	.00	.00	3.8
AC-FT	25430	46080	99400	95670	54050	67840	11160	3800	1650	186	403	50490
CFSM	1.31	2.46	5.13	4.94	3.09	3.50	.60	.20	.09	.01	.02	2.69
IN.	1.51	2.74	5.92	5.70	3.22	4.04	.66	.23	.10	.01	.02	3.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

MEAN	378	590	735	519	683	845	716	845	328	90.4	73.5	227
MAX	2427	2615	3376	1556	1943	2506	2753	3503	1514	534	461	2690
(WY)	1985	1997	1972	1998	1997	1973	1991	1990	1973	1994	1992	1974
MIN	.000	.33	2.80	1.96	48.7	96.9	125	40.4	4.59	1.06	.000	.000
(WY)	1979	1964	1964	1964	1996	1980	1987	1988	1972	1966	1972	1972

07337900 GLOVER RIVER NEAR GLOVER, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	214471.0		229985.13			
ANNUAL MEAN	588		630		502	
HIGHEST ANNUAL MEAN					979	1973
LOWEST ANNUAL MEAN					169	1976
HIGHEST DAILY MEAN	20400	Feb 21	14200	Jan 5	53100	Dec 10 1971
LOWEST DAILY MEAN	1.1	Sep 14	.00	Jul 26-Aug 6	.00	at times
ANNUAL SEVEN-DAY MINIMUM	1.7	Sep 9	.00	Jul 26	.00	Aug 4 1970
INSTANTANEOUS PEAK FLOW			32000	Jan 5	98600	Dec 10 1971
INSTANTANEOUS PEAK STAGE			18.40	Jan 5	29.72	Dec 10 1971
ANNUAL RUNOFF (AC-FT)	425400		456200		363500	
ANNUAL RUNOFF (CFSM)	1.87		2.00		1.59	
ANNUAL RUNOFF (INCHES)	25.33		27.16		21.64	
10 PERCENT EXCEEDS	1380		1540		1060	
50 PERCENT EXCEEDS	132		181		124	
90 PERCENT EXCEEDS	4.0		3.4		3.8	



07338500 LITTLE RIVER BELOW LUKFATA CREEK NEAR IDABEL, OK

LOCATION.--Lat 33°56'28", long 94°45'30", in SE ¼ SE ¼ sec.14, T.7 S., R.24 E., McCurtain County, Hydrologic Unit 11140107, on left bank at downstream side of bridge on U.S. Highway 70 just downstream from Lukfata Creek, 5.0 mi north- east of Idabel, and at mile 103.4.

DRAINAGE AREA.--1,226 mi^2.

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 312.08 ft above sea level. Oct. 1, 1946, to Oct. 26, 1950, and for stages below 9.0 ft Oct. 26, 1950, to Oct. 10, 1951, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since June 1969 by Pine Creek Lake (station 07337300), 41.9 mi upstream. Small diversions for municipal use by City of Idabel at station and by Weyerhaeuser 41 miles above station. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in February 1938 reached a stage of 39.7 ft, from information provided by local resident, discharge, 86,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	4060	894	6830	3060	3930	4280	261	160	47	36	34
2	244	2540	2180	6800	2890	3470	5000	224	129	46	38	35
3	109	2190	3850	6720	2780	3960	4790	194	107	48	38	37
4	75	1900	5610	6640	2650	4160	3220	171	96	55	42	36
5	58	2160	5300	8170	1350	3410	1800	154	96	64	46	36
6	42	6040	4590	11600	665	2860	1630	196	89	60	47	37
7	36	5270	4210	12400	603	1580	1570	360	85	54	43	36
8	49	3950	5510	11900	565	1660	1440	363	79	49	41	37
9	213	3340	6670	10600	537	2500	1440	351	76	46	40	36
10	1030	3090	5990	8430	2070	3550	753	343	85	50	40	36
11	1100	1730	5000	8020	8420	4350	321	341	109	60	41	36
12	500	955	4380	9240	8780	4440	267	274	112	62	53	49
13	1630	1080	2280	7060	6060	3820	243	129	102	62	53	108
14	3670	2970	943	7120	3890	2220	227	94	117	61	51	354
15	1660	4110	823	7410	3110	1720	213	85	127	59	52	5860
16	1320	3860	1160	7430	2840	2640	206	84	109	58	50	7870
17	1540	3420	1320	7310	3260	6130	213	81	93	60	47	7320
18	1930	2590	1260	7160	4400	7330	211	79	82	60	47	6430
19	2020	1730	821	7010	4090	7100	203	76	77	58	51	6260
20	1960	1020	690	6870	3860	8210	193	71	73	58	51	6520
21	1910	662	4780	6750	3680	7040	187	70	69	57	51	6440
22	1880	547	7940	7020	3220	5400	207	70	64	51	49	6280
23	1880	357	6340	7570	2980	4470	183	68	60	42	45	6220
24	1130	297	8000	7580	2730	5460	155	66	55	39	42	6220
25	747	264	9620	7230	2190	6390	144	65	54	38	40	5080
26	925	869	6970	7090	3190	6500	137	65	53	37	40	1700
27	885	931	4700	7370	5250	5460	233	83	52	36	39	512
28	1440	310	4570	7400	4760	2940	344	779	52	36	37	420
29	1620	326	4230	7130	---	2220	306	698	50	35	36	819
30	1550	891	5440	6200	---	2050	314	302	49	35	35	1180
31	1240	---	6580	4080	---	2130	---	213	---	35	34	---
TOTAL	34624	63459	132651	240140	93880	129100	30430	6410	2561	1558	1355	76038
MEAN	1117	2115	4279	7746	3353	4165	1014	207	85.4	50.3	43.7	2535
MAX	3670	6040	9620	12400	8780	8210	5000	779	160	64	53	7870
MIN	36	264	690	4080	537	1580	137	65	49	35	34	34
AC-FT	68680	125900	263100	476300	186200	256100	60360	12710	5080	3090	2690	150800

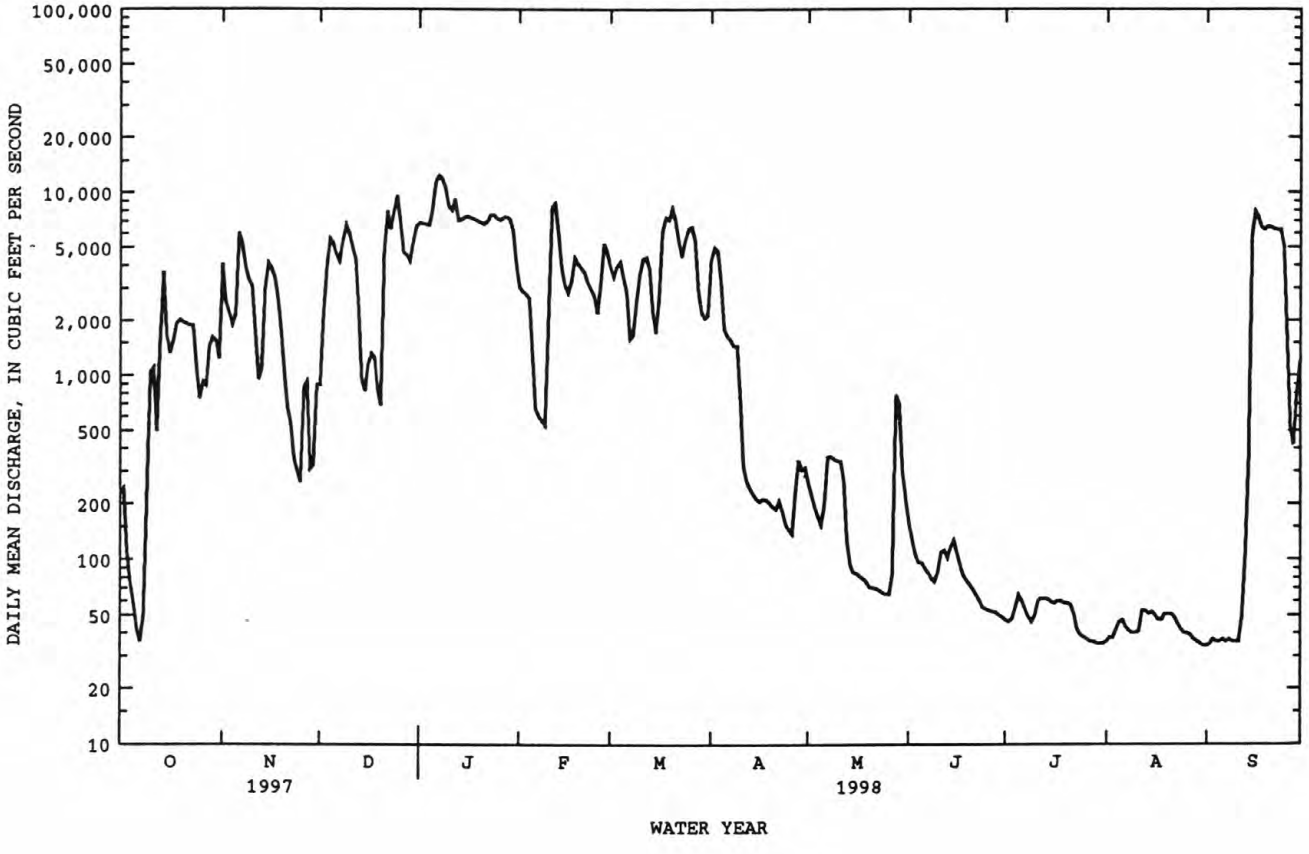
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1998, BY WATER YEAR (WY)

MEAN	1101	2417	2925	2188	2542	3045	2380	3082	1874	430	320	747
MAX	4453	8381	10320	7746	5513	7730	6187	8976	6044	2058	2299	6992
(WY)	1985	1997	1972	1998	1997	1973	1973	1990	1973	1992	1992	1974
MIN	26.4	38.2	37.3	157	176	209	380	143	46.9	31.0	18.5	25.0
(WY)	1979	1990	1990	1981	1976	1996	1987	1988	1972	1977	1972	1972

07338500 LITTLE RIVER BELOW LUKFATA CREEK NEAR IDABEL, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1971 - 1998	
ANNUAL TOTAL	752995		812206			
ANNUAL MEAN	2063		2225		[a]1917	
HIGHEST ANNUAL MEAN					3424	1973
LOWEST ANNUAL MEAN					676	1976
HIGHEST DAILY MEAN	22400	Feb 22	12400	Jan 7	66800	Dec 11 1971
LOWEST DAILY MEAN	36	Oct 7	34	Aug 31, Sep 1	[b]7.8	Aug 14 1976
ANNUAL SEVEN-DAY MINIMUM	53	Sep 9	35	Aug 29	11	Oct 15 1972
INSTANTANEOUS PEAK FLOW			12600	Jan 7	103000	Dec 10 1971
INSTANTANEOUS PEAK STAGE			26.61	Jan 7	39.39	Dec 10 1971
ANNUAL RUNOFF (AC-FT)	1494000		1611000		1389000	
10 PERCENT EXCEEDS	6210		6850		6060	
50 PERCENT EXCEEDS	747		779		595	
90 PERCENT EXCEEDS	59		42		46	

[a]Prior to regulation, water years 1947-68, 1,622 ft^3/s.
[b]Minimum daily discharge for period of record, 0.4 ft^3/s, Sept. 15-16, Sept. 21 to Oct. 1, 1956.



07338750 MOUNTAIN FORK AT SMITHVILLE, OK

LOCATION.--Lat 34°27'44", long 94°38'06", in SE ¼ SW ¼ sec.13, T.1 S., R.25 E., McCurtain County, Hydrologic Unit 11140108, on right downstream abutment of bridge on Highway 4, .5 mi east of Smithville, 0.6 mi downstream from Rock Creek, 3.5 mi upstream from Big Eagle Creek, and at mi 55.6.

DRAINAGE AREA.--320 mi^2.

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is 664.70 ft above sea level.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s.

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 5	0545	10,400	13.47	Jan 5	1200	18,100	16.03
Dec 24	0600	21,100	17.03	Feb 11	330	14,800	14.94

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	1090	701	483	437	698	777	206	295	14	3.0	2.6
2	6.8	574	555	452	387	562	602	189	219	14	2.8	2.5
3	6.2	388	1480	464	344	477	502	171	176	14	2.8	2.3
4	5.7	298	1160	646	310	420	422	155	150	13	2.8	2.3
5	5.3	5310	782	9820	284	525	370	142	511	14	2.7	2.2
6	5.1	1610	583	4330	264	509	330	137	329	13	2.6	e2.1
7	5.1	831	505	4020	246	1200	303	159	220	12	2.9	e2.0
8	6.1	539	1570	5480	232	3230	267	186	168	10	3.0	e1.9
9	904	399	1400	2430	220	1770	236	158	139	9.2	16	e1.8
10	2010	374	1000	1480	1840	1190	215	142	141	8.2	35	e1.8
11	357	328	719	1140	8810	895	199	134	168	10	24	e1.7
12	219	305	572	1020	2330	690	187	125	190	13	18	2.2
13	1900	822	485	801	1330	581	177	111	146	11	48	12
14	732	1430	424	684	934	510	170	99	116	10	43	296
15	365	946	374	694	721	539	165	91	100	9.0	22	969
16	241	654	334	590	634	2690	209	83	84	7.7	16	1120
17	180	490	304	523	1170	4560	233	74	70	6.9	12	753
18	141	396	275	461	1440	2390	199	66	59	6.3	10	426
19	114	325	254	411	1070	4880	178	58	51	5.7	8.3	315
20	95	274	846	369	830	3000	166	52	58	4.8	6.8	212
21	81	238	5010	344	644	1570	168	46	73	4.4	5.6	161
22	71	207	2790	584	590	1080	162	41	53	4.0	4.7	143
23	93	180	2690	709	536	810	150	37	39	4.0	4.2	133
24	463	158	11600	554	452	641	140	34	31	4.0	3.9	123
25	404	143	2960	469	409	545	133	32	26	4.0	3.7	97
26	312	133	1640	897	1500	472	127	426	23	3.8	3.5	80
27	245	124	1270	1280	1410	455	240	604	19	3.9	3.4	65
28	193	160	974	985	962	627	345	1350	17	4.0	3.2	53
29	161	1220	846	743	---	477	261	1100	16	3.8	3.0	43
30	141	1060	664	585	---	436	226	737	14	3.5	2.9	36
31	3110	---	554	494	---	888	---	424	---	3.2	2.8	---
TOTAL	12579.3	21006	45321	43942	30336	39317	7859	7369	3701	248.4	322.6	5062.4
MEAN	406	700	1462	1417	1083	1268	262	238	123	8.01	10.4	169
MAX	3110	5310	11600	9820	8810	4880	777	1350	511	14	48	1120
MIN	5.1	124	254	344	220	420	127	32	14	3.2	2.6	1.7
AC-FT	24950	41670	89890	87160	60170	77990	15590	14620	7340	493	640	10040

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

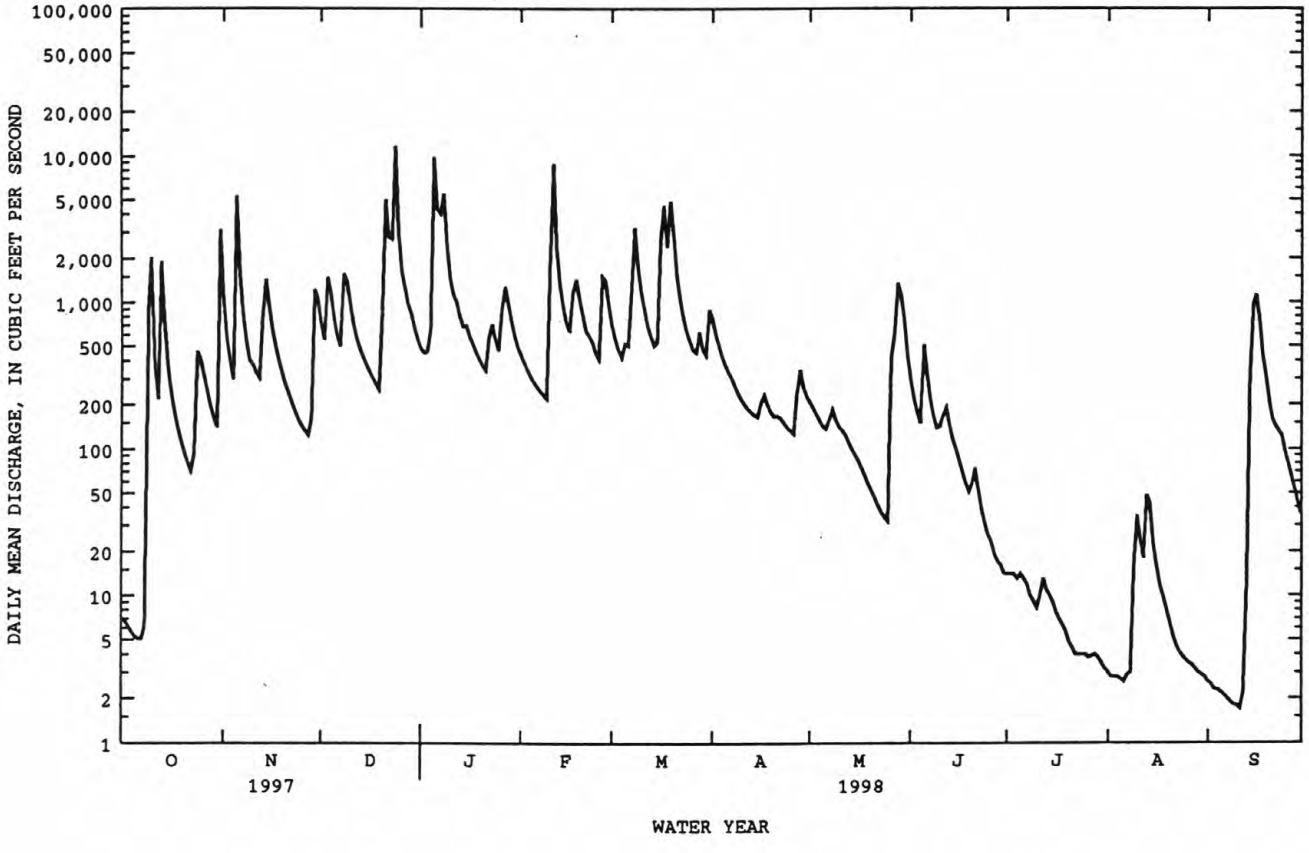
MEAN	535	1044	1203	946	676	766	589	625	241	174	60.3	286
MAX	1666	1814	1866	1417	1122	1268	974	1397	649	549	158	1525
(WY)	1994	1997	1992	1998	1997	1998	1993	1993	1992	1994	1996	1992
MIN	10.0	8.97	115	340	129	271	235	97.1	96.2	8.01	10.4	7.77
(WY)	1996	1996	1996	1996	1996	1996	1992	1997	1994	1998	1998	1997

e Estimated

07338750 MOUNTAIN FORK AT SMITHVILLE, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	182466.1		217063.7			
ANNUAL MEAN	500		595		596	
HIGHEST ANNUAL MEAN					741	1994
LOWEST ANNUAL MEAN					214	1996
HIGHEST DAILY MEAN	11600	Dec 24	11600	Dec 24	23600	Oct 20 1993
LOWEST DAILY MEAN	5.1	Oct 6	1.7	Sep 11	.12	Aug 31 1995
ANNUAL SEVEN-DAY MINIMUM	5.8	Oct 2	1.9	Sep 5	.70	Aug 29 1995
INSTANTANEOUS PEAK FLOW			21100	Dec 24	37800	Oct 20 1993
INSTANTANEOUS PEAK STAGE			17.03	Dec 24	[a]22.58	Dec 15 1992
ANNUAL RUNOFF (AC-FT)	361900		430500		431500	
10 PERCENT EXCEEDS	1070		1340		1240	
50 PERCENT EXCEEDS	202		232		216	
90 PERCENT EXCEEDS	7.7		4.0		12	

[a]From high-water mark and during backwater from Big Eagle Creek.



07338905 MOUNTAIN FORK AT HIGHWAY 259A NEAR BROKEN BOW, OK

LOCATION.--Lat 34°08'15", long 94°41'16", in SE ¼ NE ¼ sec.9, T.5 S., R.25 E., McCurtain County, Hydrologic Unit 11140108, on right upstream abutment of bridge on State Highway 259A, 1.0 mi below Broken Bow Dam, 8.0 mi northeast of Broken Bow, and at mile 17.5.

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

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: June 1996 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 25.5°C Sept. 14, 1997, Sept. 18, 19, 21, 28, 30, 1998; minimum, 1.0°C Jan. 14, 15, 1997.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 25.5°C Sept. 18, 19, 21, 28, 30; minimum, 1.0°C Jan. 14, 15.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	23.0	21.5	22.0	16.0	15.0	15.5	---	---	---	6.0	3.0	4.5
2	22.0	20.0	21.0	15.0	13.5	14.5	---	---	---	7.0	5.5	6.5
3	21.5	19.5	21.0	13.5	12.5	13.0	11.0	8.5	10.0	9.0	7.0	8.0
4	22.0	19.5	21.0	12.5	11.5	12.0	10.5	7.5	8.5	11.0	9.0	10.0
5	21.0	19.5	20.5	14.0	12.5	13.0	8.5	5.0	6.5	12.0	11.0	11.0
6	21.5	19.5	20.5	12.5	11.0	12.0	7.5	4.0	5.5	12.0	11.0	11.5
7	23.5	20.0	21.0	11.5	10.0	11.0	6.0	4.5	5.0	11.5	9.0	10.0
8	22.5	21.0	22.0	12.0	10.0	11.0	6.5	5.0	6.0	9.0	7.0	8.5
9	22.0	20.0	20.5	12.0	10.5	11.0	7.5	6.0	6.5	7.5	6.5	7.0
10	20.5	19.5	20.0	11.5	10.0	11.0	6.5	5.0	6.0	7.5	6.0	7.0
11	21.5	20.0	20.5	10.0	9.5	9.5	6.0	4.5	5.5	8.0	7.0	7.5
12	22.5	20.5	21.5	10.0	9.0	9.5	5.0	3.5	4.5	9.5	8.0	8.5
13	21.5	17.5	19.0	9.5	9.0	9.5	5.5	2.5	4.0	9.0	8.0	8.5
14	18.5	16.0	17.5	9.0	8.0	9.0	6.0	2.0	4.0	8.0	7.5	8.0
15	19.0	16.5	17.5	8.5	7.0	7.5	6.5	2.5	4.0	8.5	6.0	7.0
16	19.0	17.0	18.0	7.5	6.0	7.0	7.0	2.5	4.5	8.0	5.5	6.5
17	18.0	17.0	17.5	7.0	5.5	6.5	7.5	3.0	5.0	8.5	6.5	7.5
18	17.5	16.0	16.5	8.0	6.5	7.0	7.5	2.5	5.0	8.5	7.0	8.0
19	17.0	15.5	16.5	8.0	6.5	7.0	8.0	3.5	6.0	8.5	7.0	7.5
20	18.5	16.0	17.0	9.0	5.5	7.0	8.5	6.5	7.5	8.0	7.0	7.5
21	19.0	17.0	18.0	---	---	---	9.0	8.0	8.5	10.0	7.5	8.5
22	17.5	16.0	16.5	---	---	---	8.5	6.5	7.5	8.5	6.0	8.0
23	16.5	15.0	16.0	---	---	---	8.5	6.5	7.0	8.0	5.0	6.5
24	16.5	16.0	16.0	---	---	---	8.5	7.0	7.5	8.0	5.0	6.0
25	17.0	15.5	16.5	---	---	---	8.0	6.5	7.0	7.0	4.5	5.5
26	16.0	13.0	14.5	---	---	---	7.0	4.5	6.5	7.0	6.5	6.5
27	13.5	12.5	13.0	---	---	---	7.0	4.0	5.0	8.5	5.5	7.0
28	13.0	12.0	12.5	---	---	---	5.0	3.0	4.0	9.0	6.5	7.5
29	12.5	12.0	12.0	---	---	---	5.0	3.0	4.0	9.5	7.0	8.0
30	13.5	12.0	12.5	---	---	---	5.5	3.0	4.0	10.0	7.0	8.0
31	15.5	13.5	15.0	---	---	---	5.5	3.0	4.0	9.5	7.0	8.0
MONTH	23.5	12.0	17.9	---	---	---	---	---	---	12.0	3.0	7.7

07338905 MOUNTAIN FORK AT HIGHWAY 259A NEAR BROKEN BOW, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.0	7.5	9.0	12.5	8.0	9.5	21.5	18.5	20.0	19.5	15.5	17.0
2	11.0	8.0	9.0	13.5	7.0	10.0	21.0	18.5	20.0	19.5	17.0	18.5
3	11.0	7.5	9.0	14.0	7.0	10.5	21.5	19.5	20.5	20.5	18.0	19.0
4	11.0	6.0	8.0	11.5	9.5	10.5	20.5	18.5	19.5	21.0	18.0	19.5
5	9.5	6.0	7.5	12.0	11.0	11.5	20.5	18.0	19.0	20.5	19.0	19.5
6	9.0	5.5	7.0	12.0	11.0	11.5	21.0	18.0	19.5	20.0	19.0	19.5
7	9.5	4.5	6.5	12.5	11.0	11.5	22.0	19.5	21.0	20.0	18.5	19.5
8	8.0	5.0	6.5	11.5	9.5	11.0	22.0	19.5	21.0	21.5	19.0	20.0
9	9.5	5.5	7.5	11.0	8.5	9.5	21.0	18.5	19.5	21.0	19.5	20.0
10	10.0	8.5	9.5	10.5	8.0	9.0	21.5	18.0	20.0	20.0	18.0	19.0
11	11.0	8.0	9.5	10.0	8.0	9.0	21.5	18.5	20.0	22.0	18.5	20.0
12	10.5	7.0	9.0	9.5	7.5	8.5	22.0	19.0	20.5	22.5	19.5	21.0
13	11.5	8.0	9.5	8.5	8.0	8.5	23.0	20.0	21.0	21.5	19.5	20.5
14	11.0	7.5	9.0	9.5	8.5	9.0	22.0	20.0	21.0	21.0	19.0	19.5
15	10.5	9.0	9.5	10.5	9.5	10.0	20.5	18.0	19.0	19.5	17.5	18.5
16	10.5	9.0	9.5	12.0	10.0	10.5	19.0	17.0	18.0	20.5	17.5	19.0
17	9.5	7.5	9.0	12.5	11.5	12.0	18.5	16.5	17.5	20.5	19.0	19.5
18	11.0	7.0	8.5	13.5	11.5	12.5	18.0	16.5	17.5	20.5	18.5	19.5
19	10.5	9.0	10.0	14.0	11.5	13.0	19.5	16.0	17.5	21.0	19.0	19.5
20	12.5	9.0	10.5	11.5	10.5	11.0	19.0	16.5	17.5	21.0	18.5	20.0
21	12.5	8.5	10.5	13.5	10.0	11.5	18.5	16.5	17.5	21.5	19.5	20.5
22	13.5	10.5	11.5	14.5	11.0	12.5	18.5	15.5	17.0	22.0	19.5	20.5
23	14.0	9.5	11.5	15.5	12.5	14.0	18.5	16.0	17.0	21.0	19.5	20.0
24	15.5	10.0	12.5	15.5	14.0	14.5	19.5	16.5	18.0	20.0	18.5	19.0
25	14.0	13.0	13.5	17.5	14.5	15.5	19.5	18.0	18.5	20.0	18.5	19.0
26	14.0	11.0	13.0	19.5	17.0	18.0	19.5	18.0	18.5	20.0	18.5	19.0
27	14.5	9.5	12.0	19.0	18.5	18.5	18.5	17.0	18.0	19.0	17.5	18.5
28	13.5	9.5	11.0	21.0	18.0	19.5	19.5	16.5	18.0	19.0	17.0	18.0
29	---	---	---	21.0	19.5	20.0	18.0	16.5	17.0	20.5	18.0	19.0
30	---	---	---	21.0	20.0	20.5	18.0	15.5	16.5	22.0	20.0	21.0
31	---	---	---	21.0	19.5	20.5	---	---	---	23.0	20.5	21.5
MONTH	15.5	4.5	9.6	21.0	7.0	12.7	23.0	15.5	18.9	23.0	15.5	19.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	23.5	21.0	21.5	21.0	20.0	20.5	24.0	22.0	22.5	24.0	22.5	23.0
2	21.0	19.5	20.0	21.0	19.0	20.5	23.5	22.0	23.0	24.0	22.0	23.0
3	20.0	18.5	19.5	20.5	19.0	20.0	23.0	21.5	22.5	23.5	22.0	22.5
4	20.0	18.5	19.0	20.5	20.0	20.5	22.0	20.5	21.5	24.0	22.5	23.0
5	18.5	17.5	18.0	21.0	20.0	20.5	21.5	20.0	20.5	24.5	23.0	24.0
6	19.0	17.5	18.0	21.5	20.5	21.0	21.5	20.5	21.0	24.5	23.0	23.5
7	19.0	18.0	18.5	22.0	21.0	21.5	21.5	20.0	21.0	24.5	23.0	23.5
8	19.0	17.0	18.0	22.0	21.0	21.5	22.0	20.5	21.0	24.5	23.0	23.5
9	19.0	17.5	18.5	22.0	20.5	21.0	22.5	21.0	21.5	23.5	22.0	22.5
10	20.0	18.0	19.0	22.5	20.5	21.5	23.0	21.5	22.0	23.5	21.5	22.5
11	19.5	18.0	19.0	23.0	21.5	22.0	22.0	21.0	21.5	23.5	22.0	23.0
12	21.0	18.5	19.5	23.0	21.5	22.5	22.5	20.5	21.5	23.0	22.0	22.5
13	21.0	20.0	20.5	22.0	21.0	21.5	21.5	20.0	21.0	24.5	23.0	24.0
14	21.0	19.5	20.5	22.5	21.0	21.5	22.5	20.0	21.0	24.0	21.5	23.0
15	20.0	19.0	19.5	22.0	21.5	21.5	23.0	22.0	22.0	22.5	22.0	22.5
16	20.0	19.0	19.5	22.5	21.5	22.0	23.0	22.0	22.5	23.0	22.5	22.5
17	20.0	19.5	20.0	22.5	21.5	22.0	23.0	21.5	22.5	24.5	22.5	23.5
18	20.5	19.0	19.5	23.0	21.5	22.0	23.0	22.0	22.5	25.5	24.0	25.0
19	20.5	18.5	19.5	22.5	21.5	22.0	23.0	22.0	22.5	25.5	24.0	25.0
20	21.5	19.5	20.5	22.5	21.5	22.0	23.5	22.5	23.0	25.0	23.5	24.5
21	21.5	20.0	21.0	23.0	21.0	22.0	23.5	22.5	23.0	25.5	23.5	24.0
22	21.5	20.5	21.0	23.0	21.5	22.0	24.0	22.5	23.0	24.5	24.0	24.0
23	21.0	20.0	20.5	23.0	21.0	22.0	23.5	22.0	23.0	24.5	24.0	24.5
24	21.0	20.0	21.0	23.0	21.0	22.0	23.5	22.5	23.0	25.0	23.5	24.5
25	21.0	20.0	20.5	23.5	22.0	22.5	23.5	22.5	23.0	25.0	24.0	24.5
26	21.5	20.5	20.5	24.0	22.5	23.0	23.5	23.0	23.0	25.0	24.0	24.0
27	20.5	19.5	20.0	23.5	22.0	22.5	23.5	22.5	23.0	25.0	24.0	24.5
28	20.0	19.5	19.5	23.5	22.0	22.5	23.5	22.0	22.5	25.5	24.5	24.5
29	20.5	19.5	20.0	24.0	22.0	22.5	24.0	22.0	23.0	25.0	24.5	24.5
30	21.0	19.5	20.5	24.0	22.0	23.0	24.5	22.5	23.5	25.5	24.0	24.5
31	---	---	---	24.0	22.0	22.5	23.5	22.5	23.0	---	---	---
MONTH	23.5	17.0	19.8	24.0	19.0	21.7	24.5	20.0	22.2	25.5	21.5	23.7

07338920 MOUNTAIN FORK RE-REGULATION DAM NEAR BROKEN BOW, OK

LOCATION.--Lat 34°04'57", long 94°38'05", in NE ¼ NE ¼ sec.36, T.5 S., R.25 E., McCurtain County, Hydrologic Unit 11140108, on right downstream bank, 4.7 mi northwest of Eagletown, 9 mi downstream from Broken Bow Dam, and at mile 12.1.

DRAINAGE AREA.--767.2 mi^2.

PERIOD OF RECORD.--October 1992 to September 1994 (unpublished data). October 1994 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1994 to current year.

INSTRUMENTATION.--Water-temperature recorder since Oct. 1992 provides continuous recordings.

REMARKS.--Interruptions in record were due to malfunctions of the recording instrument or the probes reading air tmperature during low-flow conditions. The water temperature probes are located at the following elevations: Top 386 ft msl, Mid 377 ft msl, and Low 363 ft msl. Water temperature data for the period October 1992 to September 1994 are available upon request at the district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Top Probe: maximum, 29.5°C July 10, 1995; minimum, 2.0°C Jan. 9, 1996.
Mid Probe: maximum, 25.5°C Sept. 22, 1998; minimum, 2.0°C Jan. 7, 9, 1996.
Low Probe: maximum, 23.0°C Sept. 22, 1998; minimum, 2.0°C Jan. 9, 1996.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Top Probe: maximum, 27.5°C May 31, June 1, July 27, Sept. 21, 22; minimum, 6.0°C Mar. 9.
Mid Probe: maximum, 25.5°C Sept. 22; minimum, 7.5°C many days in winter months.
Low Probe: maximum, 23.0°C Sept. 22; minimum, 7.5°C several days in winter months.

TOP PROBE, TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21.0	20.0	20.5	17.5	12.5	15.5	12.5	11.5	12.5	8.0	7.5	7.5
2	21.5	20.5	21.0	---	---	---	12.0	11.0	11.5	8.0	8.0	8.0
3	21.5	19.5	21.0	---	---	---	11.5	11.0	11.0	8.0	8.0	8.0
4	21.5	20.0	21.0	---	---	---	11.5	11.0	11.0	8.0	8.0	8.0
5	21.5	20.0	21.0	---	---	---	11.5	10.5	11.0	9.0	8.0	8.5
6	21.5	19.5	21.0	13.5	12.5	13.0	11.0	10.0	10.5	10.5	9.0	9.5
7	21.5	19.0	20.5	13.5	11.0	12.5	10.5	10.0	10.5	10.5	10.0	10.5
8	21.0	19.0	19.5	---	---	---	10.0	9.0	9.5	10.0	9.5	10.0
9	20.0	18.5	19.5	---	---	---	10.0	9.5	10.0	9.5	9.0	9.5
10	20.5	18.5	19.5	---	---	---	10.0	9.5	9.5	9.5	8.5	9.0
11	21.0	18.5	20.0	---	---	---	9.5	9.5	9.5	8.5	8.0	8.0
12	20.5	18.5	19.5	---	---	---	9.5	9.0	9.5	8.5	8.0	8.5
13	20.0	18.5	19.0	---	---	---	9.0	8.5	9.0	8.5	8.0	8.5
14	19.0	18.5	18.5	---	---	---	9.5	9.0	9.0	8.0	8.0	8.0
15	19.0	17.5	18.5	---	---	---	9.0	8.5	8.5	8.0	7.5	8.0
16	18.0	16.5	17.5	---	---	---	9.0	8.5	9.0	8.0	7.5	8.0
17	18.0	17.5	18.0	---	---	---	9.5	8.5	9.0	8.0	7.5	8.0
18	18.5	16.5	17.5	10.0	7.0	9.0	9.0	8.5	8.5	8.0	7.5	8.0
19	---	---	---	---	---	---	9.0	8.5	8.5	8.0	8.0	8.0
20	---	---	---	---	---	---	10.0	9.0	9.5	8.0	7.5	8.0
21	19.0	17.5	18.0	---	---	---	9.0	9.0	9.0	8.0	8.0	8.0
22	18.0	17.0	17.5	12.5	10.0	11.0	9.0	9.0	9.0	8.0	8.0	8.0
23	17.0	16.0	16.5	12.0	9.0	11.0	9.0	8.5	9.0	8.0	7.5	8.0
24	17.0	16.5	16.5	---	---	---	8.5	8.5	8.5	8.0	7.5	8.0
25	18.0	15.0	17.0	12.0	10.0	11.0	8.5	8.5	8.5	8.0	7.5	8.0
26	---	---	---	---	---	---	8.5	8.0	8.0	8.0	7.5	8.0
27	---	---	---	13.0	11.5	12.0	8.5	8.0	8.0	8.0	7.5	8.0
28	---	---	---	---	---	---	8.5	7.5	8.0	8.0	7.5	8.0
29	15.0	14.0	14.5	14.0	12.5	13.5	8.0	7.5	8.0	8.0	7.5	8.0
30	15.5	14.5	14.5	13.5	12.5	13.0	8.0	7.5	8.0	8.5	8.0	8.0
31	16.5	15.0	15.5	---	---	---	8.0	7.5	8.0	8.0	7.5	8.0
MONTH	---	---	---	---	---	---	12.5	7.5	9.3	10.5	7.5	8.3

07338920 MOUNTAIN FORK RE-REGULATION DAM NEAR BROKEN BOW, OK--Continued

TOP PROBE, TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.0	8.0	8.0	10.0	8.5	9.0	11.0	10.5	10.5	21.5	16.5	18.5
2	8.5	8.0	8.0	9.0	8.0	9.0	12.0	10.5	11.0	19.5	18.5	18.5
3	9.5	8.0	9.0	9.5	8.5	9.0	14.5	12.0	13.0	23.0	17.5	19.5
4	12.0	7.5	9.0	9.5	8.5	9.0	17.5	12.0	14.5	22.0	18.5	20.0
5	9.0	8.0	8.5	9.0	9.0	9.0	---	---	---	20.5	19.0	20.0
6	8.5	8.0	8.0	9.0	9.0	9.0	---	---	---	21.0	19.5	20.0
7	10.0	8.0	8.5	9.5	9.0	9.5	---	---	---	---	---	---
8	9.5	8.5	9.0	10.0	7.5	9.0	---	---	---	23.0	19.0	21.5
9	---	---	---	9.0	6.0	8.0	19.0	16.0	17.5	22.5	18.5	20.0
10	9.0	8.5	8.5	8.5	8.0	8.5	17.5	15.0	16.0	21.5	17.5	19.5
11	9.5	8.5	9.0	9.0	8.0	8.5	15.5	14.5	15.0	21.0	18.0	20.0
12	9.5	9.0	9.0	8.5	8.0	8.5	17.0	14.0	15.5	20.5	15.0	16.5
13	9.0	8.0	8.5	8.5	8.0	8.5	---	---	---	16.5	15.0	16.0
14	---	---	---	8.5	8.5	8.5	17.5	12.5	15.0	17.0	16.0	16.5
15	---	---	---	9.0	8.5	8.5	16.0	13.0	13.0	17.0	16.0	16.0
16	---	---	---	9.0	8.5	9.0	15.0	13.0	14.0	16.5	15.0	15.5
17	---	---	---	9.0	9.0	9.0	16.0	14.0	14.5	19.0	15.5	17.5
18	8.5	8.0	8.0	9.0	8.0	8.5	16.5	15.0	16.0	20.0	16.0	18.0
19	8.5	8.5	8.5	9.5	8.5	9.0	19.0	14.5	16.0	18.0	16.5	17.0
20	9.0	8.0	8.5	9.5	8.0	8.5	18.5	15.0	16.5	19.0	16.0	17.0
21	9.0	8.0	8.5	9.0	8.5	8.5	16.0	14.5	15.5	20.5	18.0	19.0
22	9.0	8.5	9.0	10.0	8.5	9.0	18.0	15.0	16.5	23.0	20.5	21.5
23	9.0	8.5	9.0	9.5	8.5	9.0	20.5	14.0	16.5	23.5	20.5	22.0
24	9.5	8.5	9.0	9.0	8.5	8.5	17.5	16.5	17.0	22.5	18.5	20.5
25	9.5	8.5	9.0	9.5	8.5	8.5	18.5	16.5	17.5	21.5	17.5	19.5
26	8.5	8.5	8.5	9.0	8.5	8.5	19.0	17.0	18.0	20.5	17.5	18.0
27	9.0	8.0	8.5	8.5	8.5	8.5	22.5	16.5	19.0	22.5	20.0	21.5
28	9.0	9.0	9.0	9.0	8.5	8.5	---	---	---	21.0	17.0	19.5
29	---	---	---	9.5	8.5	9.0	19.0	16.5	18.0	21.0	17.5	19.0
30	---	---	---	9.5	9.0	9.5	19.5	17.0	18.0	24.0	18.0	19.0
31	---	---	---	10.5	9.5	9.5	---	---	---	27.5	20.0	22.0
MONTH	---	---	---	10.5	6.0	8.8	---	---	---	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	27.5	20.0	24.5	23.5	18.0	19.5	23.5	19.0	20.5	22.5	18.5	21.0
2	22.5	17.0	20.0	20.0	18.0	18.5	23.0	20.0	21.0	25.0	19.0	22.5
3	22.0	16.5	19.0	22.0	17.5	18.5	25.0	21.0	22.5	22.5	19.5	21.0
4	23.0	17.0	18.5	22.0	17.5	20.0	23.5	20.0	21.5	23.0	19.5	21.5
5	22.0	17.0	19.5	22.0	17.0	19.0	26.0	19.5	22.5	24.0	20.0	21.5
6	21.0	16.0	17.5	20.0	16.5	18.0	21.5	18.5	20.5	24.5	21.0	23.0
7	18.5	16.5	17.5	21.5	19.0	20.0	22.0	19.0	20.5	25.0	21.5	24.0
8	19.0	17.0	18.0	23.5	18.0	20.5	22.0	18.0	20.0	27.0	21.0	23.5
9	20.5	17.5	18.0	24.5	19.0	20.5	23.0	18.5	20.5	22.5	20.5	21.5
10	21.0	16.0	18.0	23.0	19.0	20.5	26.5	20.5	22.5	22.5	20.0	21.0
11	20.0	16.0	17.5	23.5	18.5	20.5	23.5	19.0	21.0	22.0	20.0	21.0
12	19.0	16.0	17.5	24.5	19.0	20.5	23.0	19.0	21.0	21.5	20.5	21.0
13	22.0	16.5	18.0	24.5	21.0	22.5	21.5	19.0	20.5	21.5	20.0	21.0
14	26.5	19.5	22.5	23.5	19.5	21.0	23.5	18.5	20.5	21.5	21.0	21.5
15	24.0	17.5	21.0	23.5	19.0	21.0	23.0	18.5	21.0	21.5	20.5	21.0
16	20.5	17.0	18.5	21.0	17.5	19.5	23.0	18.5	20.5	21.5	20.5	21.0
17	20.5	16.5	18.0	23.0	17.0	20.5	23.5	20.5	22.5	23.0	21.0	21.5
18	20.0	18.5	18.5	23.0	17.5	20.5	23.5	19.5	22.0	26.0	23.0	24.0
19	21.5	18.0	18.5	24.0	18.5	22.0	24.5	19.5	22.5	25.5	22.0	24.0
20	23.0	18.5	19.5	24.5	19.5	22.5	25.0	20.5	22.5	26.0	24.0	25.0
21	24.5	19.0	21.5	22.0	20.5	21.5	22.5	20.0	21.5	27.5	23.5	26.0
22	24.5	17.0	20.5	---	---	---	---	---	---	27.5	25.0	26.0
23	21.5	19.0	19.5	---	---	---	---	---	---	25.0	23.0	23.5
24	20.5	18.0	19.0	---	---	---	---	---	---	26.0	23.0	24.5
25	21.0	18.5	19.5	25.0	22.5	23.5	---	---	---	26.0	21.5	24.0
26	21.5	19.5	20.0	26.0	22.0	24.0	25.0	20.0	23.0	23.5	21.5	22.0
27	21.0	18.5	19.5	27.5	21.5	25.5	24.5	20.0	23.0	24.5	22.5	23.5
28	21.5	18.0	20.0	26.5	20.5	23.0	27.0	22.0	24.5	24.5	22.0	23.5
29	21.0	18.5	19.5	25.5	19.5	22.0	24.0	20.5	22.5	25.5	21.5	23.0
30	20.5	18.5	19.0	26.5	20.5	22.0	24.5	20.0	21.5	25.0	21.5	24.0
31	---	---	---	24.5	19.0	21.5	20.5	18.5	19.5	---	---	---
MONTH	27.5	16.0	19.3	---	---	---	---	---	---	27.5	18.5	22.7

07338920 MOUNTAIN FORK RE-REGULATION DAM NEAR BROKEN BOW, OK--Continued

MID PROBE, TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.0	19.0	19.5	16.0	15.0	15.5	12.0	12.0	12.0	7.5	7.5	7.5
2	20.5	19.0	20.0	15.5	15.0	15.0	12.0	10.5	11.5	7.5	7.5	7.5
3	20.5	18.5	19.5	15.0	14.0	14.5	11.0	10.5	10.5	7.5	7.5	7.5
4	20.0	18.5	19.5	14.0	13.5	14.0	11.0	10.5	11.0	8.0	7.5	7.5
5	20.5	18.5	19.5	14.0	13.0	13.5	11.0	10.0	10.5	8.5	7.5	8.0
6	20.0	18.5	19.5	13.5	12.5	13.0	10.5	10.0	10.5	10.0	8.5	8.5
7	19.5	18.0	19.0	12.5	12.0	12.5	10.0	9.5	10.0	10.0	9.5	10.0
8	18.5	17.5	18.0	12.0	12.0	12.0	9.5	8.5	9.5	9.5	9.0	9.5
9	19.0	17.5	18.0	12.0	12.0	12.0	10.0	9.0	9.5	9.0	9.0	9.0
10	18.5	17.5	18.0	12.0	11.5	12.0	9.5	9.5	9.5	9.0	7.5	8.5
11	19.0	17.5	18.0	11.5	11.5	11.5	9.5	9.0	9.5	8.0	7.5	8.0
12	18.5	18.0	18.5	11.5	11.0	11.0	9.5	9.0	9.0	8.0	8.0	8.0
13	19.5	18.5	19.0	11.0	10.5	11.0	9.0	8.5	9.0	8.5	8.0	8.0
14	18.5	18.0	18.0	10.5	10.0	10.5	9.0	8.5	8.5	8.0	7.5	7.5
15	18.0	17.5	17.5	10.5	9.5	10.0	8.5	8.0	8.5	8.0	7.5	7.5
16	17.5	17.0	17.5	10.0	9.5	9.5	9.0	8.0	8.5	8.0	7.5	7.5
17	17.5	17.0	17.0	9.5	8.5	9.0	9.0	8.5	8.5	8.0	7.5	7.5
18	17.5	17.0	17.0	8.5	8.0	8.5	8.5	8.0	8.0	8.0	7.5	7.5
19	17.0	16.5	17.0	9.5	8.0	9.0	9.0	8.0	8.5	8.0	7.5	7.5
20	17.0	16.5	17.0	9.5	8.5	9.0	9.0	8.5	8.5	7.5	7.5	7.5
21	17.5	16.5	17.0	10.0	9.5	9.5	8.5	8.5	8.5	8.0	7.5	7.5
22	17.5	16.5	17.0	11.5	9.5	10.5	9.0	8.5	8.5	7.5	7.5	7.5
23	16.5	16.0	16.5	11.5	10.5	11.0	8.5	8.0	8.5	8.0	7.5	7.5
24	16.5	16.0	16.0	10.5	10.0	10.5	8.0	8.0	8.0	8.0	7.5	7.5
25	16.5	16.0	16.5	10.5	10.0	10.5	8.0	8.0	8.0	7.5	7.5	7.5
26	16.5	15.5	16.0	12.0	10.5	11.0	8.0	7.5	8.0	7.5	7.5	7.5
27	15.5	14.5	15.0	11.5	11.0	11.0	8.0	7.5	8.0	8.0	7.5	7.5
28	15.0	13.5	14.5	12.0	11.0	11.5	8.0	7.5	7.5	8.0	7.5	7.5
29	14.0	13.5	14.0	13.0	12.0	12.5	8.0	7.5	7.5	8.0	7.5	7.5
30	14.5	14.0	14.0	12.5	12.0	12.5	8.0	7.5	7.5	8.0	7.5	8.0
31	15.0	14.5	14.5	---	---	---	8.0	7.5	7.5	8.0	7.5	7.5
MONTH	20.5	13.5	17.4	16.0	8.0	11.4	12.0	7.5	9.0	10.0	7.5	7.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.0	7.5	7.5	9.5	8.5	9.0	11.0	10.0	10.5	18.0	16.0	17.0
2	8.0	7.5	8.0	9.0	8.5	8.5	11.0	10.0	10.5	17.5	17.0	17.5
3	9.0	8.0	8.5	9.0	8.5	9.0	13.5	11.0	12.5	20.0	17.0	18.5
4	9.0	8.0	8.5	9.0	8.0	8.5	14.0	12.5	13.0	19.5	18.0	19.0
5	8.5	8.0	8.0	8.5	8.5	8.5	13.0	12.5	13.0	20.0	18.0	19.0
6	8.0	7.5	8.0	8.5	8.5	8.5	14.0	12.5	13.0	19.5	17.5	18.5
7	8.5	7.5	8.0	9.0	8.5	9.0	18.0	14.0	15.5	19.5	18.0	19.0
8	8.5	8.0	8.0	9.0	8.0	9.0	18.5	16.5	17.5	19.0	17.0	18.5
9	8.0	7.5	8.0	8.5	7.5	8.0	17.5	15.0	16.5	21.0	16.0	18.0
10	8.5	8.0	8.0	9.0	8.0	8.5	16.5	14.5	15.0	19.0	16.0	17.5
11	9.0	8.0	8.5	8.5	8.0	8.5	14.5	14.0	14.5	18.5	17.0	18.0
12	9.0	8.5	8.5	8.5	8.0	8.5	15.0	14.0	14.5	17.0	14.5	15.5
13	8.5	8.0	8.0	8.5	8.0	8.0	17.0	15.0	15.5	16.5	15.0	15.0
14	---	---	---	8.0	8.0	8.0	17.0	12.0	13.0	16.5	15.5	16.0
15	---	---	---	8.0	8.0	8.0	13.5	12.5	12.5	16.5	15.5	15.5
16	---	---	---	9.0	8.0	8.5	14.5	12.5	13.5	15.5	14.5	15.0
17	---	---	---	9.5	8.5	8.5	13.5	13.0	13.5	16.0	14.5	15.0
18	8.5	7.5	8.0	8.5	8.0	8.0	14.5	13.5	13.5	16.5	14.5	16.0
19	8.0	8.0	8.0	9.0	8.0	9.0	15.0	13.0	14.5	17.0	16.0	16.0
20	8.5	8.0	8.0	9.0	8.0	8.5	16.0	13.5	14.0	16.5	15.5	15.5
21	9.0	8.0	8.0	9.0	8.0	8.5	16.0	13.5	14.5	18.0	16.0	17.0
22	9.0	8.5	8.5	9.0	8.0	8.5	16.0	15.0	15.5	19.5	17.5	18.5
23	9.0	8.5	8.5	9.5	8.0	9.0	16.5	15.0	15.5	19.5	17.5	19.0
24	9.0	8.0	8.5	8.5	8.0	8.5	16.5	15.0	16.0	18.0	17.0	17.5
25	9.0	8.0	8.5	9.0	8.0	8.5	17.0	16.0	16.5	17.5	16.0	17.0
26	8.5	8.0	8.0	9.0	8.0	8.5	17.5	17.0	17.5	16.5	15.0	16.0
27	9.0	7.5	8.0	8.5	8.0	8.0	19.0	17.5	18.0	19.0	15.5	16.5
28	9.0	8.5	9.0	9.0	8.0	8.5	20.0	17.0	18.5	16.5	15.0	16.0
29	---	---	---	9.0	8.5	8.5	18.0	14.5	15.0	16.0	15.5	16.0
30	---	---	---	9.5	9.0	9.0	17.0	14.0	15.5	17.0	15.5	16.0
31	---	---	---	10.5	9.0	9.5	---	---	---	17.5	16.0	17.0
MONTH	---	---	---	10.5	7.5	8.5	20.0	10.0	14.6	21.0	14.5	17.0

07338920 MOUNTAIN FORK RE-REGULATION DAM NEAR BROKEN BOW, OK--Continued

MID PROBE, TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.0	17.0	17.5	18.0	17.0	17.5	18.0	17.5	17.5	18.0	17.5	18.0
2	17.5	15.0	16.0	18.5	17.0	17.5	19.0	17.5	18.5	19.0	18.0	18.5
3	17.0	15.0	15.5	18.0	17.0	17.5	20.0	18.5	19.0	19.0	18.0	18.5
4	16.0	14.5	15.0	18.5	16.5	17.0	19.0	17.5	18.5	19.5	18.5	19.0
5	19.0	14.5	15.5	17.0	16.0	16.5	19.5	18.0	19.0	20.0	18.5	19.0
6	15.5	15.0	15.0	18.5	16.0	16.5	19.0	17.5	18.0	21.0	19.0	20.0
7	16.0	15.0	15.5	19.0	17.5	18.5	18.5	17.5	18.0	21.0	19.5	20.5
8	17.5	15.5	16.5	18.5	17.0	17.5	18.0	17.0	17.5	21.0	19.0	20.0
9	18.0	14.5	15.5	19.0	18.0	18.5	18.5	17.0	17.5	20.0	19.0	19.5
10	18.0	14.5	15.0	19.0	17.0	18.0	19.0	17.5	18.0	20.0	19.0	19.5
11	15.5	14.5	14.5	18.0	17.0	17.5	18.5	18.0	18.0	20.0	19.0	19.5
12	15.0	14.5	14.5	19.0	17.5	18.0	18.5	17.5	18.0	20.0	19.0	19.5
13	17.5	14.5	16.5	20.0	18.0	19.0	18.5	17.5	18.0	20.0	19.0	19.5
14	18.5	16.5	17.5	19.0	17.0	18.0	18.0	17.0	18.0	21.0	20.0	20.5
15	17.5	15.5	16.5	18.5	16.5	17.0	18.5	17.5	18.0	21.0	20.0	20.5
16	17.0	16.0	16.5	17.0	16.0	16.5	19.0	17.5	18.0	21.0	19.5	20.0
17	18.0	15.5	16.5	17.0	16.0	16.5	19.5	18.0	19.0	20.5	19.5	20.0
18	19.0	18.0	18.0	18.0	16.0	16.5	19.5	17.5	19.0	20.5	20.0	20.5
19	18.0	17.5	17.5	19.5	17.0	18.0	19.5	18.0	19.0	21.5	20.0	20.5
20	18.0	17.0	17.5	20.0	17.0	19.0	19.5	18.5	19.0	21.5	20.5	21.0
21	19.5	17.0	18.0	21.0	19.5	20.5	20.0	18.5	19.0	23.0	21.0	21.5
22	19.0	16.5	17.5	---	---	---	---	---	---	25.5	20.5	22.0
23	19.0	17.0	18.5	---	---	---	---	---	---	22.0	20.5	21.0
24	18.5	17.0	18.0	---	---	---	---	---	---	22.5	21.0	21.5
25	19.0	18.0	18.5	22.0	19.0	21.0	---	---	---	22.5	20.0	21.5
26	20.0	18.0	19.0	21.5	19.5	20.5	20.0	18.5	19.5	21.5	21.0	21.0
27	19.0	18.0	18.5	21.5	19.5	21.0	20.5	18.5	19.5	22.0	21.0	21.5
28	18.5	16.5	17.5	20.0	18.0	19.0	20.0	18.5	19.0	22.0	20.0	21.0
29	18.0	17.0	17.5	19.5	17.5	18.5	19.5	18.5	19.0	20.5	20.5	20.5
30	18.5	17.5	18.0	19.0	17.5	18.0	19.5	18.5	19.0	21.0	20.0	21.0
31	---	---	---	18.5	17.5	18.0	18.5	17.5	18.0	---	---	---
MONTH	20.0	14.5	16.8	---	---	---	---	---	---	25.5	17.5	20.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.0	19.0	19.5	16.0	15.0	15.5	12.5	11.5	12.0	8.0	7.5	8.0
2	20.5	19.0	20.0	15.5	15.0	15.5	11.5	11.0	11.5	8.0	8.0	8.0
3	20.0	18.5	19.0	15.0	14.5	15.0	11.0	11.0	11.0	8.0	8.0	8.0
4	19.5	18.5	19.0	14.5	13.5	14.0	11.5	11.0	11.0	8.0	8.0	8.0
5	19.5	18.5	19.0	14.0	13.5	13.5	11.5	10.5	11.0	9.0	8.0	8.5
6	19.0	18.5	19.0	13.5	13.0	13.0	11.0	10.5	10.5	10.0	8.5	9.0
7	19.0	18.0	18.5	13.0	12.5	12.5	10.5	10.0	10.5	10.0	9.5	10.0
8	18.5	18.0	18.0	12.5	12.0	12.5	10.0	9.0	9.5	10.0	9.5	9.5
9	18.0	17.5	18.0	12.5	12.0	12.5	10.0	9.0	10.0	9.5	9.0	9.5
10	18.0	17.5	18.0	12.5	12.0	12.0	10.0	9.5	10.0	9.0	8.0	9.0
11	18.0	18.0	18.0	12.0	11.5	11.5	10.0	9.5	9.5	8.0	8.0	8.0
12	18.5	18.0	18.0	11.5	11.0	11.5	9.5	9.0	9.5	8.5	8.0	8.0
13	19.5	18.5	19.0	11.0	11.0	11.0	9.5	8.5	9.0	8.5	8.0	8.5
14	18.5	18.0	18.5	11.0	10.5	11.0	9.0	8.5	9.0	8.0	8.0	8.0
15	18.0	17.5	17.5	10.5	10.0	10.5	9.0	8.0	8.5	8.0	8.0	8.0
16	17.5	17.5	17.5	10.0	9.5	10.0	9.0	8.5	8.5	8.0	7.5	8.0
17	17.5	17.0	17.5	9.5	9.0	9.0	9.5	8.5	9.0	8.0	7.5	8.0
18	17.5	17.0	17.0	9.0	8.0	8.5	9.0	8.5	8.5	8.0	7.5	8.0
19	17.0	17.0	17.0	9.0	8.5	9.0	9.0	8.5	8.5	8.0	8.0	8.0
20	17.5	17.0	17.0	9.5	8.5	9.0	9.0	8.5	9.0	8.0	8.0	8.0
21	17.0	16.5	17.0	10.0	9.0	10.0	9.0	8.5	9.0	8.0	8.0	8.0
22	17.5	16.5	17.0	10.0	10.0	10.0	9.0	9.0	9.0	8.0	8.0	8.0
23	17.0	16.5	16.5	10.5	10.0	10.5	9.0	8.5	8.5	8.0	7.5	8.0
24	16.5	16.5	16.5	10.5	10.0	10.5	8.5	8.0	8.5	8.0	7.5	8.0
25	16.5	16.0	16.5	10.5	10.5	10.5	8.5	8.0	8.0	8.0	7.5	8.0
26	16.5	15.5	16.0	11.0	10.5	11.0	8.5	8.0	8.0	8.0	8.0	8.0
27	15.5	15.0	15.0	11.5	11.0	11.0	8.5	8.0	8.5	8.0	7.5	8.0
28	15.0	13.5	14.5	12.0	11.0	11.5	8.5	7.5	8.0	8.0	7.5	8.0
29	14.0	13.5	14.0	13.0	12.0	12.5	8.0	7.5	8.0	8.0	7.5	8.0
30	14.0	14.0	14.0	12.5	12.0	12.5	8.0	8.0	8.0	8.5	8.0	8.0
31	15.0	14.0	14.5	---	---	---	8.0	8.0	8.0	8.0	8.0	8.0
MONTH	20.5	13.5	17.3	16.0	8.0	11.6	12.5	7.5	9.3	10.0	7.5	8.3

07338920 MOUNTAIN FORK RE-REGULATION DAM NEAR BROKEN BOW, OK--Continued

LOW PROBE, TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.0	8.0	8.0	9.5	8.5	9.0	11.0	10.5	10.5	15.0	14.5	14.5
2	8.5	8.0	8.0	9.5	8.5	9.0	11.0	10.5	10.5	16.5	15.0	15.5
3	9.0	8.0	8.5	9.5	8.5	9.0	13.5	11.0	12.5	19.0	16.0	17.0
4	9.0	8.5	8.5	9.5	8.5	9.0	13.5	12.5	13.0	18.5	16.5	17.0
5	8.5	8.0	8.5	9.0	9.0	9.0	13.0	12.5	12.5	18.5	17.5	18.0
6	8.5	8.0	8.0	9.0	8.5	9.0	13.5	12.5	13.0	18.5	17.0	17.5
7	8.5	8.0	8.0	9.5	9.0	9.0	17.0	13.5	15.0	18.5	17.0	17.5
8	8.5	8.0	8.0	9.5	8.5	9.0	18.0	14.0	16.5	18.5	16.5	17.5
9	8.0	8.0	8.0	8.5	8.0	8.5	17.5	14.5	16.5	19.0	16.5	17.0
10	8.5	8.0	8.5	9.0	8.5	8.5	16.5	14.5	15.0	17.5	16.0	17.0
11	9.5	8.5	9.0	9.0	8.5	8.5	15.0	14.0	14.5	17.5	17.0	17.0
12	9.0	9.0	9.0	9.0	8.0	8.5	15.0	14.0	14.5	17.5	14.5	16.0
13	9.0	8.0	8.5	8.5	8.0	8.5	16.5	14.5	15.5	16.5	15.0	15.5
14	---	---	---	8.5	8.0	8.0	16.0	12.5	13.0	16.5	16.0	16.0
15	---	---	---	8.5	8.5	8.5	14.0	13.0	13.0	17.0	15.5	16.0
16	---	---	---	9.0	8.5	8.5	14.5	13.0	13.5	16.0	14.5	15.0
17	---	---	---	9.5	8.5	9.0	14.0	13.5	13.5	15.0	14.5	15.0
18	8.5	8.0	8.0	9.0	8.0	8.5	13.5	13.5	13.5	16.5	14.5	15.0
19	8.5	8.5	8.5	9.5	8.5	9.0	14.5	13.5	14.0	16.5	16.5	16.5
20	9.0	8.0	8.5	9.0	8.0	8.5	14.5	13.5	14.0	16.5	15.5	16.0
21	9.0	8.0	8.5	9.0	8.5	8.5	15.5	14.0	15.0	17.5	15.5	16.0
22	9.0	8.5	9.0	9.5	8.5	8.5	16.0	15.0	15.5	17.5	16.5	17.0
23	9.0	8.5	9.0	9.5	8.5	9.0	16.5	15.0	15.5	18.0	17.0	17.5
24	9.5	8.5	9.0	9.0	8.5	8.5	16.0	15.0	15.5	18.0	16.5	17.5
25	9.0	8.5	8.5	9.5	8.5	9.0	17.0	15.5	16.0	17.0	16.0	16.5
26	9.0	8.0	8.5	9.0	8.5	8.5	17.5	17.0	17.5	16.0	15.0	15.5
27	9.0	8.0	8.5	8.5	8.5	8.5	19.0	17.0	18.0	16.5	14.5	15.0
28	9.5	9.0	9.0	9.5	8.0	8.5	19.5	16.5	18.0	16.0	15.0	15.5
29	---	---	---	9.5	8.5	9.0	18.0	14.5	15.0	15.5	15.0	15.5
30	---	---	---	9.5	9.0	9.5	15.0	14.5	14.5	16.0	15.0	15.5
31	---	---	---	10.5	9.5	10.0	---	---	---	16.5	15.5	16.0
MONTH	---	---	---	10.5	8.0	8.8	19.5	10.5	14.5	19.0	14.5	16.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.5	16.0	16.5	18.0	17.0	17.5	18.0	17.5	17.5	18.5	17.5	18.0
2	17.0	15.0	16.0	18.0	17.0	17.5	18.0	17.5	18.0	18.5	18.0	18.5
3	15.5	15.0	15.5	17.5	17.0	17.5	19.0	18.0	18.5	18.5	18.0	18.5
4	15.5	15.0	15.0	17.5	16.5	17.0	19.0	17.5	18.0	19.0	18.5	18.5
5	15.0	14.5	15.0	17.0	16.0	16.5	18.5	17.5	18.0	19.0	18.5	19.0
6	15.5	14.5	15.0	16.5	16.0	16.5	18.5	17.5	18.0	19.5	19.0	19.0
7	15.5	15.0	15.5	18.5	16.5	17.5	18.0	17.5	17.5	20.0	19.0	19.5
8	16.5	15.5	16.0	18.5	17.5	17.5	17.5	17.5	17.5	20.0	19.0	19.5
9	16.5	15.0	15.5	19.0	17.5	18.5	18.0	17.5	17.5	19.5	19.0	19.0
10	15.5	14.5	15.0	19.0	17.5	17.5	18.0	17.5	17.5	19.5	19.5	19.5
11	15.0	14.5	15.0	18.0	17.5	17.5	18.0	18.0	18.0	20.0	19.0	19.5
12	15.0	14.5	15.0	18.0	17.5	17.5	18.0	18.0	18.0	20.0	19.0	19.5
13	17.5	15.0	15.5	18.0	17.5	18.0	18.5	17.5	18.0	20.0	19.0	19.5
14	17.5	16.0	17.0	18.5	17.0	17.5	18.0	17.5	17.5	21.0	20.0	20.5
15	17.0	16.0	16.5	17.5	16.5	17.0	18.0	17.5	18.0	21.0	20.0	20.5
16	17.0	16.0	16.5	16.5	16.5	16.5	18.0	17.5	18.0	21.0	20.0	20.5
17	18.0	16.0	16.5	17.0	16.5	16.5	19.0	17.5	18.0	20.5	20.0	20.0
18	18.5	18.0	18.0	17.0	16.5	16.5	19.0	18.0	18.5	20.0	20.0	20.0
19	18.0	18.0	18.0	18.0	16.5	17.0	19.0	18.0	18.5	21.0	20.0	20.0
20	18.0	17.0	17.5	19.5	17.0	17.5	19.0	18.5	18.5	21.0	20.0	20.0
21	18.0	17.0	17.0	21.5	19.0	20.5	19.0	18.5	18.5	21.5	20.0	20.5
22	18.0	17.0	17.5	---	---	---	---	---	---	23.0	20.0	21.0
23	19.5	17.5	18.0	---	---	---	---	---	---	20.5	20.0	20.5
24	18.5	17.5	18.0	---	---	---	---	---	---	22.0	20.0	20.5
25	19.0	18.0	18.5	22.0	19.0	20.5	---	---	---	22.0	20.0	21.0
26	20.0	18.0	19.5	20.5	19.0	19.5	19.5	18.5	19.0	21.5	21.5	21.5
27	18.5	18.0	18.5	20.0	19.5	20.0	19.5	18.5	19.0	21.5	20.5	21.5
28	18.5	16.5	17.5	20.0	18.0	19.0	19.0	18.5	18.5	21.0	20.0	20.5
29	17.5	17.0	17.5	18.5	18.0	18.0	19.0	18.5	19.0	21.0	20.0	20.5
30	18.0	17.5	18.0	18.5	18.0	18.0	19.0	18.5	19.0	21.0	20.5	20.5
31	---	---	---	18.0	17.5	18.0	18.5	17.5	18.0	---	---	---
MONTH	20.0	14.5	16.7	---	---	---	---	---	---	23.0	17.5	19.9

07338960 MOUNTAIN FORK AT PRESBYTERIAN FALLS NEAR EAGLETOWN, OK

LOCATION.--Lat 34°04'21", long 94°37'42", in NE ¼ NW ¼ sec.31, T.5 S., R.26 E., McCurtain County, Hydrologic Unit 11140108, on right downstream bank, 4.0 mi northwest of Eagletown, 9.7 mi downstream from Broken Bow Dam, and at mile 11.3.

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

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: July 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum 27.0°C July 25, 26, 27, 1998; minimum 5.0°C Jan. 20, 1997.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded 27.0°C July 25, 26, 27; minimum recorded 7.5°C Mar. 9.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	23.0	21.0	21.5	17.5	15.5	16.5	13.5	13.0	13.0	9.0	8.5	8.5
2	23.5	21.0	22.0	17.5	15.5	16.5	13.0	12.0	12.5	9.0	8.5	8.5
3	23.5	21.0	21.5	16.5	14.5	15.5	12.0	12.0	12.0	8.5	8.5	8.5
4	23.0	21.0	21.5	16.0	14.0	15.0	12.5	12.0	12.0	8.5	8.5	8.5
5	23.0	20.5	21.5	15.5	14.5	15.0	12.0	11.5	11.5	9.5	8.5	9.0
6	23.0	20.5	21.0	14.5	13.5	14.0	11.5	11.0	11.5	10.5	9.5	10.0
7	22.0	20.0	21.5	14.5	12.5	13.5	11.5	10.5	11.0	11.0	10.5	10.5
8	21.5	20.0	20.5	14.5	12.5	13.5	10.5	10.0	10.5	10.5	10.0	10.5
9	20.5	20.0	20.5	14.0	12.5	13.0	11.0	10.5	11.0	10.0	9.5	9.5
10	21.5	19.5	20.5	13.5	12.5	13.0	11.0	10.5	10.5	9.5	9.0	9.5
11	21.5	20.0	20.5	12.5	12.0	12.5	10.5	10.0	10.5	9.0	8.5	8.5
12	21.0	19.5	20.5	12.5	12.0	12.0	10.5	10.0	10.0	9.5	8.5	9.0
13	21.0	19.0	20.0	12.0	11.5	11.5	10.0	9.5	10.0	9.5	9.0	9.0
14	20.0	19.0	19.5	12.0	11.0	11.5	10.5	9.5	10.0	9.0	8.5	8.5
15	21.0	18.0	19.5	11.5	10.0	11.0	9.5	9.0	9.0	9.0	8.5	8.5
16	19.5	17.5	18.5	11.0	9.5	10.0	10.0	9.0	9.5	9.0	8.5	8.5
17	19.0	18.0	18.5	10.5	9.0	9.5	10.5	9.5	10.0	9.0	8.0	8.5
18	20.0	17.5	18.5	10.5	9.5	10.0	10.0	9.0	9.5	9.0	8.5	8.5
19	19.5	17.0	18.0	11.5	8.5	10.0	10.0	9.0	9.5	9.0	8.5	8.5
20	19.0	17.5	18.0	11.0	9.0	10.0	10.5	9.5	10.0	8.5	8.5	8.5
21	19.0	18.0	18.5	12.0	9.5	11.0	10.0	9.5	9.5	9.0	8.5	8.5
22	18.5	17.5	18.0	12.5	11.0	11.5	10.0	9.5	9.5	9.0	8.5	8.5
23	17.5	17.0	17.0	12.5	10.5	11.5	9.5	9.0	9.5	9.0	8.0	8.5
24	19.0	17.0	18.0	12.5	10.0	11.5	9.5	9.0	9.0	9.0	8.0	8.5
25	18.5	17.0	17.5	12.5	11.0	11.5	9.5	9.0	9.0	9.0	8.5	8.5
26	17.5	16.0	16.5	13.5	12.0	12.5	9.0	8.5	9.0	9.0	8.5	8.5
27	17.0	14.5	16.0	13.0	12.0	12.5	9.0	9.0	9.0	9.0	8.5	8.5
28	16.5	14.5	15.5	13.5	12.5	13.0	9.0	8.5	9.0	9.0	8.0	8.5
29	16.0	14.5	15.0	14.5	13.0	13.5	9.0	8.5	9.0	9.0	8.0	8.5
30	16.5	15.0	15.5	14.0	13.0	13.5	9.0	8.5	9.0	9.0	8.5	8.5
31	17.0	15.5	16.0	---	---	---	9.0	8.5	9.0	8.5	8.5	8.5
MONTH	23.5	14.5	18.9	17.5	8.5	12.5	13.5	8.5	10.1	11.0	8.0	8.8

07338960 MOUNTAIN FORK AT PRESBYTERIAN FALLS NEAR EAGLETOWN, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.0	8.5	8.5	11.0	9.0	9.5	12.0	11.0	11.5	19.0	15.0	17.0
2	9.0	8.5	9.0	10.0	8.5	9.5	12.5	11.0	11.5	19.5	16.5	18.0
3	10.5	8.0	9.5	10.0	9.5	10.0	15.5	12.5	14.0	20.0	16.0	18.0
4	10.5	8.5	9.5	10.0	9.5	10.0	16.0	13.0	14.0	21.0	16.0	18.5
5	9.5	8.5	9.0	10.0	9.5	9.5	16.5	12.5	14.5	20.0	18.0	19.0
6	9.0	8.5	8.5	9.5	9.5	9.5	16.5	12.5	14.5	21.5	18.5	20.0
7	10.0	8.0	9.0	10.5	9.5	10.0	18.5	14.0	16.0	22.5	18.5	20.5
8	9.5	8.0	8.5	10.5	9.0	10.0	18.0	14.5	16.0	23.5	19.5	21.5
9	10.0	8.0	9.0	10.0	7.5	8.5	19.0	16.5	17.5	21.5	19.5	20.5
10	9.5	9.0	9.0	9.5	9.0	9.0	18.5	15.0	16.5	22.0	18.5	20.5
11	10.5	9.0	9.5	9.5	9.0	9.5	18.0	15.0	16.5	23.0	19.0	20.0
12	10.5	9.0	9.5	9.5	8.5	9.0	18.0	14.0	16.0	21.0	17.5	18.5
13	9.5	9.0	9.0	9.5	8.5	9.0	19.0	15.5	17.0	18.5	16.5	17.5
14	9.5	8.5	9.0	9.0	9.0	9.0	17.5	13.5	16.5	18.0	17.0	17.5
15	9.0	8.5	9.0	10.0	9.0	9.5	16.5	14.0	14.5	18.5	17.0	17.5
16	9.0	8.5	8.5	10.0	9.0	9.5	16.0	14.0	15.0	19.0	16.0	17.5
17	9.0	8.5	8.5	10.0	9.5	9.5	15.5	13.5	15.0	19.5	16.0	18.0
18	9.5	8.5	9.0	9.5	9.0	9.5	16.5	14.5	15.5	20.5	16.5	18.0
19	9.5	9.0	9.0	10.0	9.5	9.5	18.0	13.5	15.5	19.0	17.5	18.0
20	9.5	9.0	9.0	10.0	8.5	9.5	17.5	15.5	16.5	19.5	17.5	18.5
21	9.5	8.5	9.0	10.0	8.5	9.5	17.5	15.0	16.0	21.5	19.0	20.0
22	9.5	9.0	9.5	11.0	8.5	10.0	18.0	15.0	16.5	22.0	18.0	20.0
23	9.5	9.0	9.5	10.5	9.5	10.0	19.5	15.0	17.0	22.0	18.5	21.5
24	10.0	9.0	9.5	9.5	9.0	9.5	19.5	16.0	17.5	22.0	19.0	21.0
25	10.0	9.0	9.5	10.0	9.0	9.5	19.0	16.0	17.5	21.5	18.5	20.5
26	9.5	8.5	9.0	10.0	9.0	9.5	19.0	16.5	17.5	21.0	18.0	19.5
27	9.5	8.5	9.0	9.5	9.0	9.0	20.5	17.0	18.5	20.0	17.5	18.0
28	10.0	9.0	9.5	10.0	9.0	9.5	20.5	17.5	19.0	20.5	18.0	19.5
29	---	---	---	10.5	9.5	10.0	19.5	17.0	18.0	21.5	18.0	20.0
30	---	---	---	10.5	10.0	10.0	19.0	15.5	17.0	21.5	19.0	20.0
31	---	---	---	11.0	10.0	10.5	---	---	---	23.5	20.5	22.0
MONTH	10.5	8.0	9.1	11.0	7.5	9.5	20.5	11.0	15.9	23.5	15.0	19.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.5	19.5	21.5	24.0	20.0	21.5	24.0	20.5	22.5	23.0	19.5	21.0
2	24.0	19.5	22.0	22.0	19.5	20.5	24.5	21.0	22.5	23.0	20.0	22.0
3	22.0	18.0	21.0	22.5	19.0	20.5	24.5	21.5	23.0	23.0	20.0	21.5
4	21.5	18.5	20.0	23.0	19.5	21.5	23.0	21.0	22.0	23.5	20.5	22.0
5	22.0	19.0	20.5	23.0	18.5	21.0	24.5	21.5	22.5	23.5	20.5	22.0
6	20.5	18.0	19.0	22.0	18.0	20.5	22.5	20.5	21.5	24.5	21.5	23.0
7	20.5	17.5	18.5	23.0	20.5	21.5	23.0	21.0	22.0	25.0	21.5	23.0
8	20.0	17.5	19.0	24.5	19.5	22.0	23.0	20.0	21.5	25.5	22.0	23.0
9	20.5	18.5	19.5	24.5	20.5	22.0	23.5	20.0	21.5	23.0	21.0	22.0
10	21.0	18.0	20.0	24.0	20.5	22.0	24.5	21.5	23.0	23.5	21.0	21.5
11	20.5	19.0	19.5	24.0	20.5	22.0	22.5	21.0	22.0	22.0	20.5	21.5
12	21.5	19.0	20.0	23.5	20.5	22.0	23.5	21.0	22.0	22.0	20.5	21.5
13	21.5	19.0	20.0	23.5	21.5	22.5	22.0	21.0	21.5	21.5	21.0	21.5
14	24.0	19.5	22.0	23.5	20.5	22.0	23.5	20.0	21.5	22.5	21.5	22.0
15	23.0	20.0	21.5	23.5	20.5	22.0	23.5	20.0	21.5	22.0	21.5	21.5
16	21.5	18.5	20.0	23.0	19.5	21.5	23.5	20.0	22.0	22.0	21.5	22.0
17	21.0	18.5	20.0	23.5	19.0	21.5	25.0	20.5	22.5	23.5	21.5	22.5
18	21.0	19.5	20.0	23.5	18.5	21.5	25.5	21.0	23.0	24.5	21.5	23.0
19	21.5	19.0	20.5	24.0	20.0	22.0	25.0	21.0	23.0	24.5	21.5	22.5
20	23.0	19.5	21.5	24.5	20.0	22.5	25.0	22.0	23.0	25.5	23.0	24.5
21	24.0	20.5	22.5	24.5	22.5	23.0	24.5	21.0	23.0	25.0	21.5	23.0
22	23.0	19.5	22.0	25.0	22.5	23.5	24.5	21.0	23.0	25.5	24.0	25.0
23	22.5	20.5	21.5	25.0	23.0	23.5	25.0	21.5	23.0	25.0	22.5	24.0
24	23.0	20.0	21.0	26.5	23.0	24.0	25.0	22.0	23.0	24.5	21.5	23.0
25	23.0	20.5	21.5	27.0	23.5	25.0	25.0	21.5	23.0	25.5	23.0	24.0
26	23.0	21.0	22.0	27.0	22.5	24.5	25.0	21.0	23.0	24.0	22.5	23.0
27	22.0	20.0	21.0	27.0	23.5	25.0	25.0	21.0	23.0	25.5	22.5	24.0
28	22.5	20.0	21.0	26.0	23.0	24.0	24.5	22.5	23.5	25.5	23.0	24.0
29	23.0	20.5	21.5	25.5	21.5	23.0	24.0	21.5	22.5	25.0	23.0	23.5
30	23.0	20.0	21.5	25.0	21.5	23.0	23.0	21.0	22.5	25.5	23.0	23.5
31	---	---	---	25.0	21.5	22.5	22.5	19.5	21.5	---	---	---
MONTH	24.5	17.5	20.7	27.0	18.0	22.4	25.5	19.5	22.4	25.5	19.5	22.7
YEAR	27.0	7.5	16.1									

07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK

LOCATION.--Lat 34°02'30", long 94°37'11", in SE ¼ SE ¼ sec.7, T.6 S., R.26 E., McCurtain County, Hydrologic Unit 11140108, on right downstream bank on U.S. Highway 70, 2.0 mi west of Eagletown, 10.7 mi downstream from Broken Bow Dam, and at mile 8.9.

DRAINAGE AREA.--787 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1924 to December 1925, October 1929 to current year. Published as Mountain Fork River near Broken Bow 1924-25 and as Mountain Fork River near Eagletown 1929-60. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1241: 1924-26, 1930 (M), 1936-37 (M), 1938, 1939 (M) 1942 (M).

GAGE.--Water-stage recorder. Datum of gage is 333.87 ft above sea level. See WSP 1920 for history of changes prior to July 23, 1950.

REMARKS.--No estimated daily discharge. Records good. Flow completely regulated except for 33 mi^2 intervening area, since October 1968 by Broken Bow Lake (station 07338900). U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 18-19, 1915, reached a stage of 26.4 ft, from information provided by local resident, discharge, 92,500 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	549	176	172	7080	2980	355	4240	134	217	861	468	469
2	345	143	363	7120	2110	1780	2650	164	606	809	321	449
3	332	129	1630	7150	365	2370	499	103	505	767	446	448
4	341	124	2400	5840	263	2380	169	101	560	575	442	448
5	318	494	2530	3400	1310	3450	153	150	614	590	421	440
6	296	388	2250	768	1950	2160	150	198	556	1100	456	369
7	345	173	1630	653	645	415	142	158	386	976	468	362
8	400	147	2410	651	143	223	147	300	387	897	507	442
9	431	136	4020	318	117	830	232	319	553	955	458	448
10	380	133	4710	710	775	2270	479	712	560	828	453	446
11	348	134	5170	3150	1200	3450	388	312	573	631	451	448
12	289	133	4570	965	804	3820	160	2220	828	382	458	447
13	271	181	2080	2680	2750	3250	253	1790	799	392	460	631
14	569	205	1270	5190	4990	1840	971	1820	490	540	453	900
15	204	167	986	6910	5390	383	1700	1310	692	545	476	2100
16	347	142	601	7030	5560	1040	1100	699	697	551	466	1210
17	386	129	954	7290	5760	1590	380	450	1180	550	354	555
18	204	145	772	7310	5800	2570	213	1070	1250	505	459	344
19	149	134	551	7310	6350	1510	206	1860	999	387	451	212
20	390	132	261	7120	5930	1970	647	765	538	728	449	298
21	532	129	344	7170	3090	1320	544	384	406	1690	452	178
22	552	416	624	5620	2360	758	154	156	1160	1750	396	358
23	248	136	508	5400	3510	4650	129	285	1390	1510	371	303
24	215	119	1520	5640	4140	7390	168	436	1310	877	361	203
25	160	119	392	5970	3690	7390	108	417	1450	460	442	828
26	177	116	1680	7170	3310	7430	108	481	1280	335	427	825
27	151	127	3180	7150	2130	7480	117	284	1050	412	449	406
28	217	135	2770	7100	1190	4920	176	511	624	491	452	533
29	572	374	4290	7090	---	4430	569	369	724	477	431	536
30	162	463	7100	7060	---	4120	152	347	955	528	590	387
31	181	---	7090	4460	---	3860	---	324	---	500	617	---
TOTAL	10061	5679	68828	158475	78612	91404	17104	18629	23339	22599	13905	16023
MEAN	325	189	2220	5112	2808	2949	570	601	778	729	449	534
MAX	572	494	7100	7310	6350	7480	4240	2220	1450	1750	617	2100
MIN	149	116	172	318	117	223	108	101	217	335	321	178
AC-FT	19960	11260	136500	314300	155900	181300	33930	36950	46290	44830	27580	31780

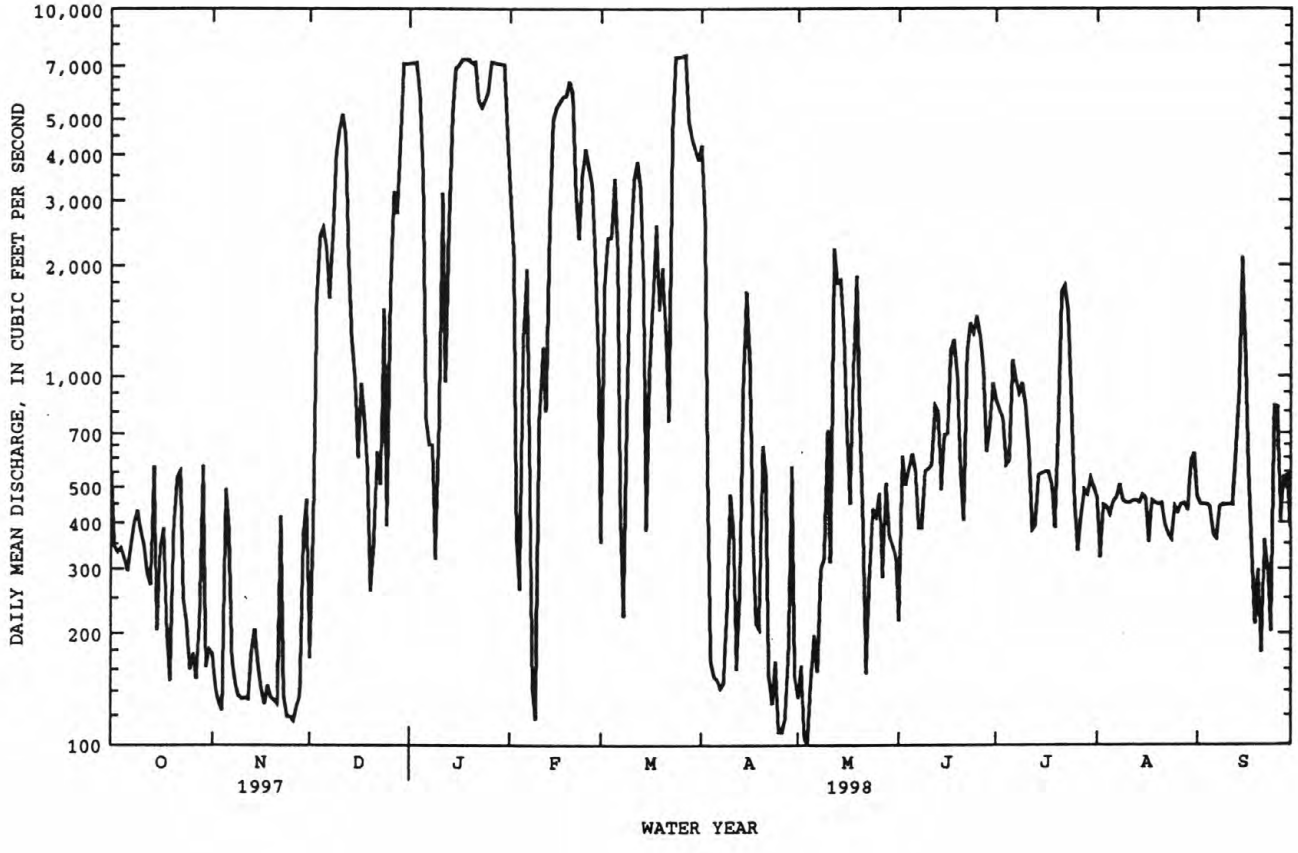
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1998, BY WATER YEAR (WY)

MEAN	642	1320	2101	1830	1844	2220	2095	2109	1580	873	754	614
MAX	2638	6897	5286	5121	4159	5623	4976	7264	6061	2645	1515	2300
(WY)	1994	1985	1997	1988	1989	1997	1979	1991	1990	1983	1983	1992
MIN	136	110	154	199	292	348	306	357	219	155	238	155
(WY)	1989	1996	1990	1981	1981	1996	1980	1988	1988	1988	1985	1989

07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1970 - 1998	
ANNUAL TOTAL	539668		524658			
ANNUAL MEAN	1479		1437		[a]1497	
HIGHEST ANNUAL MEAN					2468	1973
LOWEST ANNUAL MEAN					450	1996
HIGHEST DAILY MEAN	7100	Dec 30	7480	Mar 27	11500	May 19 1991
LOWEST DAILY MEAN	116	Nov 26	101	May 4	[b]16	Dec 12 1971
ANNUAL SEVEN-DAY MINIMUM	140	Nov 15	137	Apr 22	68	Jan 12 1996
INSTANTANEOUS PEAK FLOW			7670	Jan 22	[c]18200	Jun 2 1990
INSTANTANEOUS PEAK STAGE			7.39	Jan 22	[d]11.58	Jun 2 1990
ANNUAL RUNOFF (AC-FT)	1070000		1041000		1084000	
10 PERCENT EXCEEDS	4320		4790		4100	
50 PERCENT EXCEEDS	713		532		687	
90 PERCENT EXCEEDS	158		153		160	

[a]Prior to regulation by Broken Bow Lake, 1925, 1930-68, 1,291 ft^3/s.
[b]No flow in several years prior to regulation by Broken Bow Lake.
[c]Maximum discharge for period of record, 101,000 ft^3/s May 20, 1960, from rating curve extended above 65,000 ft^3/s.
[d]Maximum gage-height for period of record, 26.73 ft May 20, 1960.



07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1955, 1961-1963, October 1992 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1947 to September 1948, November 1960 to September 1963.
WATER TEMPERATURE: October 1947 to September 1948, March to September 1955, November 1960 to September 1963, October 1992 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 128 microsiemens Nov. 19, 1947; minimum daily, 21 microsiemens Jan. 1, 1948.
WATER TEMPERATURE: Maximum daily, 34.5°C July 29, 1955; minimum daily, 0.0°C several days in winter months.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum 28.5°C Sept. 21; minimum 8.0°C Mar. 9.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	23.5	21.5	22.5	17.5	16.0	16.5	13.0	13.0	13.0	9.0	8.5	9.0
2	23.0	20.5	22.0	17.0	15.0	16.0	13.0	12.5	12.5	9.0	9.0	9.0
3	24.0	21.0	22.5	16.5	14.5	15.0	12.5	12.0	12.0	9.5	9.0	9.0
4	23.0	20.5	22.0	15.5	13.5	14.5	12.5	11.5	12.0	9.5	9.0	9.0
5	23.5	20.5	22.0	15.5	14.5	15.0	12.5	11.5	11.5	10.0	9.5	9.5
6	23.0	21.0	22.0	15.0	13.5	14.0	12.0	11.0	11.5	11.0	10.0	10.5
7	22.5	21.0	22.0	14.5	12.5	13.0	11.0	10.5	11.0	11.0	10.5	11.0
8	22.0	21.0	21.5	14.5	12.0	13.0	10.5	10.0	10.5	10.5	10.0	10.5
9	22.0	20.5	21.0	14.0	12.5	13.0	11.0	10.5	11.0	10.0	9.5	10.0
10	22.0	20.0	21.0	13.0	12.5	13.0	11.0	10.5	11.0	10.0	9.5	9.5
11	22.0	20.0	21.0	12.5	12.0	12.0	10.5	10.5	10.5	10.0	9.0	9.5
12	21.5	20.0	21.0	12.0	12.0	12.0	10.5	10.0	10.5	10.0	9.5	9.5
13	20.5	19.5	20.0	12.0	11.5	11.5	10.5	9.5	10.0	10.0	9.0	10.0
14	20.5	19.0	19.5	11.5	11.0	11.5	11.0	9.5	10.0	9.0	9.0	9.0
15	20.5	18.0	19.0	11.5	10.0	10.5	10.5	9.0	9.5	9.5	9.0	9.0
16	19.5	18.5	19.0	11.0	9.0	10.0	10.5	8.5	9.5	9.5	9.0	9.0
17	19.5	18.0	18.5	10.5	8.5	9.5	11.0	9.0	10.0	9.5	9.0	9.0
18	19.0	17.0	18.0	12.0	9.5	10.5	10.5	9.0	9.5	9.5	9.0	9.0
19	20.5	17.5	18.5	11.5	9.5	10.0	10.5	9.0	9.5	9.5	9.0	9.0
20	19.5	18.0	19.0	11.0	9.5	10.0	11.0	10.0	10.0	9.0	9.0	9.0
21	---	---	---	12.0	10.0	11.0	10.5	10.0	10.5	9.5	9.0	9.0
22	---	---	---	12.0	11.0	11.5	10.0	9.5	9.5	9.5	9.0	9.0
23	18.5	16.5	17.0	13.0	10.5	11.5	---	---	---	9.0	8.5	9.0
24	19.0	16.5	17.5	12.5	10.5	11.5	---	---	---	9.5	8.5	9.0
25	19.0	17.5	18.0	13.0	11.5	12.0	---	---	---	9.0	8.5	9.0
26	17.5	15.5	16.5	14.0	12.0	13.0	---	---	---	9.0	9.0	9.0
27	16.5	14.5	15.5	14.0	13.0	13.5	---	---	---	9.5	8.5	9.0
28	16.5	14.5	15.5	14.0	13.5	13.5	---	---	---	9.5	8.5	9.0
29	15.5	14.5	15.0	15.0	14.0	14.0	---	---	---	9.5	8.5	9.0
30	16.5	15.5	16.0	14.0	13.0	13.5	---	---	---	9.5	9.0	9.0
31	17.5	16.0	16.5	---	---	---	9.5	9.0	9.0	9.5	9.0	9.0
MONTH	---	---	---	17.5	8.5	12.5	---	---	---	11.0	8.5	9.3

07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.5	9.0	9.0	11.0	9.0	10.0	12.5	11.0	12.0	21.5	17.0	19.0
2	9.5	9.0	9.5	10.5	9.0	10.0	13.0	11.5	12.0	21.0	18.0	19.5
3	10.5	9.0	9.5	11.0	9.5	10.0	16.0	12.5	14.0	22.0	18.5	20.0
4	11.5	9.5	10.0	10.5	10.0	10.0	16.0	14.0	15.0	24.0	18.5	21.0
5	10.0	9.0	9.5	10.5	10.0	10.0	18.5	14.0	15.5	21.5	19.5	20.5
6	10.0	9.0	9.5	10.0	10.0	10.0	18.5	14.5	16.5	22.5	20.0	21.0
7	10.0	8.5	9.0	10.5	10.0	10.0	20.5	16.5	18.0	26.0	21.5	23.0
8	10.0	9.0	9.5	10.5	9.0	10.0	19.5	17.0	18.0	24.5	21.5	23.0
9	10.5	8.5	9.5	10.5	8.0	9.0	18.5	16.0	17.5	23.5	20.5	21.5
10	10.5	10.0	10.0	10.5	8.5	9.5	18.5	16.5	17.5	22.5	19.5	21.0
11	11.0	9.5	10.0	10.5	9.0	9.5	19.0	15.5	17.5	25.0	21.0	22.5
12	10.5	9.5	10.0	10.0	9.0	9.5	20.0	17.0	18.0	22.0	18.0	19.5
13	10.0	9.5	10.0	9.5	9.5	9.5	21.5	17.5	19.0	20.0	17.5	18.0
14	10.0	9.5	9.5	9.5	9.5	9.5	19.5	15.5	18.0	18.5	17.5	18.0
15	9.5	9.0	9.5	10.5	9.5	10.0	17.0	14.5	15.5	19.5	17.5	18.5
16	9.0	9.0	9.0	10.5	10.0	10.5	17.5	15.0	16.0	20.5	17.0	19.0
17	9.0	9.0	9.0	10.5	10.0	10.5	16.5	15.0	16.0	21.0	17.0	19.0
18	9.5	9.0	9.5	10.5	9.5	10.0	17.0	15.5	16.0	23.5	18.5	20.5
19	9.5	9.5	9.5	11.0	10.0	10.5	19.5	15.0	17.0	20.5	18.0	18.5
20	10.0	9.5	9.5	10.0	9.0	9.5	18.5	16.0	17.0	21.0	18.5	19.5
21	10.0	9.0	9.5	11.5	9.0	10.0	18.0	15.5	17.0	23.5	18.5	20.5
22	10.5	10.0	10.0	12.0	9.0	10.5	18.5	16.5	17.5	26.0	22.0	23.0
23	10.5	9.5	10.0	11.0	10.0	10.5	20.0	16.0	17.5	23.5	20.5	22.5
24	10.5	9.5	10.0	10.5	9.5	10.0	21.0	17.5	19.0	24.0	21.0	22.5
25	10.5	9.5	10.0	10.5	9.5	10.0	21.5	18.0	20.0	23.5	20.0	21.5
26	10.0	9.5	10.0	10.5	9.5	10.0	20.5	19.0	19.5	22.5	20.0	21.0
27	10.5	9.0	9.5	10.0	9.5	9.5	20.5	18.0	19.5	21.0	19.5	20.5
28	11.0	9.5	10.0	11.0	9.5	10.0	21.5	18.5	19.5	22.5	19.5	20.5
29	---	---	---	11.0	10.0	10.5	19.5	18.0	19.0	23.0	19.0	21.0
30	---	---	---	11.5	10.5	11.0	20.0	17.0	18.5	24.5	19.5	22.0
31	---	---	---	12.0	10.5	11.0	---	---	---	25.0	20.5	23.0
MONTH	11.5	8.5	9.6	12.0	8.0	10.0	21.5	11.0	17.1	26.0	17.0	20.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	28.0	23.5	25.0	24.0	20.5	22.0	24.0	21.5	22.5	23.5	19.5	21.5
2	25.0	21.0	23.5	23.0	20.5	21.0	25.0	22.0	23.5	23.5	19.5	21.5
3	24.0	20.5	22.0	23.5	20.0	21.5	24.5	21.5	23.5	24.0	21.0	22.5
4	23.0	19.5	21.5	23.5	19.5	22.0	23.0	22.0	22.5	25.0	20.5	22.5
5	21.5	19.5	20.5	24.0	20.0	22.0	23.5	20.5	22.0	25.0	21.0	23.0
6	21.0	18.5	20.0	23.5	19.0	21.0	23.0	21.5	22.0	25.0	21.0	23.0
7	21.0	18.0	19.5	24.0	20.0	21.5	24.5	20.0	22.0	25.0	21.5	23.5
8	21.0	18.0	19.5	24.5	20.5	22.0	23.0	20.5	21.5	25.5	22.0	23.5
9	22.0	19.0	20.5	23.5	20.5	22.0	23.5	19.5	21.5	23.5	22.0	22.5
10	22.5	19.0	21.0	24.5	21.0	22.0	24.0	20.5	22.0	23.0	20.5	21.5
11	22.0	19.0	20.5	24.0	21.0	22.5	23.5	22.0	22.5	22.5	21.0	21.5
12	23.0	19.5	20.5	24.0	21.5	23.0	24.0	20.5	21.5	21.5	21.0	21.0
13	23.0	19.0	21.0	24.5	21.0	23.0	23.0	20.5	21.5	21.5	21.0	21.0
14	24.0	19.5	22.0	24.5	22.0	23.0	23.5	21.0	22.0	22.0	21.5	21.5
15	23.5	21.0	22.5	24.5	21.0	22.5	24.0	20.0	21.5	22.0	21.5	22.0
16	23.0	20.0	21.5	24.0	21.0	22.5	24.0	20.0	22.0	22.0	21.5	22.0
17	23.5	19.0	20.5	24.5	20.0	22.0	24.5	20.0	22.5	24.0	21.5	22.5
18	22.0	19.5	20.0	24.5	19.5	22.0	26.0	21.5	23.5	24.5	21.5	23.0
19	23.0	20.0	21.0	25.0	19.0	22.5	25.5	21.0	23.0	26.0	23.5	24.0
20	24.5	20.0	22.5	25.0	20.5	22.5	24.5	21.0	23.0	26.0	22.5	24.5
21	25.5	20.5	23.0	24.5	22.0	22.5	25.0	22.0	23.5	28.5	24.5	25.5
22	25.0	20.0	22.5	25.5	22.0	23.0	25.0	21.5	23.0	26.0	23.0	24.5
23	24.0	20.0	21.5	25.0	22.5	23.0	25.5	21.0	23.5	25.5	24.0	25.0
24	24.0	20.5	22.0	26.0	22.5	24.0	26.0	21.5	23.5	26.5	23.5	24.5
25	24.0	20.0	21.5	26.5	23.0	25.0	26.0	22.0	24.0	26.0	23.0	24.0
26	24.5	20.5	22.0	26.0	23.5	24.5	26.0	22.0	23.5	24.5	22.0	23.0
27	23.5	20.5	21.5	27.0	23.0	25.0	26.0	21.5	23.5	25.5	22.0	23.5
28	24.0	20.5	22.0	25.5	23.0	24.5	24.5	21.5	23.5	25.0	23.0	24.0
29	24.0	20.5	22.0	25.0	22.5	23.5	25.0	22.5	24.0	25.0	22.5	23.5
30	24.5	20.5	22.0	25.0	21.5	23.0	25.0	22.0	23.5	25.0	22.5	24.0
31	---	---	---	24.5	22.0	23.0	23.5	21.0	22.0	---	---	---
MONTH	28.0	18.0	21.5	27.0	19.0	22.7	26.0	19.5	22.7	28.5	19.5	23.0

PONTOTOC COUNTY

WELL-IDENTIFICATION NUMBER.--343457096404501. Local number 01N-06E-04 CAD 1.

LOCATION.--Lat 34°34'57", long 09°64'45", Hydrologic Unit 11140102, 3.3 mi southwest of Fittstown.

AQUIFER.--Upper Arbuckle Limestone.

WELL CHARACTERISTICS.--Drilled oil test well, diameter 14 in., depth 396 ft.

DATUM.--Altitude of land-surface datum is 1,155 ft. Measuring point: base of recorder shelter 1.10 ft above land-surface datum.

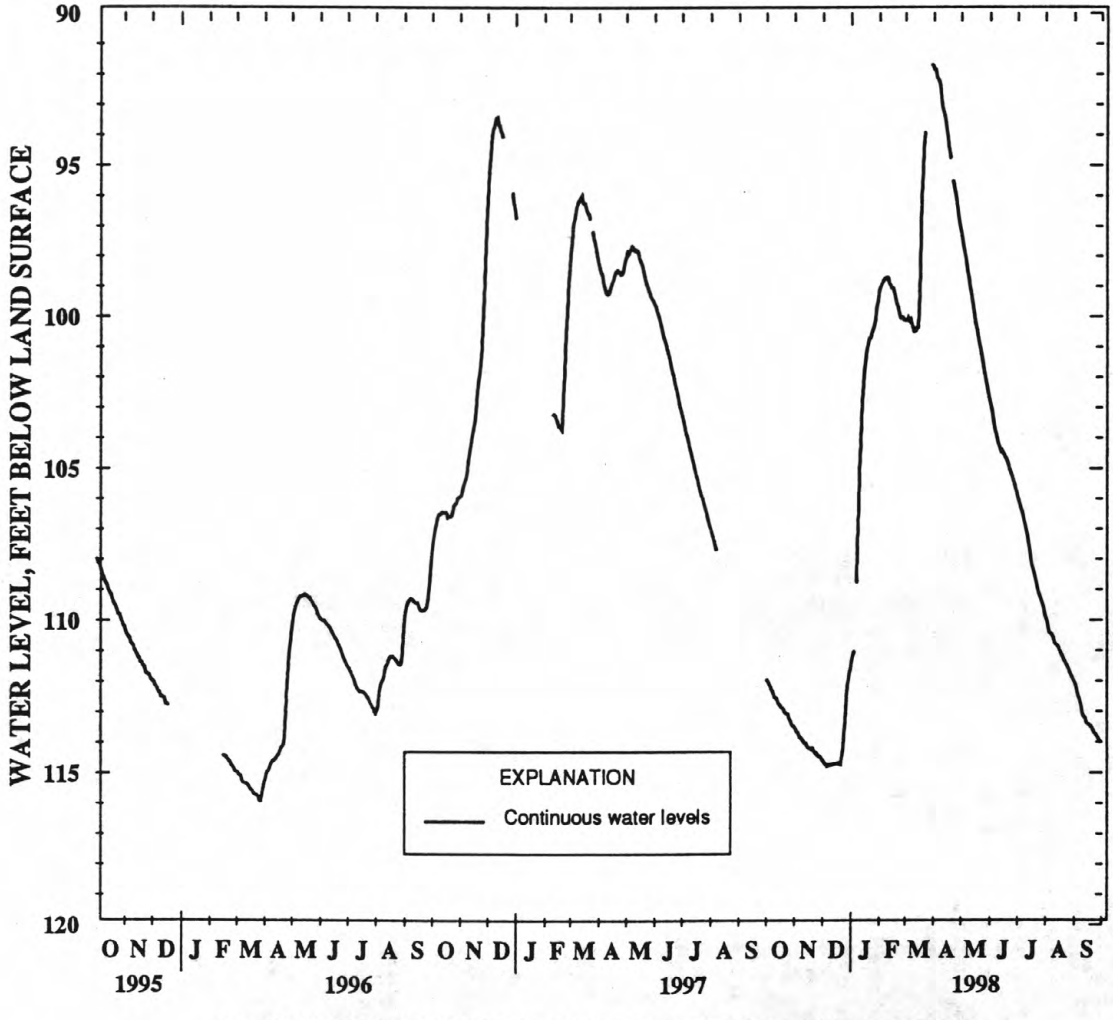
REMARKS.--Well originally 1,707 ft deep.

PERIOD OF RECORD.--December 1958 to August 1997, October 1998 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest observed water level, 70.19 ft below land-surface datum, May 17, 1990; lowest water level, 134.35 ft below land-surface datum, Dec. 17, 1974.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	112.15	113.74	114.74	---	98.78	100.12	92.16	97.96	103.46	106.34	110.43	112.42
10	112.51	113.96	114.73	105.13	98.70	100.44	93.03	98.98	104.18	106.97	110.66	113.06
15	112.75	114.15	114.66	101.83	99.05	100.34	93.80	99.91	104.45	107.86	110.90	113.38
20	112.94	114.19	114.70	100.73	99.63	95.21	---	100.83	104.76	108.52	111.24	113.51
25	113.13	114.35	113.32	100.36	100.05	---	96.00	101.67	105.25	109.16	111.54	113.77
EOM	113.46	114.54	111.60	99.22	100.11	91.73	97.06	102.65	105.78	109.82	111.96	114.02
MAX	113.46	114.54	114.77	---	100.11	---	---	102.65	105.78	109.82	111.96	114.02
MIN	111.91	113.52	111.60	---	98.68	---	---	97.22	102.79	105.90	109.91	112.01



343457096404501 01N-06E-04 CAD FITTSTOWN GW WELL

RED RIVER BASIN

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Station number	Station name	Location	Period of record	Measurements	
				Date	Discharge (ft^3/s)
		RED RIVER BASIN			
07330610	Caddo Creek Site 6PT near Ardmore, Ok.	Lat 34°14'33", long 97°04'05" in NW 1/4, NW 1/4, sec.2, T.4S, R.2E, Carter County, Hydrologic Unit 11130303, on right bank 0.9 mi above Sand Creek, 4.8 mi northeast of Ardmore, and at mile 11.1.	1997	10-18-96 07-15-97 08-26-97	15 9.9 4.4
07330615	Sand Creek Site 1WW near Ardmore, Ok.	Lat 34°12'28", long 97°05'47" in SW 1/4, NE 1/4, sec.16, T.4S, R.2E, Carter County, Hydrologic Unit 11130303, on left bank at south edge of the Ardmore Wastewater Treatment Plant northeast of Ardmore, and at mile 4.8.	1997	07-17-97	3.1
07330625	Sand Creek Site 3CMP near Ardmore, Ok.	Lat 34°12'47", long 97°05'25" in NE 1/4, NE 1/4, sec.10, T.4S, R.2E, Carter County, Hydrologic Unit 11130303, on left bank adjacent to Atchison Topeka and Sante Fe Railroad tracks, 1.0 mi downstream from City of Ardmore Wastewater Treatment Plant, and at mile 4.1.	1997	07-15-97 07-17-97 08-26-97	4.4 5.9 7.8
07330665	Sand Creek Site 4CMP near Ardmore, Ok.	Lat 34°13'49", long 97°04'22" in NW 1/4, NW 1/4, sec.11, T.4S, R.2E, Carter County, Hydrologic Unit 11130303, on downstream left bank at county road bridge, 3.0 mi north of U.S. Highway 70, 4.0 mi northeast of Ardmore city limits, and at mile 1.1.	1997	07-16-97 07-18-97	5.3 4.4
07330680	Sand Creek Site 5CMP near Ardmore, Ok.	Lat 34°14'12", long 97°03'39" in SE 1/4, SE 1/4, sec.2, T.4S, R.2E, Carter County, Hydrologic Unit 11130303, on right bank 500 ft downstream from low-water crossing on private land, 0.3 mi above Caddo Creek, 3.4 mi north of U.S. Highway 70, 6.5 mi northeast of Ardmore city limits, and at mile 0.3.	1997	10-18-96 07-16-97 07-18-97	3.8 4.6 5.4
07330720	Caddo Creek Site 8CMP near Gene Autry, Ok.	Lat 34°13'58", long 97°02'16" in SW 1/4, SW 1/4, sec.6, T.4S, R.3E, Carter County, Hydrologic Unit 11130303, on right bank 3.0 mi north of U.S. Highway 70, 3.8 mi south of Gene Autry, and at mile 7.1.	1997	07-15-97 07-17-97	14 18
07330800	Caddo Creek Site 9CMP near Gene Autry, Ok.	Lat 34°13'51", long 97°00'47" in SE 1/4, SW 1/4, sec.5, T.4S, R.3E, Carter County, Hydrologic Unit 11130303, on left downstream bank 3.0 mi south of Gene Autry, 1.5 mi east, 1 mi south on private land, and at mile 3.3.	1997	10-18-96 07-15-97 07-17-97 08-26-97	21 16 17 11

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Samples for selenium analyses were collected at Truscott Lake, Texas and associated brine collection facilities by Tulsa District, U.S. Army Corps of Engineers personnel. Samples were collected in an ongoing effort to monitor selenium dynamics in features associated with the District's Wichita River Basin Project. These data will serve as baseline information for future monitoring efforts associated with the project.

MISCELLANEOUS STATION ANALYSES

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G) (01148)	CARBON, INORG, SED, BM WS,<2MM DW, REC (G/KG) (49270)	CARBON, ORGANIC SED, BM WS,<2MM DW, REC (G/KG) (49271)	CARBON, ORG + INORG SED, BM WS,<2MM DW, REC (G/KG) (49272)
333719100122901 S FK WICHITA R APPROX 75 YD DS OF WEIR AT BATEMAN PUMP STATION(LAT 33 37 19N LONG 100 12 29W)								
MAR 1997								
25...	1742	810	80020	1	--	--	--	--
APR								
22...	1725	810	80020	<1	--	--	--	--
JUN								
10...	1732	810	80020	4	--	--	--	--
JUL								
14...	1636	810	80020	<1	--	--	--	--
AUG								
26...	1700	810	80020	<1	--	12.0	4.00	16.0
DEC								
17...	1225	810	80020	<1	--	--	--	--
JAN 1998								
26...	1655	810	80020	1	--	--	--	--
26...	1700	810	80020	<1	--	--	--	--
APR								
30...	1450	810	80020	<1	--	--	--	--
JUL								
06...	1515	810	80020	<1	--	--	--	--
333721100123301 S. FORK WICHITA R AT BATEMAN PUMP STATION INFLATED WEIR(LAT 33 37 21N LONG 100 12 33W)								
MAR 1997								
25...	1730	810	80020	1	--	--	--	--
APR								
22...	1717	810	80020	1	--	--	--	--
JUN								
10...	1732	810	80020	4	--	--	--	--
JUL								
14...	1620	810	80020	<1	--	--	--	--
AUG								
26...	1650	810	80020	<1	<0.4	41.0	19.0	60.0
DEC								
17...	1220	810	80020	2	--	--	--	--
APR 1998								
30...	1430	810	80020	1	--	--	--	--
JUL								
06...	1540	810	80020	<1	--	--	--	--
333721100123302 S. FK WICHITA R AT BATEMAN PUMP STATION INFLATED WEIR OVERFLOW(LAT 33 37 21N LONG 100 12 33W)								
FEB 1997								
25...	1645	810	80020	1	--	--	--	--
333738100124601 S FK WICHITA R APPROX 0.4 MI US OF WEIR AT BATEMAN PUMP STATION(LAT 33 37 38N LONG 100 12 46W)								
MAR 1997								
25...	1800	810	80020	2	--	--	--	--
APR								
22...	1740	810	80020	<1	--	--	--	--
JUN								
10...	1820	810	80020	4	--	--	--	--
JUL								
14...	1635	810	80020	<1	--	--	--	--
AUG								
26...	1715	810	80020	1	--	8.30	5.70	14.0
DEC								
17...	1204	810	80020	1	--	--	--	--
JAN 1998								
26...	1715	810	80020	2	--	--	--	--
APR								
30...	1500	810	80020	1	--	--	--	--
JUL								
06...	1630	810	80020	<1	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES--Continued

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G) (01148)	CARBON, INORG, SED, BM WS,<2MM DW, REC (G/KG) (49270)	CARBON, ORGANIC SED, BM WS,<2MM DW, REC (G/KG) (49271)	CARBON, ORG + INORG SED, BM WS,<2MM DW, REC (G/KG) (49272)
334547099522701 TRUSCOTT LAKE, TX, FIRST DIKED AREA AT UPPER END (LAT 33 45 47N LONG 099 52 27W)								
MAR 1997								
25...	1609	810	80020	1	--	--	--	--
APR								
22...	1505	810	80020	1	--	--	--	--
334555099522401 TRUSCOTT LAKE, TX, SECOND DIKED AREA AT UPPER END(LAT 33 45 55N LONG 099 52 24W)								
MAR 1997								
25...	1557	810	80020	1	--	--	--	--
APR								
22...	1445	810	80020	1	--	--	--	--
334644099515902 TRUSCOTT LAKE, TX AT UPPER END (BOTTOM) (LAT 33 46 44N LONG 099 51 59W)								
AUG 1997								
26...	1452	810	80020	--	<1	41.0	59.0	100
334645099523701 FRESHWATER POND 2 ON UNNAMED TRIB TO TRUSCOTT LAKE(LAT 33 46 45N LONG 099 52 37W)								
MAR 1997								
26...	0915	810	80020	<1	--	--	--	--
APR								
22...	1330	810	80020	<1	--	--	--	--
334706099524701 FRESHWATER POND ON UNNAMED TRIB TO TRUSCOTT LAKE(LAT 33 47 06N LONG 099 52 47W)								
MAR 1997								
26...	1000	810	80020	<1	--	--	--	--
APR								
22...	1355	810	80020	<1	--	--	--	--
JUN								
11...	0840	810	80020	<1	--	--	--	--
334721099504901 TRUSCOTT LAKE, TX AT MID-LAKE (SURFACE) (LAT 33 47 21N LONG 099 50 49W)								
FEB 1997								
26...	1035	810	80020	<1	--	--	--	--
MAR								
25...	1410	810	80020	<1	--	--	--	--
25...	1411	810	80020	<1	--	--	--	--
APR								
23...	0955	810	80020	<1	--	--	--	--
JUN								
10...	1410	810	80020	<1	--	--	--	--
JUL								
14...	1415	810	80020	<1	--	--	--	--
AUG								
26...	1405	810	80020	<1	--	--	--	--
OCT								
22...	1040	810	80020	<1	--	--	--	--
DEC								
15...	1447	810	80020	<1	--	--	--	--
15...	1448	810	80020	<1	--	--	--	--
JAN 1998								
26...	1440	810	80020	<1	--	--	--	--
JUL								
07...	0959	810	80020	<1	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES--Continued

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G) (01148)	CARBON, INORG, SED, BM WS,<2MM DW, REC (G/KG) (49270)	CARBON, ORGANIC SED, BM WS,<2MM DW, REC (G/KG) (49271)	CARBON, ORG + INORG SED, BM WS,<2MM DW, REC (G/KG) (49272)
334721099504902 TRUSCOTT LAKE, TX AT MID-LAKE (BOTTOM) (LAT 33 47 21N LONG 099 50 49W)								
FEB 1997								
26...	1035	810	80020	<1	--	--	--	--
MAR								
25...	1410	810	80020	<1	--	--	--	--
APR								
23...	0955	810	80020	<1	--	--	--	--
JUN								
10...	1410	810	80020	<1	--	--	--	--
JUL								
14...	1415	810	80020	<1	--	--	--	--
AUG								
26...	1405	810	80020	<1	--	--	--	--
26...	1415	810	80020	--	<1	7.90	12.0	20.0
26...	1416	810	80020	--	<1	--	--	--
OCT								
22...	1040	810	80020	<1	--	--	--	--
DEC								
15...	1448	810	80020	<1	--	--	--	--
JAN 1998								
26...	1440	810	80020	<1	--	--	--	--
APR								
30...	1150	810	80020	<1	--	--	--	--
JUL								
07...	0959	810	80020	<1	--	--	--	--
334730100043001 MIDDLE FORK OF WICHITA R NE OF GUTHRIE, TX (LAT 33 47 30N LONG 100 04 30W)								
FEB 1997								
26...	1500	810	80020	13	--	--	--	--
JUL 1998								
07...	1430	810	80020	14	--	--	--	--
07...	1431	810	80020	18	--	--	--	--
334632099522001 TRUSCOTT LAKE, TX AT EXTREME UPPER END (LAT 33 46 32N LONG 099 52 20W)								
JUN 1997								
10...	1500	810	80020	<1	--	--	--	--
JUL								
14...	1456	810	80020	<1	--	--	--	--
DEC								
15...	1540	810	80020	<1	--	--	--	--
JAN 1998								
26...	1515	810	80020	<1	--	--	--	--
APR								
30...	1215	810	80020	<1	--	--	--	--
JUL								
07...	1055	810	80020	<1	--	--	--	--
334644099515901 TRUSCOTT LAKE, TX AT UPPER END (SURFACE) (LAT 33 46 44N LONG 099 51 59W)								
FEB 1997								
26...	1055	810	80020	<1	--	--	--	--
MAR								
25...	1440	810	80020	<1	--	--	--	--
APR								
23...	1020	810	80020	<1	--	--	--	--
23...	1021	810	80020	<1	--	--	--	--
JUN								
10...	1437	810	80020	<1	--	--	--	--
10...	1438	810	80020	<1	--	--	--	--
JUL								
14...	1445	810	80020	<1	--	--	--	--
AUG								
26...	1445	810	80020	<1	--	--	--	--
OCT								
22...	1055	810	80020	<1	--	--	--	--
22...	1056	810	80020	<1	--	--	--	--
DEC								
15...	1520	810	80020	<1	--	--	--	--
JAN 1998								
26...	1500	810	80020	<1	--	--	--	--
26...	1501	810	80020	<1	--	--	--	--
APR								
30...	1205	810	80020	<1	--	--	--	--
30...	1206	810	80020	<1	--	--	--	--
JUL								
07...	1045	810	80020	<1	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES--Continued

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G) (01148)	CARBON, INORG, SED, BM WS,<2MM DW, REC (G/KG) (49270)	CARBON, ORGANIC SED, BM WS,<2MM DW, REC (G/KG) (49271)	CARBON, ORG + INORG SED, BM WS,<2MM DW, REC (G/KG) (49272)
334742099500501 NEAR DAM AT TRUSCOTT LAKE, TX (LAT 33 47 42N LONG 099 50 05W)								
FEB 1997								
26...	1000	810	80020	<1	--	--	--	--
26...	1001	810	80020	<1	--	--	--	--
MAR								
25...	1330	810	80020	<1	--	--	--	--
APR								
23...	0910	810	80020	<1	--	--	--	--
JUN								
10...	1337	810	80020	<1	--	--	--	--
JUL								
14...	1355	810	80020	<1	--	--	--	--
14...	1356	810	80020	<1	--	--	--	--
AUG								
26...	1313	810	80020	<1	--	--	--	--
26...	1314	810	80020	<1	--	--	--	--
OCT								
22...	1030	810	80020	<1	--	--	--	--
DEC								
15...	1430	810	80020	<1	--	--	--	--
JAN 1998								
26...	1400	810	80020	<1	--	--	--	--
APR								
30...	1125	810	80020	<1	--	--	--	--
30...	1149	810	80020	<1	--	--	--	--
JUL								
07...	0931	810	80020	<1	--	--	--	--
334742099500502 NEAR DAM AT TRUSCOTT LAKE, TX (BOTTOM) (LAT 33 47 42N LONG 099 50 05W)								
FEB 1997								
26...	1000	810	80020	<1	--	--	--	--
MAR								
25...	1330	810	80020	<1	--	--	--	--
APR								
23...	0910	810	80020	<1	--	--	--	--
JUN								
10...	1337	810	80020	<1	--	--	--	--
JUL								
14...	1355	810	80020	<1	--	--	--	--
AUG								
26...	1313	810	80020	<1	--	--	--	--
26...	1345	810	80020	--	<0.4	8.00	19.0	27.0
26...	1346	810	80020	--	<0.4	--	--	--
OCT								
22...	1030	810	80020	<1	--	--	--	--
DEC								
15...	1430	810	80020	<1	--	--	--	--
JAN 1998								
26...	1400	810	80020	<1	--	--	--	--
APR								
30...	1130	810	80020	<1	--	--	--	--
JUL								
07...	0931	810	80020	<1	--	--	--	--

INDEX

Page

Page

Page

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey
202 N.W. 66th Bldg. 7
Oklahoma City OK 73116

Printed on recycled paper