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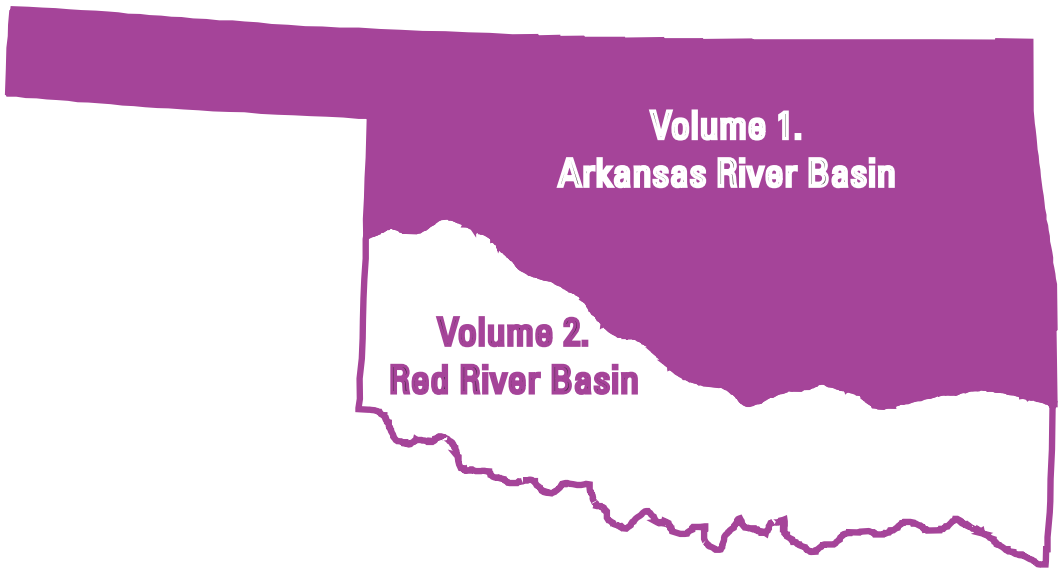
Water Resources Data State Oklahoma Water Year 2004

Volume 1. Arkansas River Basin



Water-Data Report OK-04-1

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

Calendar for Water Year 2004

2003

October

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2004

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August

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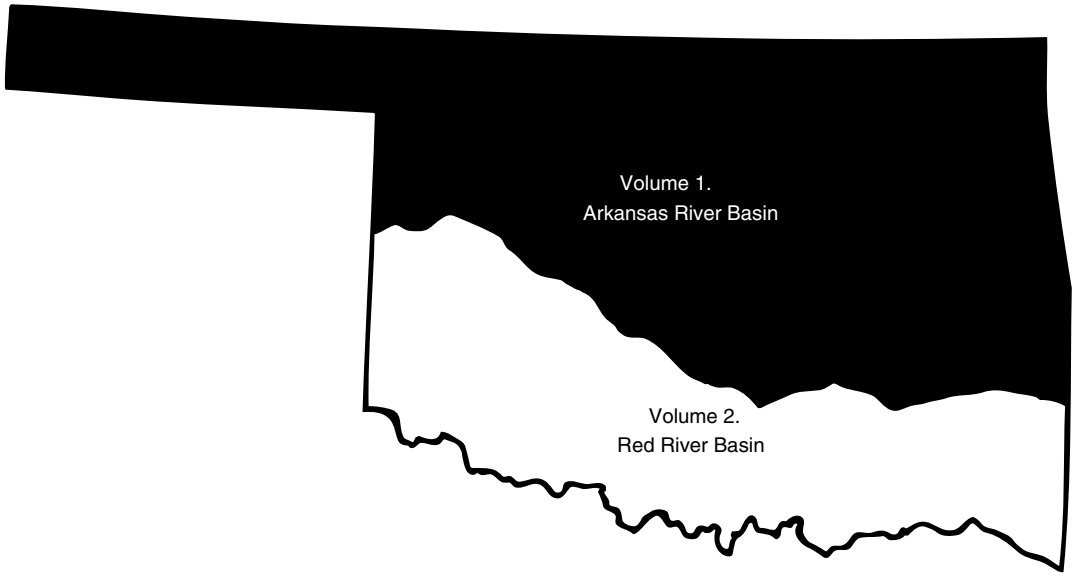
Water Resources Data Oklahoma

Water Year 2004

Volume 1. Arkansas River Basin

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

Water-Data Report OK-04-1



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

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

U.S. Department of the Interior
Gale A. Norton, Secretary

U.S. Geological Survey
Charles G. Groat, Director

2004

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405-810-4400

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

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

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

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

Data for Oklahoma are in two volumes as follows:
Volume 1. Arkansas River Basin
Volume 2. Red River Basin and Ground-Water Records

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	March 2005	Annual-Oct. 1, 2003 to Sept. 30, 2004

4. TITLE AND SUBTITLE
Water Resources Data for Oklahoma, Water Year 2004

5. FUNDING NUMBERS

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

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

8. PERFORMING ORGANIZATION REPORT NUMBER
USGS-WDR-OK-04-1

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

10. SPONSORING / MONITORING AGENCY REPORT NUMBER
USGS-WDR-OK-04-1

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

12a. DISTRIBUTION / AVAILABILITY STATEMENT
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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 2004 water year for Oklahoma consists of record of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes or reservoirs; and water levels of ground-water wells. This report contains discharge records for 138 gaging stations; stage and contents for 18 lakes or reservoirs and 2 gage height stations; water quality for 55 gaging stations; 38 partial-record or miscellaneous streamflow stations and 4 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
436

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

[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]

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

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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.

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Arkansas River near Ponca City, OK	07148140	46,530	1976-93
Salt Fork Arkansas River near Winchester, OK	07148350	856	1960-93
Salt Fork Arkansas River near Ingersoll, OK	07148450	1,140	1961-62 1974-79
Salt Fork Arkansas River near Cherokee, OK	07149500	2,439	1941-50
Salt Fork Arkansas River near Jet, OK	07150500	3,202	1938-93
Greasy Creek near Watchorn, OK	07152290	28.0	1974-76
Ranch Creek at Cleveland Dam near Cleveland, OK	07153100	21.9	1945-63
Cimarron River above Ute Creek near Boise City, OK	07155000	1,955	1906-07 1943-46 1947-54
Cimarron River near Boise City, OK	07155500	2,214	1939-42
Cimarron River near Mocane, OK	07157000	8,670	1943-65
Cimarron River near Englewood, KS	07157580	10,096	1982-87
Buffalo Creek near Lovedale, OK	07157960	408	1966-93
Cimarron River at Freedom, OK	07157980	12,706	1974-80
Salt Creek near Hitchcock, OK	07158150	44.4	1968-70
Salt Creek near Okeene, OK	07158400	196	1961-67 1974-79
Preacher Creek near Dover, OK	07158500	14.5	1952-57
Turkey Creek near Drummond, OK	07159000	248	1948-70
Cimarron River near Crescent, OK	07159400	16,453	1971-72
Bluff Creek above Lake Hefner near Oklahoma City, OK	07159500	1.62	1950-58
Cottonwood Creek near Navina, OK	07159720	247	1978-80 1982-89
Cottonwood Creek at Seward, OK	07159750	320	1973-82 1990-02
Cimarron River near Perkins, OK	07161000	17,852	1940-89
Stillwater Creek near Stillwater, OK	07162000	168	1935-38
West Fork Brush Creek near Stillwater, OK	07162500	13.1	1935-38
Council Creek near Stillwater, OK	07163000	31	1934-93
Cimarron River at Oilton, OK	07163500	18,669	1935-45
Cimarron River at Mannford, OK	07164000	18,849	1939-50 1960-63
Arkansas River near Tullahasse, OK	07165600	75,815	1970-72
Verdigris River near Oologah, OK	07171400	4,339	1961-92
Verdigris River near Sageeyah, OK	07171500	4,402	1939-45
Caney River near Hulah, OK	07173000	733	1938-93
Little Caney River near Copan, OK	07174000	424	1944-58

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Little Caney River below Cotton Creek near Copan, OK	07174200	502	1959-81
Caney River at Bartlesville, OK	07174500	1,465	1950-56 1986-87
Sand Creek at Okesa, OK	07174600	139	1960-93
Caney River near Ochelata, OK	07174700	1,753	1956-76
Double Creek subwater shed 5 near Ramona, OK	07175000	2.39	1955-69
Caney River near Collinsville, OK	07175550	2,046	1936-38
Birch Creek below Birch Lake near Barnsdall, OK	07176465	66.0	1977-92
Candy Creek near Wolco, OK	07176800	30.6	1970-81
Hominy Creek below Skiatook Lake near Skiatook, OK	07177410	354	1985-93
Bird Creek at 66th Street near Tulsa, OK	07177600	967	1987-91
Hominy Creek near Skiatook, OK	07177000	340	1944-81
Flat Rock Creek at U.S. Highway 75 at Tulsa, OK	07177700	22.6	1987-91
Mingo Creek at 36th Street North at Tulsa, OK	07178035	56.0	1987-89
Mingo Creek at 46th Street North at Tulsa, OK	07178040	59.9	1987-98
Verdigris River near Inola, OK	07178600	7,911	1945-70
Tar Creek at 22nd Street Bridge at Miami, OK	07185095	44.7	1984-93
Tar Creek at Miami, OK	07185100	52.0	1980-84
Lost Creek at Seneca, MO	07188500	42.0	1949-59
Neosho River near Grove, OK	07189500	9,969	1925-39
Big Cabin Creek near Pyramid Corners, OK	07190600	71.1	1964-72
Spavinaw Creek near Row, OK	07191200	128	1959-62
Black Hollow near Spavinaw, OK	07191297	6.0	1998-01
Pryor Creek near Pryor, OK	07192000	229	1948-63
Neosho River near Wagoner, OK	07192500	12,307	1924-25 1938-49
Neosho River below Fort Gibson Lake near Fort Gibson, OK	07193500	12,495	1951-89
Peacheater Creek near Christie, OK	07196973	25.0	1993-2003
Dirty Creek near Warner, OK	07198500	227	1940-46
Deer Creek at Hydro, OK	07228400	274	1961-63 1978-80
Canadian River near Newcastle, OK	07229000	25,763	1939-45
Canadian River near Norman, OK	07229050‘	25,853	1996-98
Canadian River near Noble, OK	07229100	25,911	1960-61 1964-75
Walnut Creek at Purcell, OK	07229300	202	1966-93
Canadian Sandy Creek near Ada, OK	07229427	198	1987-88
Little River near Norman, OK	07229500	120	1952-55
Little River near Bowlegs, OK	07230597	550	1983-88
Salt Creek near Dewright, OK	07230800	210	1960-63 1966-67
Ti Creek near Blanco, OK	07231965	4.82	1980-81
Brushy Creek near Haileyville, OK	07231975	139	1978-83

DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Peaceable Creek near Haileyville, OK	07231990	134	1978-83
Gaines Creek near Krebs, OK	07232000	588	1943-63
Blue Creek near Blocker, OK	07232010	12.1	1976-83
Deer Creek near McAlester, OK	07232024	38.3	1979-80
Beaver River near Felt, OK	07232250	879	1981-02
Beaver River near Goodwell, OK	07232470	2,043	2001-03
Beaver River near Guymon, OK	07232500	2,139	1938-93
Coldwater Creek near Hardesty, OK	07233000	1,967	1940-64
Beaver River near Hardesty, OK	07233210	5,029	1978-86
Clear Creek near Elmwood, OK	07234100	170	1966-93
Wolf Creek near Shattuck, OK	07235500	1,183	1938-46
Wolf Creek near Fargo, OK	07236000	1,624	1943-76
Wolf Creek near Fort Supply, OK	07237000	1,739	1938-93
Bent Creek near Seiling, OK	07237800	139	1967-70
North Canadian River at Canton, OK	07239000	12,484	1937-93 2000-03
North Canadian River near Watonga, OK	07239200	12,692	1980-83
North Canadian River near Oklahoma City, OK	07241500	13,354	1939-53 1960-61
Tecumseh Creek at Tecumseh, OK	07241750	2.38	1991-92
North Canadian River at NE 36th Street at Oklahoma City, OK	07241503	13,356	1989-91
Wewoka Creek near Wetumka, OK	07242100	396	1960-64 1967
Deep Fork at Hefner Rd. at Oklahoma City, OK	07242247	66.7	1995-98
Deep Fork near Arcadia, OK	07242350	105	1970-93
Bellcow Creek at Chandler, OK	07242500	46.0	1949-55
Dry Creek near Kendrick	07243000	69.0	1956-94
Deep Fork near Dewar, OK	07244000	2,307	1938-50
North Canadian River near Eufaula, OK	07244500	17,657	1960-62
Taloka Creek near Stigler, OK	07245030	20.1	1979-81
Sallisaw Creek near Sallisaw, OK	07245500	182	1943-76
Sans Bois Creek near Keota, OK	07246000	346	1939-42
Arkansas River near Sallisaw, OK	07246500	147,757	1948-70
Coal Creek near Spiro, OK	07246615	15.4	1979-82
Fourche Maline near Wilburton, OK	07247450	56.2	1978-81
Red Oak Creek near Red Oak, OK	07247550	12.8	1978-82
Poteau River near Wister, OK	07248500	993	1938-87
Caston Creek at Wister, OK	07248600	72.9	1979-82
Morris Creek at Howe, OK	07248620	19.4	1979-81
Sugarloaf Creek near Monroe, OK	07248700	53.6	1979-81
Poteau River at Poteau, OK	07249000	1,240	1938-45
Brazil Creek near Walls, OK	07249080	69.1	1979-81 1984-85
Owl Creek near McCurtain, OK	07249100	27.9	1978-81

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.

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Beaver Creek near Kaw City, OK	07148126		1949, 1954-55, 1961
Arkansas River at Kaw City, OK	07148128	8,670	1948-51, 1961
Arkansas River near Ponca City, OK	07148140	46,530	1977-82, 1987-90
Salt Fork Arkansas River near Winchester, OK	07148350	856	1959-62, 1975-77, 1985-90
Greenwood Creek near Winchester, OK	07148360	41.2	1987-88
Salt Fork Arkansas River near Alva, OK	07148400	1,009	1938-54, 1962, 1977-79, 1985-90
Salt Fork Arkansas River near Ingersoll, OK	07148450	1,140	1961-62, 1973-80
Salt Fork Arkansas River near Cherokee, OK	07149500	2,439	1941-49
Cottonwood Canyon Creek near Cherokee, OK	07149704		1944-45
Salt Fork Arkansas River near Jet, OK	07150500	3,202	1924, 1938-63, 1965, 1968-90
Salt Fork Arkansas River near Pond Creek, OK	07150597		1951,1962
Pond Creek near Lamont, OK	07150700		1951-55, 1958, 1962
Deer Creek near Tonkawa, OK	07150900	150	1958,1962
Salt Fork Arkansas River at Tonkawa, OK	07151000	4,528	1943-45, 1948, 1951-64, 1968-79, 1985-90
Chikaskia River near Braman, OK	07151900	1,510	1976-77
Chikaskia River near Blackwell, OK	07152000	1,859	1906, 1938, 1943-45, 1952-53, 1955-56, 1959-64, 1975-80, 1985-90

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Chikaskia River near Tonkawa, OK	07152050		1948, 1952, 1960-63
Salt Fork Arkansas River near Marland, OK	07152200		1959-63
Bois D Arc Creek near Ponca City, OK	07152250	100	1952, 1959-63
Salt Fork Arkansas River near White Eagle, OK	07152260		1977-80
Red Rock Creek near Red Rock, OK	07152350		1951-58, 1961-63
Salt Creek near Shidler, OK	07152400		1954-55, 1958, 1961-63
Arkansas River at Ralston, OK	07152500	54,465	1950-63, 1965-93
Black Bear Creek at Pawnee, OK	07153000	576	1944-50, 1952-53, 1955-65, 1967-71, 1977-80, 1985-90
Cimarron River near Kenton, OK	07154500	1,106	1952-53, 1955-56, 1959-63, 1967-68, 1977, 1982, 1987-90
Cimarron River Ab Ute Creek near Boise City, OK	07155000	1,955	1938-48, 1950
Cimarron River near Forgan, OK	07156900	8,536	1967-68, 1970-71, 1974, 1987-90
Cimarron River near Mocane, OK	07157000	8,670	1942-49, 1952-53, 1955-56, 1959-66, 1977-78
Cimarron River near Englewood, KS	07157580	10,096	1938-42, 1982-87
Buffalo Creek near Lovedale, OK	07157960	408	1917, 1973-80, 1987-90
Cimarron River near Buffalo	07157950	12,004	1953, 1961-63, 1968-94
Cimarron River at Freedom, OK	07157980	12,706	1953, 1973-80

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Cimarron River near Waynoka, OK	07158000	13,334	1938-53, 1955-56, 1959-63, 1968-79, 1985-90
Main Creek near Waynoka, OK 23N-16W-03 DDD	07158010	89.7	1986, 1988
Eagle Chief Creek at Cleo Springs, OK 22N-12W-02	07158105	480	1986, 1988, 1991
Salt Creek near Hitchcock, OK	07158150	44.4	1968-70
Salt Creek near Okeene, OK	07158400	196	1973-80, 1986, 1988
Preacher Creek near Dover, OK 18N-08W-13 BBB	07158500	14.5	1952-53, 1986-89
Turkey Creek near Drummond, OK	07159000	248	1947-48, 1952-53, 1955-56, 1976
Cimarron River near Dover, OK	07159100	15,713	1953, 1973-80, 1986-90
Turkey Creek near Dover, OK	07159203		1961-62
Deer Creek Abv Waste Water Trmt Fac near Edmond, OK	07159630		1983-84
Deer Creek Blw Waste Wtr Trmt Fac near Edmond, OK	07159645		1983-84
Cottonwood Creek near Navina, OK	07159720	247	1977-80, 1982-89
Cottonwood Creek near Seward, OK	07159750	320	1973-82, 1989-91
Cottonwood Creek near Guthrie, OK	07159800	366	1953, 1955-56, 1960-61
Cimarron River near Guthrie, OK	07160000	16,892	1905, 1930-31, 1938-57, 1959-71, 1973-80, 1986-90
Skeleton Creek near Lovell, OK	07160500	410	1950-55, 1975-80, 1985-90
Cimarron River at Perkins	07161000	17,852	1950, 1953-63, 1965-94
Council Creek near Stillwater, OK	07163000	31	1986-90
Cimarron River near Ripley, OK	07161450	17,979	1987-90
Stillwater Creek at Stillwater, OK	07162000	168	1954-55

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Council Creek near Stillwater, OK	07163000	31	1986-90
Cimarron River at Oilton, OK	07163500	18,669	1938, 1942, 1944-45, 1981
Cimarron River at Mannford, OK	07164000	18,849	1939-52, 1959-63
Arkansas River at Sand Springs near Tulsa, OK	07164400	74,615	1905, 1946-77, 1980
Polecat Creek Blw Heyburn Res near Heyburn, OK	07165500	123	1944-69, 1971-79
Polecat Creek near Jenks, OK	07165510		1959-63
Arkansas River at Bixby, OK	07165520		1948-49
Snake Creek near Leonard, OK	07165559		1960-61
Arkansas River near Haskell, OK	07165570	75,473	1972-83, 1986-88
Cane Creek near Jamesville, OK	07165581		1960-61
Arkansas River near Tullahassee, OK	07165600	75,815	1969-72
Arkansas River at Muskogee, OK	07165610		1956, 1958, 1961-63, 1969-70
Verdigris River near S Coffeyville, OK	07170950		1952-53, 1974-78
Verdigris River near Lenapah, OK	07171000	3,639	1940-83, 1985-87, 1989-90
California Creek near Nowata, OK	07171080		1952-53, 1959
Verdigris River near Nowata, OK	07171100		1952-53
East Fork Big Creek near Hollow, OK	07171105	14.4	1979-80, 1982-83
Big Creek near Nowata, OK	07171220		1952-53, 1959, 1981
Salt Creek near Alluwe, OK	07171230		1952-53, 1959
Lightning Creek near Alluwe, OK	07171240		1952-53, 1959
Verdigris River near Talala, OK	07171260		1952-53
Verdigris River near Oologah, OK	07171400	4,339	1961-83, 1986, 1988-89

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Verdigris River Ab Caney River near Claremore, OK	07171405		1941, 1945, 1948, 1952-55, 1959, 1961, 1978
Sweetwater Creek near Claremore, OK	07171490		1980-83
Verdigris River near Sageeyah, OK	07171500	4,402	1938, 1940-45, 1961
Caney River near Hulah, OK	07173000	733	1938, 1940-83, 1986
Little Caney River near Copan, OK	07174000	424	1976-77, 1979
Cotton Creek near Copan, OK	07174150		1967-68
Little Caney River Blw Cotton Cr, near Copan, OK	07174200	502	1944-81, 1983, 1986
Caney River Above Coon Creek at Bartlesville, OK	07174400	1,392	1985-86, 1989-90
Caney River at Bartlesville, OK	07174500	1,465	1944-45, 1947, 1949-51, 1966-68, 1978-82
Sand Creek at Okesa, OK	07174600	139	1951-55, 1960-78, 1980-83, 1985-86, 1989-90
Caney River near Ochelata, OK	07174700	1,753	1959-61
Double Creek SWS 5 near Ramona, OK	07175000	2.39	1957-59, 1964-65, 1967-69
Caney River near Ramona, OK	07175500	1,955	1966-93
Caney River near Collinsville, OK	07175550	2,046	1949-53, 1959
Verdigris River near Claremore, OK	07176000	6,534	1944, 1947-54, 1977-81, 1985-87
Bird Creek at Pawhuska, OK	07176320		1944-46
Bird Creek near Barnsdall, OK	07176350		1949-53

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Birch Creek near Barnsdall, OK	07176455		1964-66, 1978, 1980-81, 1983
Birch Creek Blw Birch Lake near Barnsdall, OK	07176465	66	1989-90
Bird Creek at Avant, OK	07176500	364	1945-55, 1957-81, 1983, 1986, 1989-90
Candy Creek near Wolco, OK	07176800	30.6	1978-80
Bird Creek near Skiatook, OK	07176910		1948-50, 1952-53
Hominy Creek near Hominy, OK	07176950		1949-53, 1955
Hominy Creek near Skiatook, OK	07177000	340	1944-55, 1957-71, 1977-78, 1980-81, 1983, 1986
Hominy C Bl Skiatook Lk near Skiatook, OK	07177410	354	1988-89
Bird Creek at 66th Street near Tulsa, OK	07177600	967	1988-90
Flat Rock Creek at Cincinnati Ave at Tulsa, OK	07177650	8.2	1988-89
Flat Rock Creek at Us Hwy 75 at Tulsa, OK	07177700	22.6	1988-90
Bird Creek near Owasso, OK	07178000	1,022	1948-50, 1987-90
Mingo Creek at 46th Street North at Tulsa, OK	07178040	59.9	1987-98
Bird Creek near Catoosa, OK	07178050	1,080	1963-90
Verdigris River near Inola, OK	07178600	7,911	1940-71, 1976-79
Verdigris River (Newt Graham L&D) near Inola, OK	07178620	7,911	1971-86
Verdigris River near Okay, OK	07178670		1959-63
Neosho River near Commerce, OK	07185000	5,876	1944-54, 1959-73, 1975-83, 1985-89
Tar Creek at 22nd Street Bridge at Miami, OK	07185095	44.7	1988-92, 2000
Spring River near Quapaw, OK	07188000	2,510	1948-58 1960-63 1976-80 1986 1988-89 2000

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Neosho River near Langley, OK	07190500	10,335	1944-47, 1949-51, 1956-59, 1975-80, 1988
Big Cabin Creek near Welch, OK	07190590	28.1	1979-83
Big Cabin Creek Tributary Blw Wolfe Ck near Welch, OK	07190597		1980-83
West Fork Big Cabin Creek near Centralia, OK	07190620	13.1	1979-83
Middle Fork Big Cabin Creek near Centralia, OK	07190622		1979-80
Middle Fork Big Cabin Creek near Pyramid Corners, OK	07190625	13.4	1979-83
Big Cabin Creek near Vinita, OK	07190650		1944, 1949-51, 1980
Little Cabin Creek near Vinita, OK	07190850		1948-51
Big Cabin Creek near Big Cabin, OK	07191000	450	1948, 1951-60, 1964-71, 1975-77, 1985-89
Spavinaw Creek near Jay, OK	07191223		1958-61
Spavinaw Creek near Spavinaw, OK	07191310		1944, 1948-51
Salina Creek near Salina, OK	07191350		1948-53, 1958-59
Neosho River near Chouteau, OK	07191500	11,534	1921, 1940-48, 1950-58, 1960, 1975-80
Pryor Creek near Pryor, OK	07192000	229	1942-44, 1948-58, 1960-63
Pryor Creek at Elliot St Br near Pryor, OK	07192030		1947, 1966-71
Pryor Creek at Hwy 69a near Pryor, OK	07192050		1962-63
Pryor Creek Blw Sulfur Creek near Pryor, OK	07192060		1966-74
Neosho River near Wagoner, OK	07192500	12,307	1930-31, 1938-50
Neosho River below Fort Gibson Lake near Fort Gibson, OK	07193500	12,495	1952-93
Arkansas River near Muskogee, OK	07194500	96,674	1943-71, 1976-80
Bayou Manard near Fort Gibson, OK	07194512		1960-61
Greenleaf Creek near Braggs, OK	07194545		1951-55
Illinois River at Savoy, AR	07194800	167	1968, 1974-91
Illinois River near Pedro, AR	07194830		1996-01

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Illinois RIver at Siloam Springs, AR	07195400	509	1984-94 1996-01
Illinois River South of Siloam Springs, AR	07195430		1972-81
Illinois River abv. Flint Creek near Flint, OK	07195610		1996-00
Flint Creek at Springtown, AR	07195800	14.2	1975-79
Flint Creek North of Siloam Springs, AR	07195850		1972-81
Illinois River blw. Flint Creek near Flint, OK	07196040		1996-00
Illinois River near Moodys, OK	07196320		2001-02
Illinois River at No Head Hollow near Tahlequah, OK	07196400		1996-00
Illinois River near Briggs, OK	07196490		1996-00
Tahlequah Creek at Tahlequah, OK	07196510	13.4	1976-77
Illinois River near Park Hill, OK	07196520		1996-02
Illinois River blw. Tahlequah Creek near Tahlequah, OK	07196513		1997-99
Peacheater Creek at Christe, OK	07196973	25	1991-93
Baron Fork at Welling, OK	07197080		1996-01
Illinois River near Barber, OK	07197360		1997-02
Dirty Creek near Warner, OK	07198500	227	1940-46, 1960-61, 1977
South Fork near Porum, OK	07198800		1979-82
Canadian River near Roll, OK	07228200	23,615	1950, 1953, 1961-63, 1974, 1976-77
Canadian River near Taloga, OK	07228250		1938-45
Deer Creek at Hydro, OK	07228400	274	1959-63, 1978-80, 1989
Canadian River at Bridgeport, OK	07228500	25,276	1949-61, 1964, 1970-92
Canadian River near Union City, OK	07228700		1953, 1973
Canadian River Trib near Newcastle, OK	07228960	3.32	1938-45
Canadian River near Noble, OK	07229100	25,911	1963-75
Canadian River at Purcell, OK	07229200	25,939	1953, 1959-63, 1974-80, 1985-90
Walnut Creek at Purcell, OK	07229300	202	1949-50, 1952-53, 1959-61, 1973, 1975-77, 1985-90

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Canadian Sandy Creek near Ada, OK	07229427		1986-88
Elm Creek near Moore, OK	07229441		1959-61
Little River Abv Lake Thunderbird near Norman, OK	07229460		1984-85
Little River near Norman, OK	07229500	120	1953, 1956, 1960-61
Clear Creek near Norman, OK	07229601		1960-61
Hog Creek near Stella, OK	07229801		1959-61
Little River Blw Lk Thunderbird near Norman, OK	07230000	257	1953-65, 1975-80, 1985-90
Little River near Tecumseh, OK	07230500	456	1944-64, 1967-70, 1972-75, 1986-90
Little River near Harjo, OK	07230531		1960-61
Little River near Maud, OK	07230558		1960-61
Little River near Bowlegs, OK	07230597		1960-61, 1983-88
Salt Creek near Pearson, OK	07230700		1959-61
Salt Creek near St Louis, OK	07230731		1959-61
Salt Creek near Dewright, OK	07230800	210	1959-63
Little River near Sasakwa, OK	07231000	865	1951-92
Canadian River at Calvin, OK	07231500	27,952	1944, 1951-53, 1960-61, 1965-95
Gaines Creek near Higgins,OK	07231955	152	1978-93
Pit Creek near Gowen, OK	07231958	5.74	1990-91
Pit Creek near Hartshorne, OK	07231959	8.95	1991-93
Gaines Creek near Gowen, OK	07231960	182	1990-93
Ti Creek near Blanco, OK	07231965	4.82	1980-81
Brushy Creek near Haileyville, OK	07231975	139	1978-81
Peaceable Creek near Haileyville, OK	07231990	134	1978-82
Gaines Creek near Krebs, OK	07232000	588	1944-47, 1949-55, 1959-62
Blue Creek Tributary A near Blocker, OK	07232008		1978-81
Blue Creek Tributary B near Blocker, OK	07232009	0.22	1975-80
Blue Creek near Blocker, OK	07232010	12.1	1975-81
Deer Creek near Mcalester, OK	07232024	38.3	1978-81
Coal Creek near Mcalester, OK	07232027		1960-61
Mathuldy Creek near Crowder, OK	07232029	5.41	1975-81
Rock Creek near Crowder, OK	07232031		1960-61
Gaines Creek near Canadian, OK	07232050		1959-62

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Beaver River near Guymon, OK	07232500	2,139	1937-65, 1967-77, 1988, 1990
Beaver River near Hooker, OK	07232630	3,017	1972-73, 1975, 1977, 1979
Coldwater Creek near Hardesty, OK	07233000	1,967	1939-64
Beaver River near Hardesty, OK	07233210	5,029	1938-39, 1979-82
Palo Duro Creek near Range, OK	07233700	1,745	1953-54, 1959-62
Beaver River at Beaver	07234000	7,955	1952, 1958-59, 1962-63 1968-94
Clear Creek near Elmwood, OK	07234100	170	1987-90
Kiowa Creek near Slapout, OK	07234200	371	1953-54, 1959-60, 1980
Clear Creek near May, OK	07234300	109	1953-54, 1960
Beaver River near Fort Supply, OK	07234500	9,615	1939-51, 1957, 1976
Wolf Creek near Shattuck, OK	07235500	1,183	1938-46
Wolf Creek near Fargo, OK	07236000	1,624	1941-64, 1967-68, 1971-72, 1976, 1978
Wolf Creek near Fort Supply, OK	07237000	1,739	1938-63, 1971, 1973, 1979, 1987-90
North Canadian River at Woodward, OK	07237500	11,589	1955, 1958-59, 1961-63, 1975-95
North Canadian River near Seiling, OK	07238000	12,261	1943-44, 1946-72, 1974-83, 1987-90
North Canadian River at Canton, OK	07239000	12,484	1938-68, 1971-80, 1986-90

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
North Canadian River near Watonga, OK	07239200	12,692	1943-44, 1949-51, 1954-57, 1959, 1963, 1965
North Canadian R Blw Weavers Ck near Watonga, OK	07239300	12,736	1985-90
North Canadian River near Yukon, OK	07239700	13,183	1952-53, 1974, 1988-89
Lake Hefner Canal near OK City, OK	07240000		1979, 1988
North Canadian River near OK City, OK	07241500	13,354	1940, 1942, 1944-50, 1952, 1959-63, 1973, 1975
North Canadian River at NE 36th St at OKC, OK	07241503	13,356	1988-91
North Canadian River near Jones, OK	07241530		1973, 1982
North Canadian River near Shawnee, OK	07241700		1973, 1979-80
North Canadian River near Wetumka, OK	07242000	14,290	1944, 1952-95
Wewoka Creek at Wewoka, OK	07242050		1961-63
Little Wewoka Creek near Wetumka, OK	07242080		1960-63, 1978
Grief Creek near Wetumka, OK	07242090		1961-63
Wewoka Creek near Wetumka, OK	07242100	396	1926, 1950-64, 1984
Fish Creek near Wetumka, OK	07242109		1960-61
North Canadian River near Pierce, OK	07242190	17,712	1959-63
Deep Fork at Portland Ave, OK City, OK	07242200	2.98	1979-80
Deep Fork at Eastern Ave, OK City, OK	07242220	28.2	1973-74
Deep Fork near Witcher, OK	07242250		1959, 1973
Deep Fork at Witcher, OK	07242300		1960-62, 1975-76
Deep Fork near Arcadia, OK	07242350	105	1907, 1969-89
Deep Fork at Warwick, OK	07242380	532	1985-90
Deep Fork near Chandler, OK	07242400		1959-62, 1980

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Bellcow Creek at Chandler, OK	07242500	46	1948-50, 1953-54, 1979-80
Deep Fork near Stroud, OK	07242900		1979, 1991
Dry Creek near Kendrick, OK	07243000	69	1960, 1965-68, 1970-71, 1973-74, 1979, 1985-89
Little Deep Fork near Edna, OK	07243450		1951-57, 1960-62
Deep Fork near Beggs, OK	07243500	2,018	1952-93
Deep Fork near Dewar, OK	07244000	2,307	1938-51, 1960-65, 1979
Deep Fork near Pierce, OK	07244200		1959-63
North Canadian River near Eufaula, OK	07244500	17,657	1952-53, 1959-61
Canadian River near Whitefield, OK	07245000	47,576	1900, 1938-90
Taloka Creek at Stigler, OK	07245020	3.98	1921, 1974, 1978-81
Taloka Creek Trib near Stigler, OK	07245025		1978-81
Taloka Creek near Stigler, OK	07245030	20.1	1978-81
Jackson Creek near Stigler, OK	07245040		1980-81
Little Vian Creek near Vian, OK	07245119		1958-60
Sallisaw Creek near Sallisaw, OK	07245500	182	1959-63, 1976-77
Sans Bois Creek near Kinta, OK	07245703		1960-61
Mule Creek at Sr 31 near McCurtain, OK	07245980	3.64	1981-82
Mule Creek, Upper Gage, near McCurtain, OK	07245990	6.45	1980-83
East Pond Outlet to Mule Creek near McCurtain, OK	07245991		1980-83
Mule Creek, Middle Gage, near McCurtain, OK	07245992	6.49	1981-83
Mule Creek, Lower Gage, near McCurtain, OK	07245994	6.74	1980-83
Sans Bois Creek near Keota, OK	07246000	346	1938-42, 1958-63
Arkansas River near Sallisaw, OK	07246500	14,7757	1943-72
Cache Creek near Cowlington, OK	07246600	20.6	1958-61
Coal Creek near Spiro, OK	07246615	15.4	1910, 1978-81
Poteau River East Of Waldron, AR	07246940	15	1983-96
Poteau River Northwest Of Waldron, AR	07246950	46.1	1983-96
Poteau River near Hon, AR	07246960	69.5	1993-96

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Jones Creek near Hon, AR	07246980	93.6	1993-96
Poteau River at Cauthren, AR	07247000	203	1945-61 1975-79 1991-98
Poteau River South Of Bates, AR	07247012		1972-83
Poteau River at Hontubby, OK	07247025	301	1992
Fourche Maline near Wilburton, OK	07247450	56.2	1978-81
Fourche Maline near Red Oak, OK	07247500	122	1954, 1954, 1956-60, 1978-79, 1992-96
Red Oak Creek near Red Oak, OK	07247550	12.8	1978-81
Poteau River near Wister, OK	07248500	993	1938-40, 1942, 1944-50, 1954-60, 1975-80, 1986
Caston Creek at Wister, OK	07248600	72.9	1975, 1977-81
Morris Creek at Howe, OK	07248620	19.4	1908, 1978-81
Sugarloaf Creek near Monroe, OK	07248700	53.6	1978-81
Poteau River at Poteau, OK	07249000	1,240	1938, 1940-42, 1944
Brazil Creek near Red Oak, OK	07249060	2.74	1978-81
Rock Creek near Red Oak, OK	07249070	12	1978-81
Brazil Creek near Lodi, OK	07249073		1980-81
Brazil Creek near Walls, OK	07249080	69.1	1978-81, 1984-86
Owl Creek near McCurtain, OK	07249100	27.9	1978-81
Brazil Creek near Panama, OK	07249200		1959-61
James Fork near Williams, OK	07249410	198	1976-81
Poteau River near Panama, OK	07249413	1,767	1993-98
Coal Creek Tributary near Bokoshe, OK	07249415	1.26	1976-79
Coal Creek near Panama, OK	07249419	6.67	1976-79
Holi-tuska Creek near Panama, OK	07249422	4.39	1978-81
Poteau River near Braden, OK	07249438		1958-59, 1961-63
Poteau River near Fort Smith, AR	07249440		1972-79
Lee Creek near Short, OK	07249800	236	1958-61, 1975-77
Little Lee Creek near Short, OK	07249900		1960, 1977-79

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Arkansas River at L&d #13 near Van Buren, AR	07250550	150,547	1975-77
08N-06E-26 DDA 1	350756096380501		1978, 1980
08N-06E-23 AAD 1	350924096380401		1978, 1980
09N-05E-23 BBB 1	351440096452001		1974-75
09N-06E-13 DDA 1	351455096370401		1978-79
09N-05E-16 ADD 1	351518096464001		1978-79
09N-06E-17 BBA 1	351538096421101		1978-79
09N-06E-09 CDC 1	351540096405801		1978-79
09N-06E-10 DAA 1	351601096391301		1978-79
09N-06E-04 BCA 1	351706096410801		1978-79
09N-06E-03 AAB 1	351723096392301		1978-79
Squirrel Creek near Shawnee, OK	351815096544301		1983-84
North Canadian River at Shawnee Bridge	351857096553001		1983-84
North Canadian River East of Shawnee, OK	351959096520901		1983-84
North Canadian River Above Lake Eufaula, OK	352305095531001		1983-84
N Canadian River near Prague, OK	352359096401201		1983-84
North Canadian River West of Okemah, OK	352546096242701		1983-84
North Canadian River at 63rd St Bridge, OK City, OK	353211097222501		1983-84
Sallisaw Creek at Bunch, OK	354035094452001		1958-59
Bear Creek near Fallis, OK	354512097075301		1953-55
Eagle Creek near Hectorville, OK	355032095580401		1907, 1979
Tributary to Campbell Creek near Cashion, OK	355032097431501	3.15	1986, 1988
Campbell Creek near Cashion, OK	355032097432301	22.6	1986-88
Pawnee Creek near Crescent, OK	355125097371501	13.1	1986, 1988
Gar Creek near Guthrie, OK	355217097315601	10.6	1986-88
Cox Creek near Crescent, OK	355217097361901	7.47	1986, 1988
Kingfisher Creek near Kingfisher, OK	355342097541001	501	1986-88
Bird Creek near Kingfisher, OK	355415097464801	8.5	1986-88
Trail Creek near Kingfisher, OK	355421097521601	16.1	1986-87
Baron Fork near Baron, OK	355510094371001		1958-59
East Fork Sooner Creek near Crescent, OK	355540097440701	11.2	1986-88
West Fork Sooner Creek near Crescent, OK	355540097442301	9.79	1986-88
Treaty Creek near Loyal, OK	355810097590501	6.86	1986, 1988
Turkey Creek at Dover, OK	355842097551201	428	1986-88
Cooper Creek near Dover, OK	355902097594501	116	1986-88
Ballard Creek at Ballard, OK	360540094352001		1958-59

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
Indian Creek near Ringwood, OK	361723098175701	75.4	1986-89
Sand Creek near Fairview, OK	361835098252601	41.8	1986-88
Gypsum Creek near Fairview, OK	361901098260701	13.8	1986, 1988
Cherokee Creek near Sycamore, OK	361919094394501		1980-81
Spavinaw Creek near Jay, OK	362059094470601		1980-81
Beaty Creek near Sycamore, OK	362119094463001		1980-81
Cheyenne Creek near Orienta, OK	362137098370501	38.8	1986, 1988
Cottonwood Creek at Orienta, OK	362150098282301	54.3	1986, 1988
Barney Creek near Orienta, OK	362414098420201	41.1	1986, 1988
Griever Creek near Waynoka, OK	362446098470001	88.8	1986, 1988
West Creek near Waynoka, OK	362933098554201	31.9	1986, 1988
24N-23E-08 B1 OWRB 24R, Well on Monkey	363324094502501		1980-81
Sand Creek near Belva, OK	363436098590301	54.1	1986, 1988
Chimney Creek near Belva, OK	363731099015301	27.5	1986, 1988
Doe Creek near Freedom, OK	363823099065201	14.2	1986, 1988
Long Creek near Freedom, OK	364244099070801	53.1	1986, 1988
Anderson Creek near Freedom, OK	364521099053901	34.5	1986, 1988
27N-23E-05 BDA 1 OWRB 22B, Neosho R near I-44	365108094511801		1980-82
27N-23E-06 AAD 1 WRB 22a, Neosho R Ab Tar C	365112094514401		1980-82
27N-23E-05 BBB 1 OWRB 22, Tar C Ab Neosho R	365118094513201		1981-82
28N-23E-30 Ddd 1 OWRB 21, Tar C at Hwy 10	365215094514001		1980-81
28N-23E-30 Ddb 1 OWRB 20, Tar C at Central	365230094514301		1980-82, 1984
28N-23E-30 Aac 1 Tar C at Rockdale Blvd	365255094514301		1984-85
28N-23E-19 Abb 1 OWRB 16, Tar C at 22nd Ave	365359094520401		1980-81, 1984-86
28N-23E-18 Abb 1 OWRB 14b, Tar C Blw Spring	365451094520401		1981-82
28N-22E-07 CAA 1 OWRB 14a, Weir Blw Site 14	365522094521301		1981, 1984
28N-23E-09 BCC 1 OWRB 15, Garrett C	365523094503201		1980, 1985
28N-23E-07 BBD 1 OWRB 13, Cactus Mine Disch	365533094522801		1979-83
28N-23E-05 CCC 1 OWRB 5, Tar C near Commerce	365544094513201		1980, 1984-85

Station name	Station number	Drainage area (mi^2)	Period of record
ARKANSAS RIVER BASIN			
29N-23E-31 DCD 1 OWRB 10, Tar C at Hwy 66	365637094511201		1980-82, 1984-85
29N-23E-32 BCA 3 Tar C Below Mine Trib	365710094504401		1984-85
29N-23E-32 BCA 1 Mine Trib at Tar C, South	365714094504401		1983-85
29N-23E-32 BBD 2 Mine Trib Pond	365715094504301		1984-85
29N-23E-32 BBD 3 Outflow from Mine Trib Pd	365715094504302		1984-85
29N-23E-32 BAC 1 Mine Trib S of Rr Culvert	365720094503801		1983-85
29N-23E-32 BAB 1 1132 M from Rr Borehole	365723094503511		1984-85
29N-23E-32 BAB 3 138 M from Rr Borehole	365723094503513		1984-85
29N-23E-32 BAB 20 Mine Trib, N of Rr Culvert	365723094503520		1984-85
29N-23E-29 CDC 3 Lavrion Tailings Pond/col	365730094503301		1984-85
29N-23E-29 CCD 1 OWRB 4t, Tailings Runoff	365730094504601		1980-81, 1985
29N-23E-29 CCD 3 OWRB Site 4 Tar C at Lytl	365732094504400		1980-82
29N-23E-29 CCD 2 OWRB Site 4a Tar C Ab Lyt	365732094504401		1980-82
29N-23E-29 CAC 2 Lytle C 400 M Ab Site 4	365744094503200		1981, 1985
29N-23E-29 CAC 1 Collapse W of Lytle C	365744094503201		1984-85
29N-23E-29 BCA 1 Tar C Above Mine Disch	365807094504301		1984-85
29N-23E-29 ABD 1 Lytle C Above Mine Disch	365811094501301		1984-85
29N-23E-18 AAC 1 OWRB 7, Tar C at State Ln	365956094510701		1980-82, 1984-85
34S-23E-35 DDC 1 Tar C at Rt 166	370153094511101		1984-85

INTRODUCTION

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

Volumes 1 and 2 of this report includes records on both surface water and ground water in the State. Specifically they contain: (1) Discharge records for 138 streamflow-gaging stations, and 38 partial-record or miscellaneous streamflow stations, (2) stage and content records for 18 lakes , reservoirs and gage height records for 2 stations; (3) water-quality records for 55 streamflow-gaging stations; (4) water-level records for 4 observation wells.

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

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

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report OK-04-1" For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports also will be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

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

COOPERATION

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

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

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

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

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

Organizations that supplied data are acknowledged in the station descriptions.

SPECIAL NETWORKS AND PROGRAMS

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

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

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

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

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

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

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

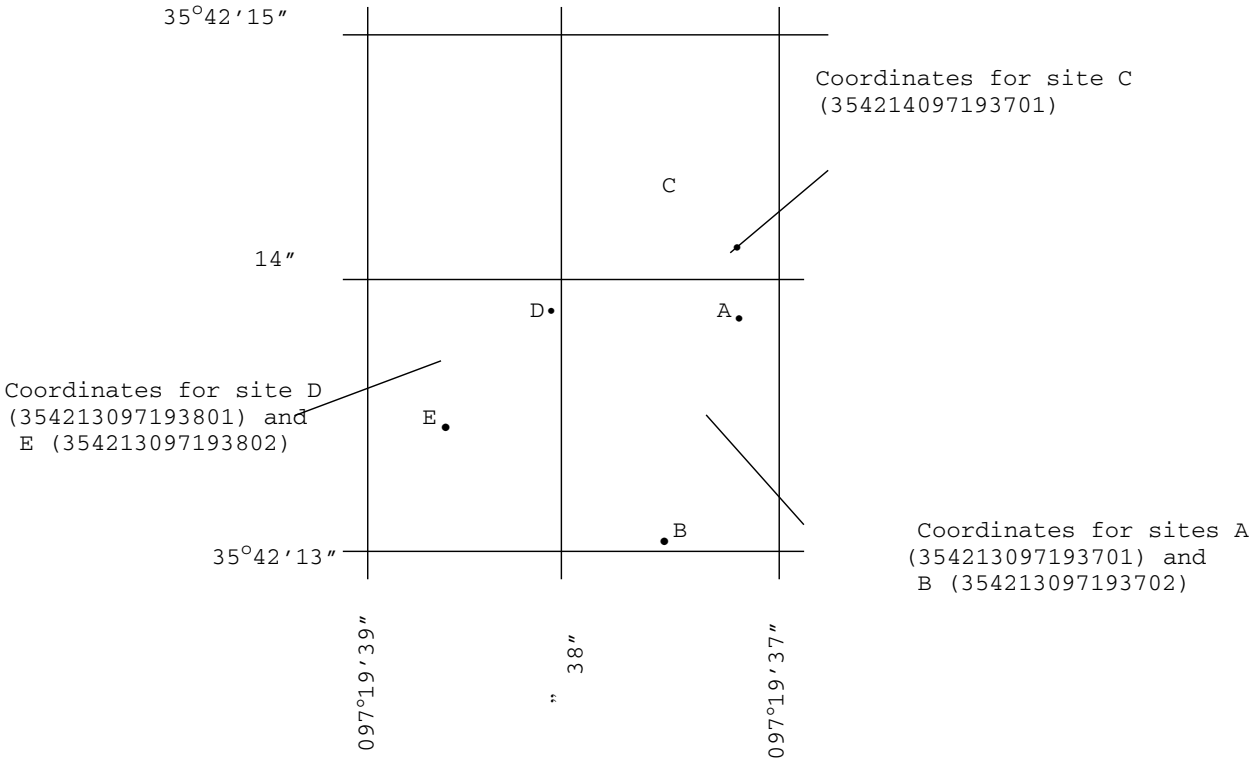

Fig.1: System for numbering miscellaneous and ground-water sites (latitude and longitude)

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 2004 water year that began Oct. 1, 2003 and ended Sept. 30, 2004. 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 2-4. 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.

DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 07152500, which appears just to the left of the station name, includes a 2-digit part number “07” plus the 6-digit (or 8-digit) downstream order number “152500.” In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

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

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 2.

Data Collection and Computation

The base data collected at gaging stations (fig. 2) consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRIs), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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

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

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

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

At some stream-gaging stations in the northern United States, the stage-discharge relation is affected by ice in the winter; therefore, computation of the discharge in the usual

manner is impossible. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter-discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge from other stations in the same or nearby basins.

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

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

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

Data Presentation

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

Station Manuscript

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

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

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

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

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

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

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

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

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

USGS.

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

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

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

Peak Discharge Greater than Base Discharge

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

Data Table of Daily Mean Values

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

Statistics of Monthly Mean Data

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

Summary Statistics

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

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-

period column may not be within the selected water years listed in the heading. When the dates of occurrence do not fall within the selected water years listed in the heading, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration-curve statistics and runoff data also are given. Runoff data may be omitted if extensive regulation or diversion of flow is in effect in the drainage basin.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Identifying Estimated Daily Discharge

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

Accuracy of Field Data and Computed Results

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

of discharge, and interpretations of records.

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

Values of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft^3/s; to the nearest tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 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 discharge values listed for partial-record stations.

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

Other Data Records Available

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

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

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

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

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

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

Water Analysis

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

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

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

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

SURFACE-WATER-QUALITY RECORDS

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

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A *continuous-record station*

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

A careful distinction needs to be made between *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 3.

Rating classifications for continuous water-quality records

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit

Accuracy of the Records

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

Rating classifications for continuous water-quality records

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured physical property	Rating			
	Excellent	Good	Fair	Poor
Water temperature	≤ 0.2°C	> 0.2 to 0.5°C	> 0.5 to 0.8°C	> 0.8°C
Specific conductance	≤ 3%	> 3 to 10%	> 10 to 15%	> 15%
Dissolved oxygen	≤ 0.3 mg/L	> 0.3 to 0.5 mg/L	> 0.5 to 0.8 mg/L	> 0.8 mg/L
pH	≤ 0.2 unit	> 0.2 to 0.5 unit	> 0.5 to 0.8 unit	> 0.8 unit
Turbidity	≤ 5%	> 5 to 10%	> 10 to 15%	> 15%

Arrangement of Records

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

On-Site Measurements and Sample Collection

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

Water Temperature

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

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

Sediment

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

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

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

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

Laboratory Measurements

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

Data Presentation

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

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

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

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

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

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

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

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

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

record and for the current water year.

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

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

Remark Codes

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

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

Water-Quality Control Data

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

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

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

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

Blank Samples

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

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

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

Equipment blank—A blank solution that is processed through all equipment used for collecting and processing an

environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

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

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

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

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

Reference Samples

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

Replicate Samples

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

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

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

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

Spike Samples

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

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

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

Site Identification Numbers

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude.Data Collection and Computation

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

Most methods for collecting and analyzing water samples are described in the TWRIs referred to in the On-site Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1 through A9. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface

at each well. If known, the elevation of the land-surface datum above sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

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

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or county well number. Well locations are shown in figure 4*;* each well is identified on the map by its local well or county well number.

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

The following comments clarify information presented in these various headings.

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

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

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

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

DATUM.—This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above National Geodetic Vertical Datum of 1929 (NGVD 29); it is reported with a precision depending on the method of determination.

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

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

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

Water-Level Tables

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

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

Hydrographs

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

failures, or mechanical problems related to the response of the recorder's float mechanism to water-level fluctuations in a well.

GROUND-WATER-QUALITY DATA

Data Collection and Computation

The ground-water-quality data in this report were obtained as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some wells within a county but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide.

Most methods for collecting and analyzing water samples are described in the TWRIs. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS District office (see address shown on back of title page in this report).

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance, and dissolved oxygen are performed on site. All other sample analyses are performed at the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used by the USGS laboratory are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4.

ACCESS TO USGS WATER DATA

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

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

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Definitions of common terms such as algae, water level, and precipitation are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting inch/pound units to International System (SI) units on the inside of the back cover.

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

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

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

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

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

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

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

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

Artificial substrate is a device that 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 collected. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection. (See also "Substrate")

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

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

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

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

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

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

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

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

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

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

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

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

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

Blue-green algae (*Cyanophyta*) 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. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also "Phytoplankton")

Bottom material (See "Bed material")

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of

the material including the dissolved solids content of the pore water and lithology and porosity of the rock.

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

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere $4/3\ \pi r^3$ cone $1/3\ \pi r^2 h$ cylinder $\pi r^2 h$.

pi (π) is the ratio of the circumference to the diameter of a circle; pi = 3.14159….

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

Cfs-day (See "Cubic foot per second-day")

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

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

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

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

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

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

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

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

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

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

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

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

Cubic foot per second per square mile [CFSM, $(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also "Annual runoff")

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

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

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

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

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

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. (See also "Phytoplankton")

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

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

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

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

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

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

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

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

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface

runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

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

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

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

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

Enterococcus bacteria are commonly found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis, Streptococcus feacium, Streptococcus avium,* and their variants. (See also "Bacteria")

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

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

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

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

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

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

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

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

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

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

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

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

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

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

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

Green algae 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. (See also "Phytoplankton")

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

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

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. *See NOAA web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

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

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

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

Horizontal datum (See "Datum")

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

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

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

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

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

Laboratory reporting level (LRL) is generally equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. [Note: In several previous NWQL documents (NWQL Technical Memorandum 98.07, 1998), the LRL was called the nondetection value or NDV—a term that is no longer used.]

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

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

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

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

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

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

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

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

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *See NOAA web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

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

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

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

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

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

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

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

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

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

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

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

Micrograms per kilogram (UG/KG, µg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

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

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

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

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

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

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

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

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

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

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

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

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

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

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

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

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

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Phytoplankton is the plant part of the plankton. They 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 commonly are known as algae. (See also "Plankton")

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

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

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

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

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

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

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

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [mg O/(m^2/time)] for periphyton and macrophytes or per volume [mg O/(m^3/time)] for phytoplankton. The oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of

about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

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

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

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

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

Return period (See "Recurrence interval")

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stage (See "Gage height")

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

ence, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended")

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

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

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

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

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

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

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

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

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a 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*

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

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

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

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

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in

solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

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

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

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

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

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

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

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

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

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

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

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

Turbidity is the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved

methods for the measurement of turbidity in the USGS include those that conform to U.S. EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

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

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

Vertical datum (See "Datum")

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens.

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

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

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

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

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

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

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

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

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

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The U.S.G.S. 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.G.S., 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 made in the form of a 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 mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

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

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

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

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

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

Section E. Subsurface Geophysical Methods

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

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

Section F. Drilling and Sampling Methods

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

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

3–A1. *General field and office procedures for indirect discharge measurements,* by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.

3–A2. *Measurement of peak discharge by the slope-area method,* by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.

3–A3. *Measurement of peak discharge at culverts by indirect methods,* by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.

3–A4. *Measurement of peak discharge at width contractions by indirect methods,* by H.F. Matthai: USGS-TWRI book 3, chap. A4. 1967. 44 p.

3–A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS–TWRI book 3. chap. A5. 1967. 29 p.

3–A6. *General procedure for gaging streams,* by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.

3–A7. *Stage measurement at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.

3–A8. *Discharge measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.

3–A9. *Measurement of time of travel in streams by dye tracing,* by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.

3–Al0. *Discharge ratings at gaging stations,* by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.

3–A11. *Measurement of discharge by the moving-boat method,* by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.

3–A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and

F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.

3–A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.

3–A14. *Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.

3–A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.

3–A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.

3–A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.

3–A18. *Determination of stream reaeration coefficients by use of tracers,* by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.

3–A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.

3–A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.

3–A21 *Stream-gaging cableways,* by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

3B1. *Aquifer-test design, observation, and data analysis,* by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.

3–B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.

3–B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.

3–B4. *Regression modeling of ground-water flow,* by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.

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

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

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

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

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

Section C. Sedimentation and Erosion Techniques

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

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

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

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

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

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

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

Section B. Surface Water

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

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

Section D. Interrelated Phases of the Hydrologic Cycle

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

Book 5. Laboratory Analysis

Section A. Water Analysis

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

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

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

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

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

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

Section C. Sediment Analysis

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

Book 6. Modeling Techniques

Section A. Ground Water

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

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

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

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

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

6–A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A5,1996. 125 p.

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

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

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

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

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

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

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

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

Section B. Instruments for Measurement of Discharge

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

Book 9. Handbooks for Water-Resources Investigations

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

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

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

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

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

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

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

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

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

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

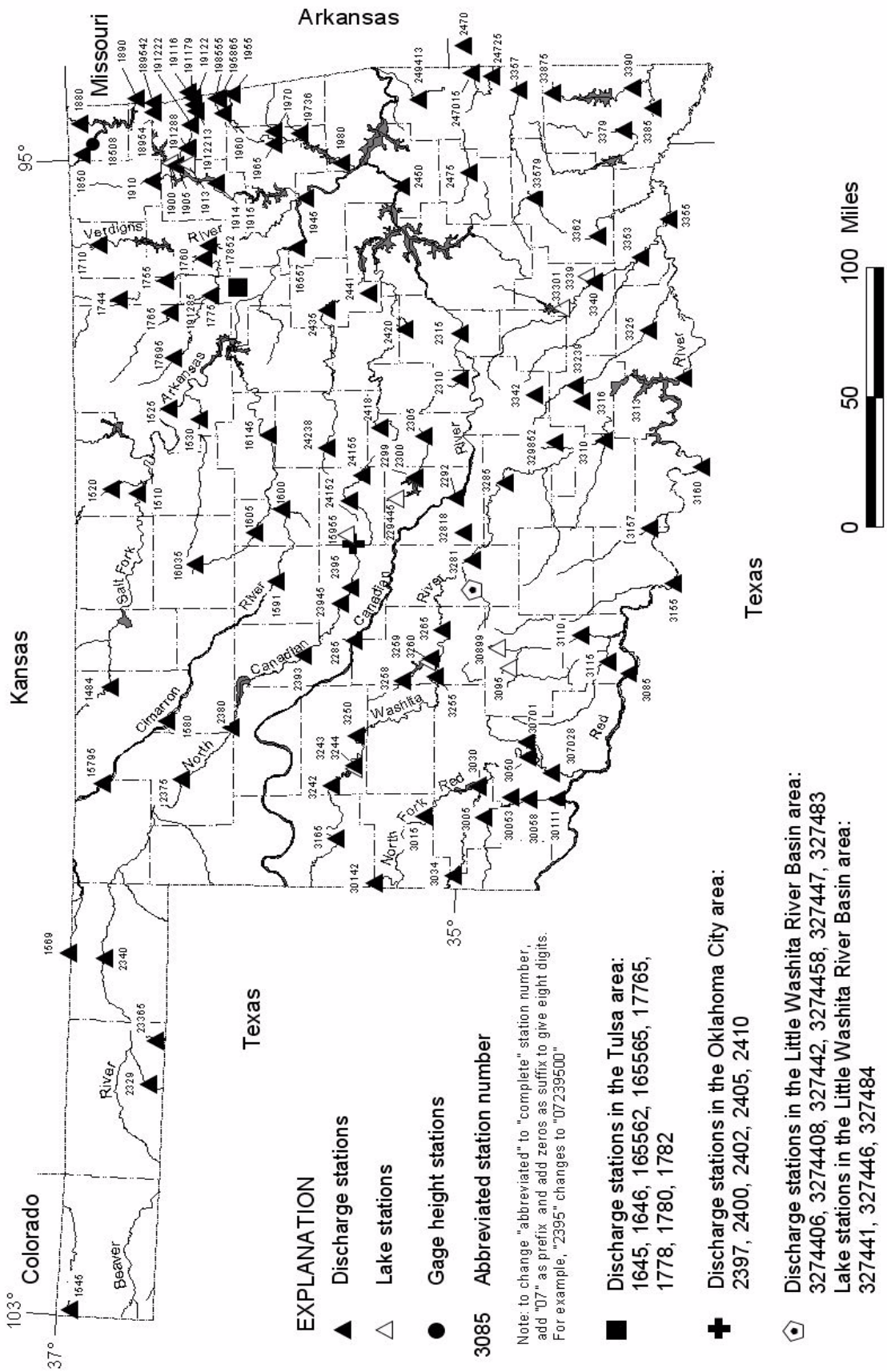


Figure 2.--Locations of continuous surface-water stations for water-year 2004.

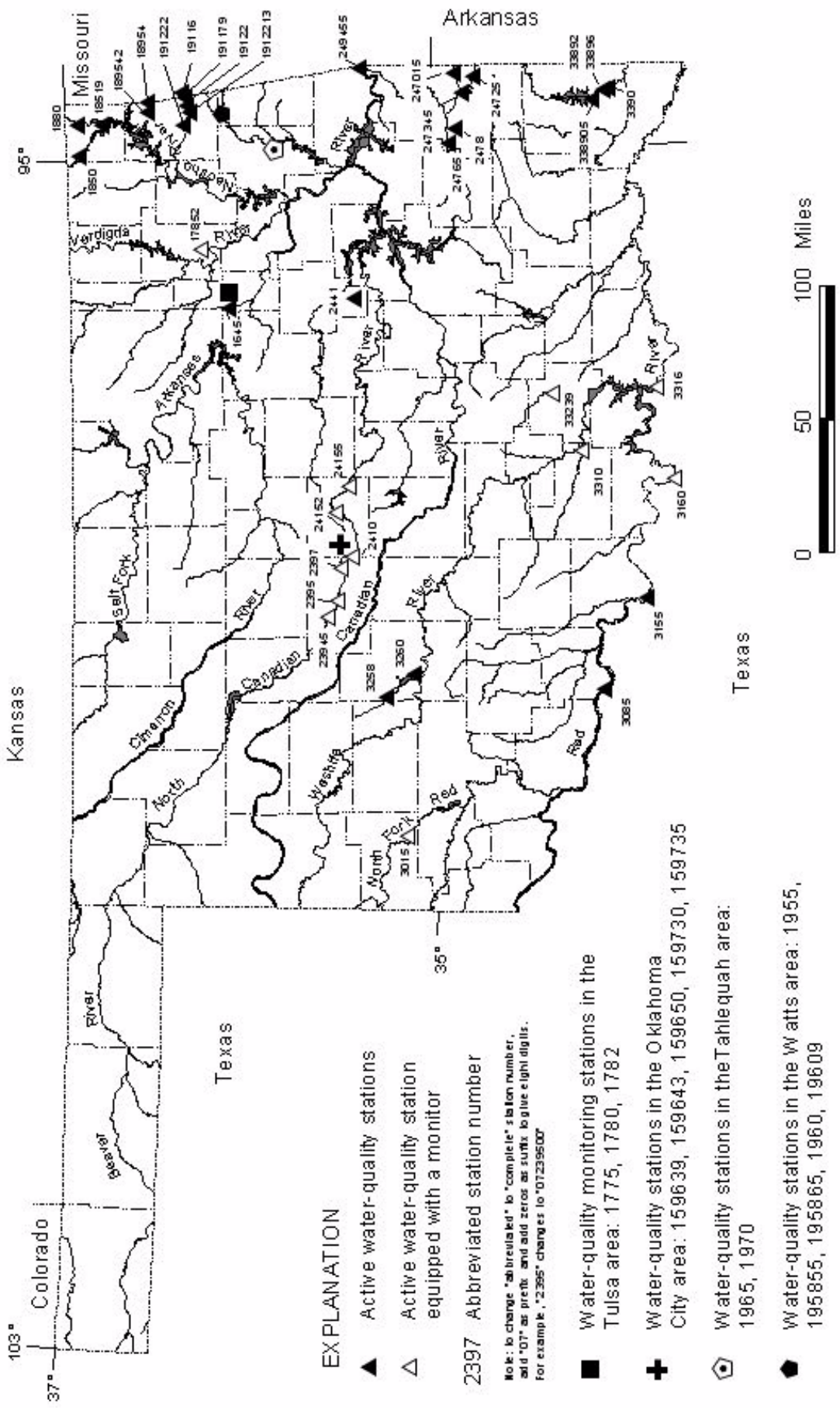


Figure 3.--Locations of water-quality stations for water-year 2004.

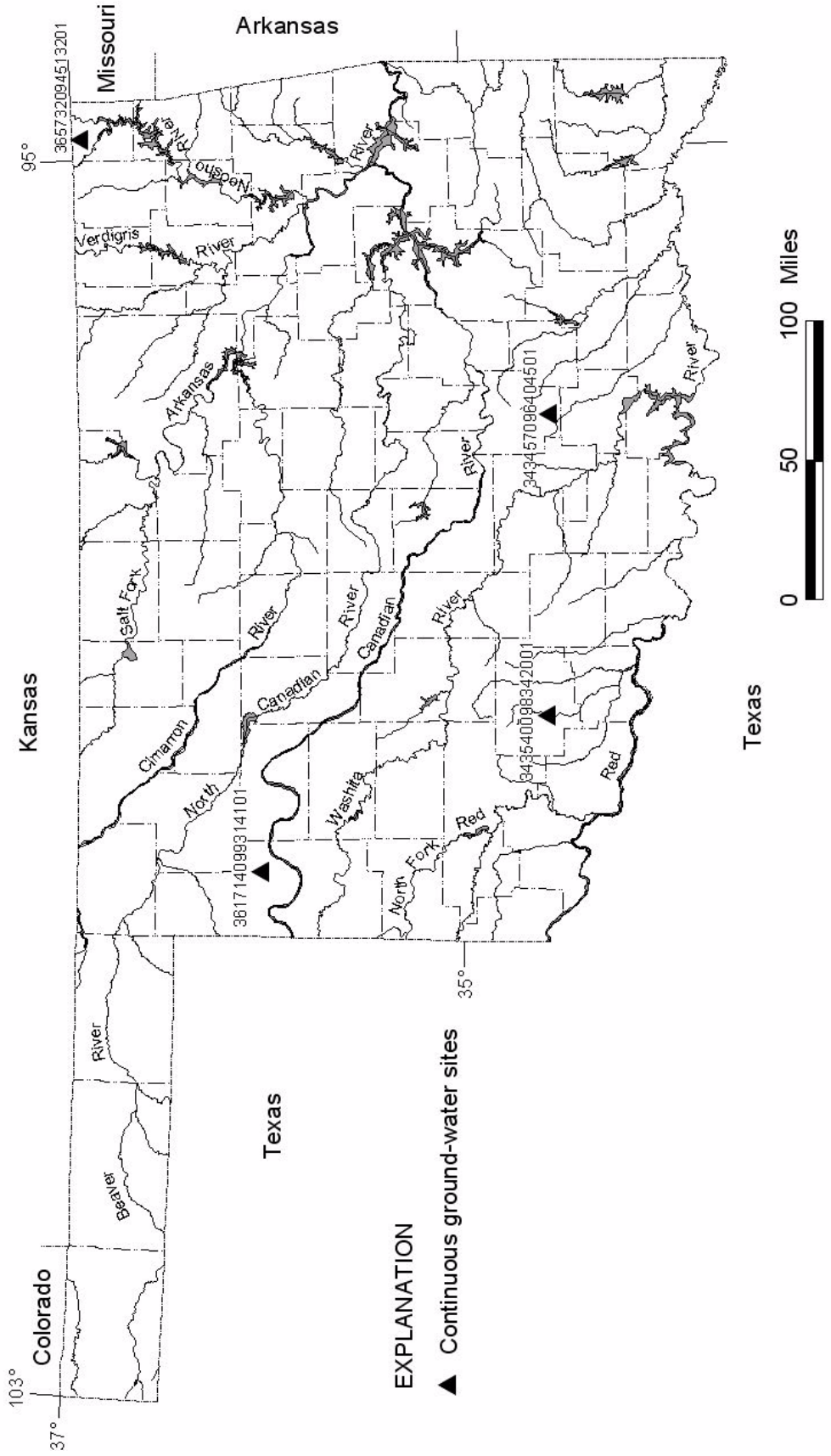


Figure 4.--Locations of ground-water wells for water-year 2004.

07148400 SALT FORK ARKANSAS RIVER NEAR ALVA, OK

LOCATION.--Lat 36°48'54", long 98°38'52", in SW ¼ SW ¼ sec.18, T.27 N., R.13 W., Woods County, Hydrologic Unit 11060002, at bridge on U.S. Highway 281, 1.0 mi northeast of Alva, 23.0 mi upstream from Medicine Lodge River, and at mile 141.0.

DRAINAGE AREA.--1,009 mi^2.

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

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 5	1030	*4,780	*12.44				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	33	35	51	e46	89	121	183	28	101	4.1	5.9
2	26	32	38	51	e45	101	120	178	26	102	3.4	3.3
3	25	37	38	49	e40	104	119	161	28	73	2.9	2.9
4	25	37	37	44	e50	611	118	152	29	47	4.0	2.9
5	26	31	35	e30	e50	3,730	115	143	29	40	2.9	3.9
6	25	32	34	e15	e40	1,370	115	133	32	291	2.4	3.5
7	24	34	35	e20	e50	665	117	125	26	184	2.4	3.6
8	25	37	37	38	e60	456	120	117	21	94	2.3	3.3
9	1,070	39	49	37	82	369	121	111	22	64	2.5	3.1
10	469	41	45	47	104	319	130	106	23	45	5.0	2.9
11	231	43	41	56	96	280	138	104	21	33	346	2.6
12	162	41	e38	55	80	250	142	101	19	26	243	2.5
13	127	38	e30	51	66	233	127	99	15	22	122	2.1
14	106	39	e26	50	61	220	116	103	12	19	55	1.9
15	93	42	e45	49	60	205	105	115	12	15	32	2.0
16	83	44	e70	51	61	190	104	101	12	13	22	1.9
17	74	43	71	91	63	190	102	95	11	13	17	1.8
18	66	41	62	102	68	189	98	92	26	11	11	1.4
19	63	33	54	109	70	183	100	86	20	10	11	1.2
20	60	34	48	98	69	178	233	78	60	8.5	10	1.2
21	54	35	49	89	62	168	365	69	120	7.7	7.3	2.3
22	51	36	53	81	61	158	348	56	127	6.1	5.9	2.9
23	49	32	50	77	63	152	327	49	79	6.0	5.9	19
24	48	31	47	78	60	148	578	48	51	8.2	26	26
25	42	34	49	73	56	145	393	46	37	8.4	15	8.0
26	38	39	51	62	56	146	299	44	29	8.0	6.2	3.8
27	38	39	53	e60	57	151	252	45	26	6.2	4.2	3.1
28	40	36	48	e51	59	154	224	42	30	5.4	3.5	3.0
29	39	37	45	e45	68	158	202	36	26	6.0	3.2	3.0
30	38	37	46	e27	---	136	202	36	94	5.4	9.1	2.8
31	35	---	49	e29	---	123	---	33	---	4.8	10	---
TOTAL	3,276	1,107	1,408	1,766	1,803	11,571	5,651	2,887	1,091	1,283.7	997.2	127.8
MEAN	106	36.9	45.4	57.0	62.2	373	188	93.1	36.4	41.4	32.2	4.26
MAX	1,070	44	71	109	104	3,730	578	183	127	291	346	26
MIN	24	31	26	15	40	89	98	33	11	4.8	2.3	1.2
AC-FT	6,500	2,200	2,790	3,500	3,580	22,950	11,210	5,730	2,160	2,550	1,980	253

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2004, BY WATER YEAR (WY)

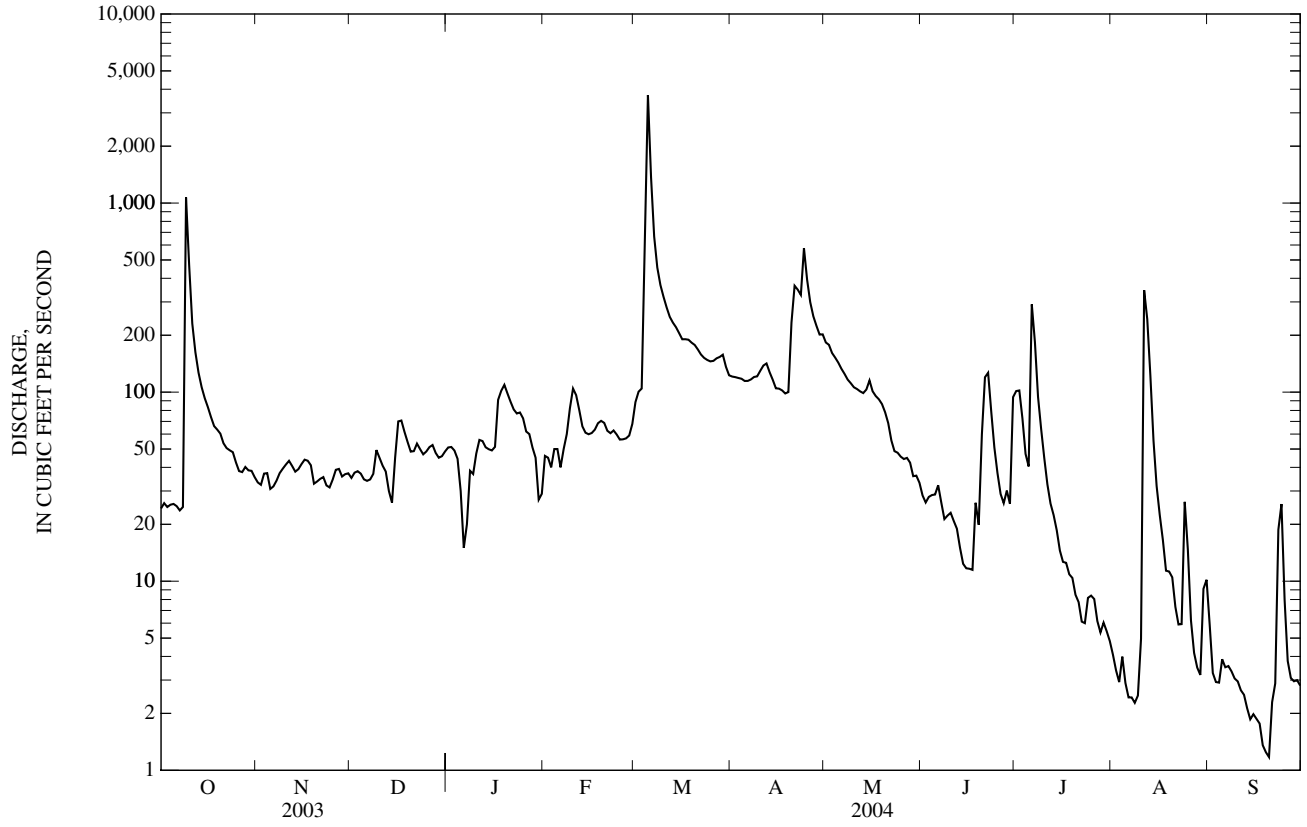
MEAN	116	102	73.6	80.4	99.8	204	204	256	233	118	91.1	70.7
MAX	620	542	251	269	227	822	620	856	689	411	598	557
(WY)	(1986)	(1999)	(1997)	(1998)	(1987)	(1987)	(1999)	(1993)	(1989)	(1982)	(1996)	(1996)
MIN	2.35	0.95	14.8	15.3	17.4	29.2	22.5	27.1	31.3	5.17	2.66	0.94
(WY)	(1992)	(1981)	(1981)	(1981)	(1981)	(1981)	(1981)	(1992)	(1994)	(1984)	(1980)	(1980)

e Estimated

07148400 SALT FORK ARKANSAS RIVER NEAR ALVA, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1980 - 2004	
ANNUAL TOTAL	32,528.0		32,968.7			
ANNUAL MEAN	89.1		90.1		a138	
HIGHEST ANNUAL MEAN					295	1999
LOWEST ANNUAL MEAN					40.5	1994
HIGHEST DAILY MEAN	1,210	Aug 31	3,730	Mar 5	7,880	Mar 24, 1987
LOWEST DAILY MEAN	2.0	Aug 17	1.2	Sep 19,20	b0.43	Aug 24, 1984
ANNUAL SEVEN-DAY MINIMUM	2.0	Aug 16	1.6	Sep 14	0.48	Aug 18, 1984
MAXIMUM PEAK FLOW			4,780	Mar 5	c12,800	Oct 10, 1985
MAXIMUM PEAK STAGE			12.44	Mar 5	15.24	Oct 10, 1985
ANNUAL RUNOFF (AC-FT)	64,520		65,390		99,620	
10 PERCENT EXCEEDS	164		178		287	
50 PERCENT EXCEEDS	62		46		66	
90 PERCENT EXCEEDS	3.7		4.1		6.5	

a Average discharge, water years 1938-51, 158 ft^3/s.
b No flow in several years 1939-48.
c Maximum discharge for period of record 27,000 ft^3/s, Oct. 23, 1941, from rating curve extended aove 13,000 ft^3/s.



07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, OK

LOCATION.--Lat 36°40'19", long 97°18'33", in NW $^1/_4$ SE $^1/_4$ sec.4, T.25 N., R.1 W., Kay County, Hydrologic Unit 11060004, on left bank near end of bridge on U.S. Highway 77 in Tonkawa, 4 mi downstream from Thompson Creek, 7.8 mi upstream from Chikaskia River, and at mile 33.8.

DRAINAGE AREA.--4,528 mi^2, of which 8 mi^2 is probably noncontributing.

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

REVISED RECORDS.--WSP 1117: Drainage area.

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

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 5	1530	*18,100	*19.44	Apr 25	1930	15,100	18.04

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	254	150	224	e450	299	1,140	2,560	253	729	194	110
2	130	217	153	201	e440	381	977	2,180	258	2,500	177	103
3	141	196	132	186	e420	503	864	1,860	281	e3,400	150	95
4	157	196	127	182	e400	4,470	806	1,590	211	e2,500	144	90
5	159	198	143	e160	e370	16,900	783	1,410	393	e1,600	131	86
6	166	211	149	e150	e350	12,900	754	1,270	773	e1,110	137	86
7	161	181	157	e145	e390	7,840	729	1,170	743	1,240	108	81
8	158	175	153	e150	e425	6,070	680	1,070	542	1,760	95	92
9	950	179	149	e170	429	4,920	661	966	504	1,600	88	87
10	4,430	177	155	e200	691	4,460	679	883	454	2,000	96	81
11	4,830	175	e175	159	1,180	4,010	662	791	397	1,150	1,470	78
12	3,110	188	e235	142	1,300	3,570	732	705	380	962	3,300	76
13	2,110	199	e220	141	1,080	3,180	791	694	343	833	1,850	73
14	1,550	192	e200	e150	939	2,830	777	742	278	688	889	70
15	1,360	188	e250	157	813	2,490	747	623	226	570	642	69
16	1,180	209	258	170	709	2,210	697	612	189	467	524	69
17	1,010	216	246	339	668	1,960	668	624	174	387	442	70
18	871	194	275	804	613	1,710	635	638	167	336	412	69
19	762	186	259	1,390	554	1,540	628	615	e200	278	411	66
20	671	204	270	1,300	507	1,330	1,220	574	e230	246	422	62
21	601	198	257	969	528	1,270	2,290	585	e210	213	356	61
22	539	188	238	747	453	1,090	6,360	561	1,390	208	349	60
23	483	174	246	669	389	1,050	6,800	474	2,470	246	316	64
24	435	159	239	588	386	1,000	8,530	439	1,070	930	258	72
25	386	218	255	579	317	1,050	14,600	369	698	278	221	84
26	345	201	226	e460	284	912	11,400	340	567	235	211	75
27	276	151	215	e450	309	883	7,510	311	420	195	194	68
28	287	144	219	e440	343	2,260	4,150	262	578	177	185	65
29	282	146	254	e430	330	4,200	3,200	297	1,860	182	179	65
30	255	151	248	e435	---	2,280	2,690	252	743	175	147	64
31	252	---	214	e430	---	1,450	---	240	---	173	124	---
TOTAL	28,192	5,665	6,467	12,717	16,067	101,018	83,160	25,707	17,002	27,368	14,222	2,291
MEAN	909	189	209	410	554	3,259	2,772	829	567	883	459	76.4
MAX	4,830	254	275	1,390	1,300	16,900	14,600	2,560	2,470	3,400	3,300	110
MIN	130	144	127	141	284	299	628	240	167	173	88	60
AC-FT	55,920	11,240	12,830	25,220	31,870	200,400	164,900	50,990	33,720	54,280	28,210	4,540

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2004, BY WATER YEAR (WY)

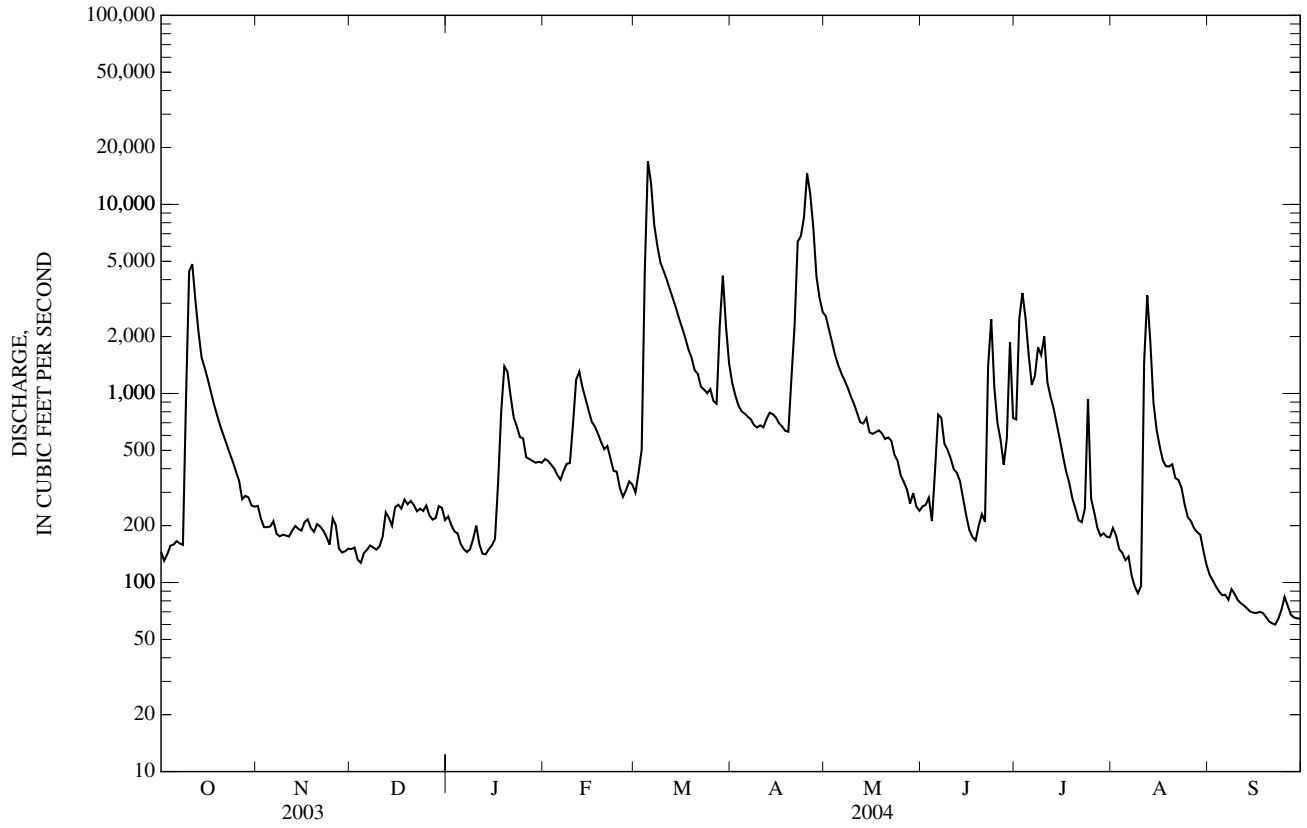
MEAN	937	818	435	406	609	1,178	1,360	1,704	1,592	955	677	631
MAX	9,412	9,203	2,129	2,124	5,171	6,455	7,916	12,770	8,379	8,821	6,157	3,448
(WY)	(1987)	(1999)	(1998)	(1998)	(1949)	(2000)	(1973)	(1993)	(1995)	(1951)	(1995)	(1949)
MIN	0.64	4.82	3.56	7.52	10.9	10.6	13.6	8.78	7.92	5.69	5.50	0.00
(WY)	(1957)	(1955)	(1955)	(1957)	(1957)	(1955)	(1955)	(1956)	(1956)	(1954)	(1956)	(1956)

e Estimated

07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1942 - 2004	
ANNUAL TOTAL	293,674		339,876			
ANNUAL MEAN	805		929		943	
HIGHEST ANNUAL MEAN					3,717	1999
LOWEST ANNUAL MEAN					95.5	1954
HIGHEST DAILY MEAN	10,900	Mar 20	16,900	Mar 5	57,800	Oct 12, 1973
LOWEST DAILY MEAN	50	Aug 21,22	60	Sep 22	a0.00	Aug 31, 1956
ANNUAL SEVEN-DAY MINIMUM	52	Aug 18	65	Sep 17	0.00	Aug 31, 1956
MAXIMUM PEAK FLOW			18,100	Mar 5	97,300	Oct 11, 1973
MAXIMUM PEAK STAGE			19.44	Mar 5	28.98	Oct 11, 1973
ANNUAL RUNOFF (AC-FT)	582,500		674,100		682,900	
10 PERCENT EXCEEDS	1,960		2,130		2,180	
50 PERCENT EXCEEDS	371		370		276	
90 PERCENT EXCEEDS	82		129		37	

a Also occurred Sept. 12, 14-16, 1956.



07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK

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

DRAINAGE AREA.--1,859 mi^2.

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

REVISED RECORDS.--WSP 1117: Drainage area.

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

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1923, reached a stage of about 34 ft, present site and datum, from information provided by local residents, discharge 100,000 ft^3/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 10	0430	22,100	30.02	May 14	0930	11,300	24.29
Mar 5	2100	*33,100	*31.91	Jul 2	2330	21,400	29.76
Apr 24	2300	31,000	31.63				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212	194	190	209	e260	334	606	772	e260	384	371	124
2	225	194	193	210	e310	388	520	739	265	12,100	299	122
3	244	197	199	211	e385	425	467	677	266	13,500	255	122
4	237	201	202	207	e390	5,450	430	622	254	2,610	227	118
5	243	198	203	195	e385	28,000	404	562	289	2,520	202	116
6	231	201	193	e120	e350	21,300	385	520	342	2,020	196	124
7	218	200	189	e105	e300	3,870	375	480	461	1,550	195	121
8	211	196	193	131	e285	2,140	367	440	358	1,040	185	118
9	10,300	196	214	150	410	1,520	364	432	327	2,510	185	109
10	15,700	196	216	176	1,140	1,230	414	417	367	5,570	185	101
11	2,760	199	222	223	1,570	1,050	466	401	703	2,010	694	95
12	1,120	200	237	256	1,460	920	515	460	485	604	531	91
13	787	197	192	242	1,230	824	480	1,530	311	390	349	88
14	602	196	174	215	926	766	561	9,120	264	310	312	79
15	485	194	226	201	903	722	518	3,700	234	262	294	76
16	385	191	301	201	1,070	675	494	1,690	218	232	240	73
17	330	195	284	567	806	648	479	1,200	237	212	224	68
18	299	198	256	2,860	636	607	454	978	912	201	196	68
19	281	190	247	2,850	657	567	444	839	1,470	190	205	66
20	266	190	241	1,070	670	533	1,900	757	1,260	177	233	65
21	258	193	243	670	741	489	5,550	696	1,730	162	258	66
22	246	188	246	510	512	461	4,570	e630	2,860	151	203	66
23	235	188	244	436	389	430	3,680	e560	1,460	164	189	74
24	226	182	239	396	348	421	20,700	e500	694	1,120	311	86
25	212	181	235	378	326	414	17,800	e490	454	3,170	285	90
26	206	186	227	373	316	427	2,920	e475	346	1,250	228	92
27	205	192	228	e320	299	471	1,510	e460	359	753	182	90
28	203	193	221	e238	295	2,740	1,120	e445	1,960	534	157	77
29	201	189	217	e240	301	3,160	929	e400	2,020	620	143	66
30	204	189	212	e245	---	1,140	806	e350	651	695	134	e69
31	198	---	211	e250	---	741	---	e280	---	516	128	---
TOTAL	37,530	5,804	6,895	14,455	17,670	82,863	70,228	31,622	21,817	57,527	7,796	2,720
MEAN	1,211	193	222	466	609	2,673	2,341	1,020	727	1,856	251	90.7
MAX	15,700	201	301	2,860	1,570	28,000	20,700	9,120	2,860	13,500	694	124
MIN	198	181	174	105	260	334	364	280	218	151	128	65
AC-FT	74,440	11,510	13,680	28,670	35,050	164,400	139,300	62,720	43,270	114,100	15,460	5,400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2004, BY WATER YEAR (WY)

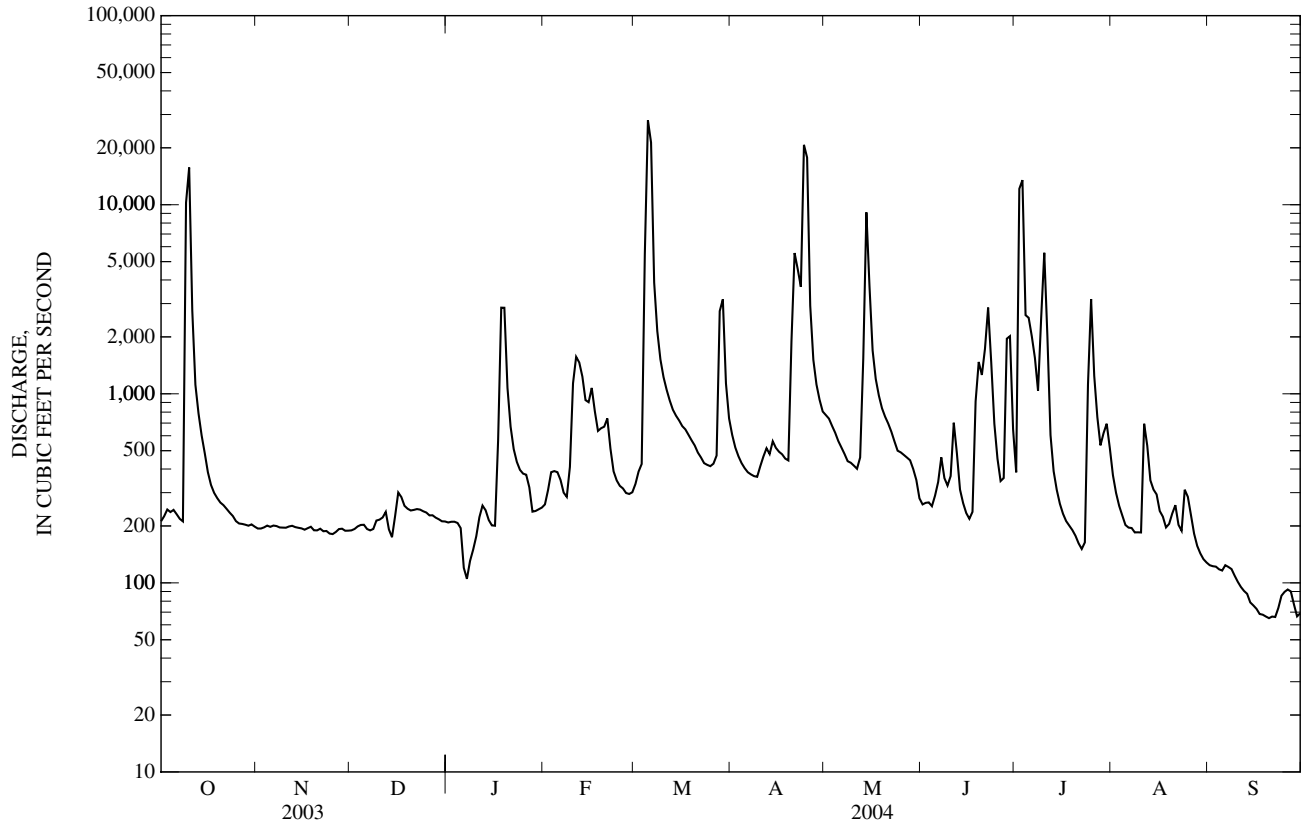
MEAN	584	516	280	254	396	774	824	1,064	1,080	554	341	470
MAX	5,244	5,880	1,649	1,659	3,732	5,342	4,748	8,589	5,093	5,129	2,467	3,395
(WY)	(1960)	(1999)	(1945)	(1949)	(1949)	(2000)	(1944)	(1993)	(1951)	(1951)	(1995)	(1973)
MIN	0.90	1.08	1.34	4.35	10.3	30.7	29.4	27.1	26.1	6.17	0.55	0.64
(WY)	(1957)	(1955)	(1955)	(1957)	(1957)	(1957)	(1955)	(1956)	(1972)	(1954)	(1936)	(1956)

e Estimated

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1936 - 2004	
ANNUAL TOTAL	300,830		356,927			
ANNUAL MEAN	824		975		599	
HIGHEST ANNUAL MEAN					1,993	1999
LOWEST ANNUAL MEAN					71.0	1954
HIGHEST DAILY MEAN	27,900	Mar 20	28,000	Mar 5	69,500	Jun 22, 1942
LOWEST DAILY MEAN	26	Aug 24-27	65	Sep 20	a0.00	Jul 18, 1954
ANNUAL SEVEN-DAY MINIMUM	27	Aug 22	67	Sep 16	0.00	Aug 12, 1954
MAXIMUM PEAK FLOW			33,100	Mar 5	85,000	Jun 22, 1942
MAXIMUM PEAK STAGE			31.91	Mar 5	34.40	Nov 1, 1998
ANNUAL RUNOFF (AC-FT)	596,700		708,000		433,900	
10 PERCENT EXCEEDS	1,110		1,560		917	
50 PERCENT EXCEEDS	235		306		150	
90 PERCENT EXCEEDS	78		148		25	

a No flow at times in 1954 and 1956.



07152500 ARKANSAS RIVER AT RALSTON, OK

LOCATION.--Lat 36°30'15", long 96°43'41", in NE ¼ NE ¼ sec.2, T.23 N., R.5 E., Pawnee County, Hydrologic Unit 11060006, on right upstream abutment of bridge on State Highway 18 at Ralston, 2 mi downstream from Salt Creek, 2 mi upstream from Grayhorse Creek, and at mile 594.0. Prior to Feb. 10, 1988, gage was near left bank on downstream side of pier of bridge.

DRAINAGE AREA.--54,465 mi^2, of which 7,615 mi^2 is probably noncontributing.

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

REVISED RECORDS.--WSP 1341: Drainage area.

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

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

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,340	1,510	1,090	1,780	3,270	2,350	9,450	9,400	2,530	13,200	20,900	5,000
2	2,610	1,440	1,110	1,720	e2,900	2,060	8,620	8,220	2,430	15,600	20,200	4,170
3	2,670	1,530	1,200	1,400	e2,900	2,360	8,110	7,170	3,740	18,000	15,400	3,380
4	2,280	1,460	1,190	1,600	e3,800	14,600	7,800	6,620	3,630	23,300	12,700	2,940
5	1,810	1,560	1,090	1,300	e3,900	41,500	7,590	6,160	3,850	16,300	10,600	2,380
6	1,490	1,550	1,090	e1,400	e4,100	45,000	7,420	9,540	2,690	15,700	7,420	1,120
7	1,290	1,550	1,140	e1,500	e4,300	e41,000	7,320	12,100	2,040	16,200	5,040	867
8	1,400	1,560	1,130	e1,600	e3,500	25,400	7,190	12,000	2,160	14,100	3,830	1,230
9	3,310	1,390	831	1,540	2,990	31,900	6,200	11,800	2,770	19,500	3,540	1,300
10	20,600	1,300	1,060	1,420	5,130	46,200	6,030	11,700	4,330	17,400	3,770	1,080
11	51,400	1,260	1,080	1,420	6,630	45,400	4,960	11,600	3,250	18,900	4,650	1,050
12	46,900	843	1,120	1,390	7,540	35,700	4,310	11,500	2,280	16,100	8,750	1,410
13	34,700	626	1,250	1,340	8,500	29,200	4,190	9,570	2,250	13,400	11,300	1,210
14	26,700	616	1,320	1,540	7,560	27,400	4,710	9,670	1,620	12,600	6,260	1,180
15	18,000	575	1,350	1,610	7,090	26,000	4,810	28,400	2,270	12,200	4,190	1,160
16	12,300	549	2,000	1,620	6,690	17,200	4,430	36,100	5,630	11,900	2,640	1,130
17	8,410	1,010	1,620	3,240	6,590	12,100	3,980	32,800	5,800	11,600	2,680	1,090
18	7,930	2,120	e1,970	4,970	6,760	11,800	2,780	24,000	5,820	11,400	3,320	1,030
19	6,230	1,550	e2,440	3,920	6,680	10,500	2,290	18,300	5,920	11,300	3,130	1,020
20	5,670	1,190	e2,930	6,650	6,440	9,370	3,000	11,600	4,610	11,100	3,770	809
21	5,440	1,490	e2,800	6,940	6,410	8,940	5,160	8,190	4,610	11,000	3,340	755
22	4,970	1,490	e2,300	7,220	4,550	7,990	11,200	7,760	9,140	10,800	3,370	892
23	4,530	1,230	2,540	5,990	3,230	e7,550	18,200	6,870	14,600	10,900	3,320	869
24	3,270	1,170	2,960	5,500	3,130	e7,500	17,800	3,220	16,900	11,100	3,180	904
25	2,550	1,130	2,810	5,390	3,760	7,700	17,400	4,970	13,600	11,400	2,830	813
26	1,970	1,200	2,560	5,130	4,240	7,720	32,600	7,780	12,600	12,800	2,390	858
27	1,580	1,310	2,590	5,590	4,210	7,830	25,000	8,880	12,100	12,900	1,750	605
28	1,550	1,200	2,570	5,370	4,110	14,200	15,200	7,950	12,400	12,300	2,510	549
29	1,440	1,210	1,620	5,110	3,080	13,400	10,700	5,940	12,900	15,800	2,180	789
30	1,290	1,180	1,510	5,080	---	15,500	9,400	3,360	15,400	20,500	1,450	834
31	2,040	---	2,040	4,850	---	11,500	---	2,510	---	21,500	1,570	---
TOTAL	288,670	37,799	54,311	105,130	143,990	586,870	277,850	355,680	193,870	450,800	181,980	42,424
MEAN	9,312	1,260	1,752	3,391	4,965	18,930	9,262	11,470	6,462	14,540	5,870	1,414
MAX	51,400	2,120	2,960	7,220	8,500	46,200	32,600	36,100	16,900	23,300	20,900	5,000
MIN	1,290	549	831	1,300	2,900	2,060	2,290	2,510	1,620	10,800	1,450	549
AC-FT	572,600	74,970	107,700	208,500	285,600	1,164,000	551,100	705,500	384,500	894,200	361,000	84,150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2004, BY WATER YEAR (WY)

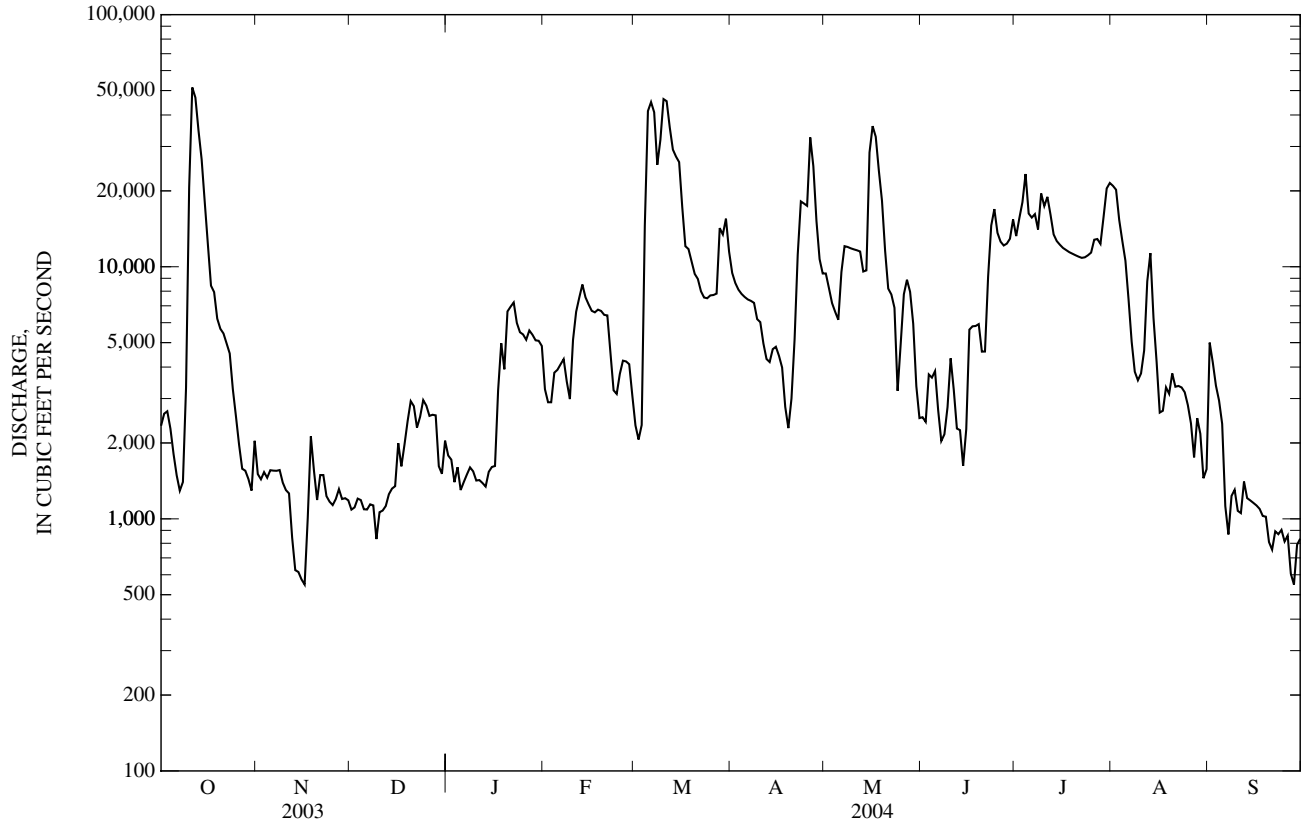
MEAN	5,131	5,327	3,494	3,638	4,610	9,125	9,010	9,839	10,980	7,535	4,471	3,688
MAX	41,580	41,300	10,120	12,450	17,510	27,120	25,300	52,840	41,910	25,780	21,280	17,660
(WY)	(1987)	(1999)	(2000)	(1993)	(1993)	(1987)	(1984)	(1993)	(1995)	(1999)	(1995)	(1989)
MIN	161	251	453	500	487	402	305	2,001	2,139	908	390	205
(WY)	(1992)	(1981)	(1983)	(1977)	(1981)	(1981)	(1981)	(1996)	(1988)	(1991)	(1978)	(1984)

e Estimated

07152500 ARKANSAS RIVER AT RALSTON, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1977 - 2004	
ANNUAL TOTAL	2,288,258		2,719,374			
ANNUAL MEAN	6,269		7,430		a6,408	
HIGHEST ANNUAL MEAN					16,810	1999
LOWEST ANNUAL MEAN					1,292	1981
HIGHEST DAILY MEAN	51,400	Mar 22	51,400	Oct 11	170,000	Oct 4, 1986
LOWEST DAILY MEAN	291	Aug 26	549	Nov 16	b52	Sep 18, 1978
ANNUAL SEVEN-DAY MINIMUM	351	Aug 24	765	Sep 24	103	Oct 19, 1991
MAXIMUM PEAK FLOW			54,800	Oct 11	c174,000	Oct 4, 1986
MAXIMUM PEAK STAGE			13.67	Oct 11	d22.20	Oct 4, 1986
ANNUAL RUNOFF (AC-FT)	4,539,000		5,394,000		4,642,000	
10 PERCENT EXCEEDS	15,300		17,300		15,900	
50 PERCENT EXCEEDS	3,140		4,200		3,080	
90 PERCENT EXCEEDS	1,180		1,150		517	

a Prior to regulation by Kaw Lake, water years 1926-75, 4,826 ft^3/s.
b Minimum daily discharge for period of record, 14 ft^3/s, Oct. 12, 1956.
c Maximum for period of record, 211,000 ft^3/s, Oct. 13, 1973.
d Maximum for period of record, 22.98 ft, Oct. 13, 1973.



07153000 BLACK BEAR CREEK AT PAWNEE, OK

LOCATION.--Lat 36°20'37", long 96°47'57", on east line of SE ¼ NE ¼ sec.31, T.22 N., R.5 E., Pawnee County, Hydrologic Unit 11060006, on downstream side of left pier of bridge on State Highway 18 in north Pawnee, 300 ft downstream from Skedee Creek, and at mile 23.4.

DRAINAGE AREA.--576 mi^2.

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

REVISED RECORDS.--WSP 1117: Drainage area.

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

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 19, 1943, reached a stage of 28.19 ft, from floodmark, discharge 17,800 ft^3/s.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 6	1200	*9,770	*18.21	Jun 22	2000	4,010	9.42

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	3.7	7.3	9.9	e50	98	350	80	11	117	17	6.0
2	0.94	4.7	7.1	9.2	e170	92	263	116	13	2,780	15	6.1
3	1.4	5.6	8.3	8.6	e200	71	202	77	32	2,150	13	5.8
4	2.0	7.5	8.0	7.8	e140	3,610	159	60	107	848	11	5.6
5	4.1	6.6	7.0	7.6	e120	9,160	129	47	146	457	9.5	5.2
6	4.8	6.1	6.6	7.2	e175	9,460	108	41	77	294	8.6	5.6
7	5.2	6.4	7.0	6.6	e150	5,420	92	37	57	270	7.0	5.0
8	5.6	8.1	7.4	6.5	e102	3,420	82	32	53	217	7.8	4.5
9	2,360	9.1	7.6	6.4	181	2,940	79	29	48	164	8.0	4.3
10	1,150	10	8.9	6.5	465	2,320	171	27	293	127	6.5	4.3
11	311	11	8.8	7.1	306	1,940	251	26	168	96	29	4.1
12	147	10	9.4	7.3	219	1,610	166	24	86	72	292	4.1
13	83	9.1	14	7.5	148	1,250	117	39	52	56	365	5.2
14	57	11	14	7.6	109	922	93	44	35	44	311	5.0
15	36	12	19	9.1	92	681	80	34	25	e34	199	3.7
16	24	14	49	11	77	484	72	27	20	e27	147	11
17	17	162	42	1,490	65	353	63	26	17	e22	103	11
18	13	1,330	30	1,730	56	273	56	23	14	e19	69	20
19	11	408	21	773	51	224	52	21	29	e16	47	11
20	9.9	191	16	374	53	185	54	19	39	e14	33	6.7
21	8.9	90	13	226	42	160	54	17	633	e13	26	4.6
22	8.0	52	12	149	39	138	189	16	2,930	e12	23	3.2
23	6.7	34	11	104	36	122	324	15	2,690	12	19	2.6
24	7.5	22	10	81	37	103	282	14	1,050	13	17	2.2
25	4.5	17	9.8	438	37	97	186	13	576	14	15	2.0
26	4.0	14	9.3	363	34	88	140	13	349	11	13	2.0
27	5.4	12	71	156	32	86	107	12	228	10	11	1.9
28	7.1	9.9	85	96	29	1,390	86	12	154	14	8.9	1.7
29	11	9.0	29	e75	42	1,550	67	13	162	22	7.6	1.7
30	9.2	8.1	16	e55	---	812	57	14	152	20	6.8	1.7
31	5.1	---	12	e45	---	488	---	12	---	20	6.2	---
TOTAL	4,321.44	2,493.9	576.5	6,280.9	3,257	49,547	4,131	980	10,246	7,985	1,851.9	157.8
MEAN	139	83.1	18.6	203	112	1,598	138	31.6	342	258	59.7	5.26
MAX	2,360	1,330	85	1,730	465	9,460	350	116	2,930	2,780	365	20
MIN	0.94	3.7	6.6	6.4	29	71	52	12	11	10	6.2	1.7
AC-FT	8,570	4,950	1,140	12,460	6,460	98,280	8,190	1,940	20,320	15,840	3,670	313

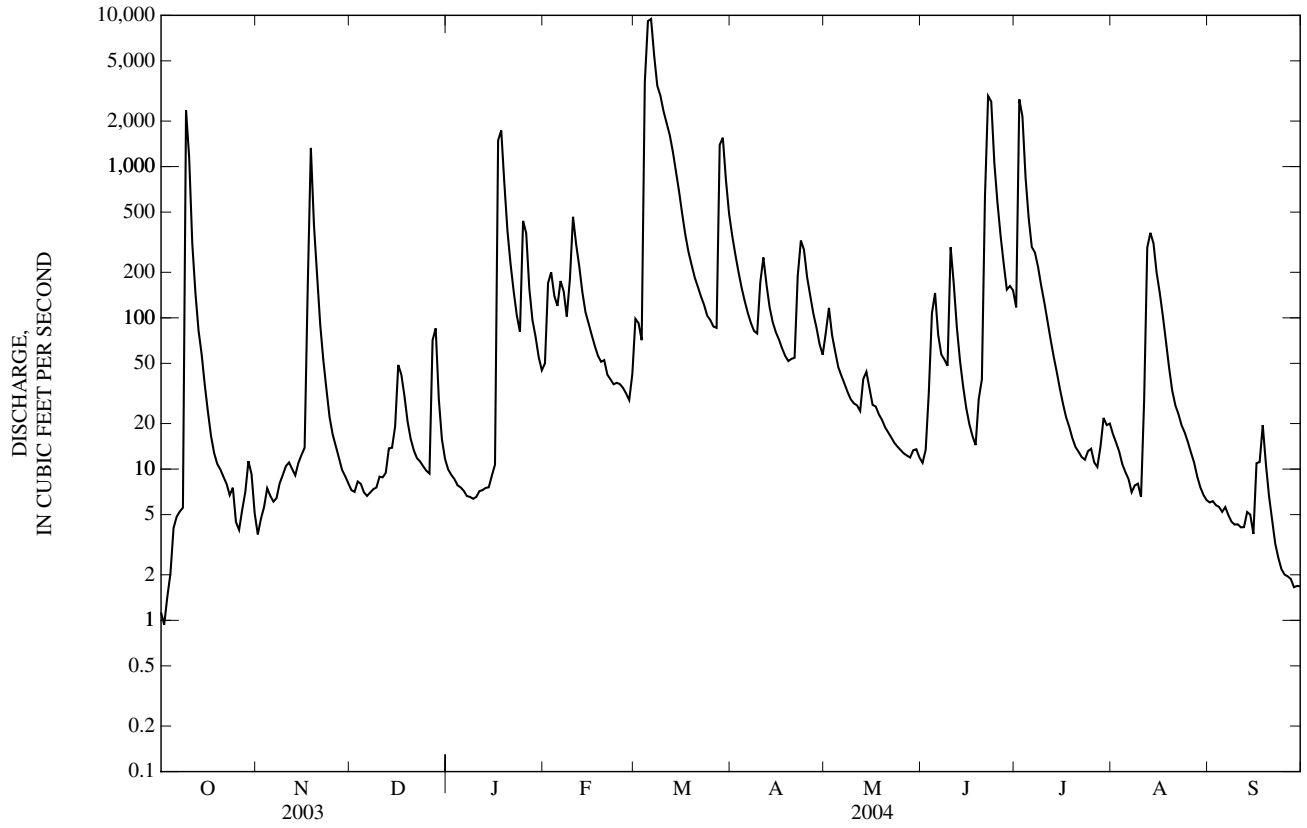
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2004, BY WATER YEAR (WY)

MEAN	216	155	96.6	77.1	131	307	301	483	339	173	104	171
MAX	4,025	2,359	720	595	1,013	1,607	1,583	2,933	2,181	950	1,592	1,354
(WY)	(1987)	(1975)	(2000)	(1993)	(1987)	(1990)	(1999)	(1993)	(1957)	(1997)	(1992)	(1945)
MIN	0.00	0.00	0.02	0.37	0.73	0.90	1.14	2.28	4.68	0.30	0.00	0.00
(WY)	(1955)	(1955)	(1967)	(1957)	(1968)	(1954)	(1955)	(1956)	(1966)	(1954)	(1954)	(1954)

e Estimated

07153000 BLACK BEAR CREEK AT PAWNEE, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1945 - 2004	
ANNUAL TOTAL	34,054.12		91,828.44			
ANNUAL MEAN	93.3		251		213	
HIGHEST ANNUAL MEAN					835	1987
LOWEST ANNUAL MEAN					23.1	1954
HIGHEST DAILY MEAN	3,250	Mar 19	9,460	Mar 6	25,400	Oct 3, 1959
LOWEST DAILY MEAN	0.05	Aug 27	0.94	Oct 2	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	0.55	Aug 22	1.9	Sep 24	0.00	Jul 17, 1954
MAXIMUM PEAK FLOW			9,770	Mar 6	30,200	Oct 3, 1959
MAXIMUM PEAK STAGE			18.21	Mar 6	31.43	Oct 3, 1959
ANNUAL RUNOFF (AC-FT)	67,550		182,100		154,400	
10 PERCENT EXCEEDS	167		368		401	
50 PERCENT EXCEEDS	21		29		17	
90 PERCENT EXCEEDS	1.5		5.6		1.1	



07154500 CIMARRON RIVER NEAR KENTON, OK

LOCATION.--Lat 36°55'36", long 102°57'31", in SW $^1/_4$ sec.4, T.5 N., R.1 E., Cimarron County, Hydrologic Unit 11040001, near right bank on downstream side of pier of county road bridge, 1.5 mi upstream from North Carrizo Creek, 1.7 mi northeast of Kenton, 2.2 mi downstream from Carrizozo Creek, and at mile 594.0.

DRAINAGE AREA.--1,106 mi^2, of which 68 mi^2 is probably noncontributing.

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

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

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

REMARKS.--No estimated daily discharge. Records fair. Extensive diversions for irrigation upstream from station. Satellite telemeter at station.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug 14	1915	*3,270	*14.13	Sep 22	1145	2,110	12.78

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.6	0.24
2	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	1.7	0.17
3	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.73	0.11
4	0.00	0.00	0.00	0.00	0.01	0.03	0.02	0.00	0.00	0.00	0.20	0.06
5	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	245	0.04
6	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	6.4	0.01
7	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00	2.0	0.00
8	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.64	0.00
9	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.19	0.00
10	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.00	0.00	0.00	0.09	0.00
11	0.00	0.00	0.00	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.06	0.00
12	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.04	0.00
13	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.02	0.00
14	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.00	678	0.00
15	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	150	0.00
16	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	12	0.00
17	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.13	8.3	4.4	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	7.9	2.0	0.00
19	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	88	1.7	0.00
20	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	12	1.3	0.00
21	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	2.2	0.78	0.07
22	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.19	130	589
23	0.00	0.00	0.00	0.00	0.03	0.00	0.29	0.00	0.00	98	14	59
24	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	15	3.2	7.0
25	0.00	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.00	3.0	1.7	311
26	0.00	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.00	1.2	1.1	40
27	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.17	0.95	6.6
28	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.03	0.85	2.7
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	287	0.76	2.1
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	108	0.67	1.1
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	11	0.40	---
TOTAL	0.00	0.00	0.00	0.00	0.28	0.15	0.82	0.00	0.22	641.99	1,264.48	1,019.20
MEAN	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.01	20.7	40.8	34.0
MAX	0.00	0.00	0.00	0.00	0.03	0.04	0.29	0.00	0.13	287	678	589
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
AC-FT	0.00	0.00	0.00	0.00	0.6	0.3	1.6	0.00	0.4	1,270	2,510	2,020

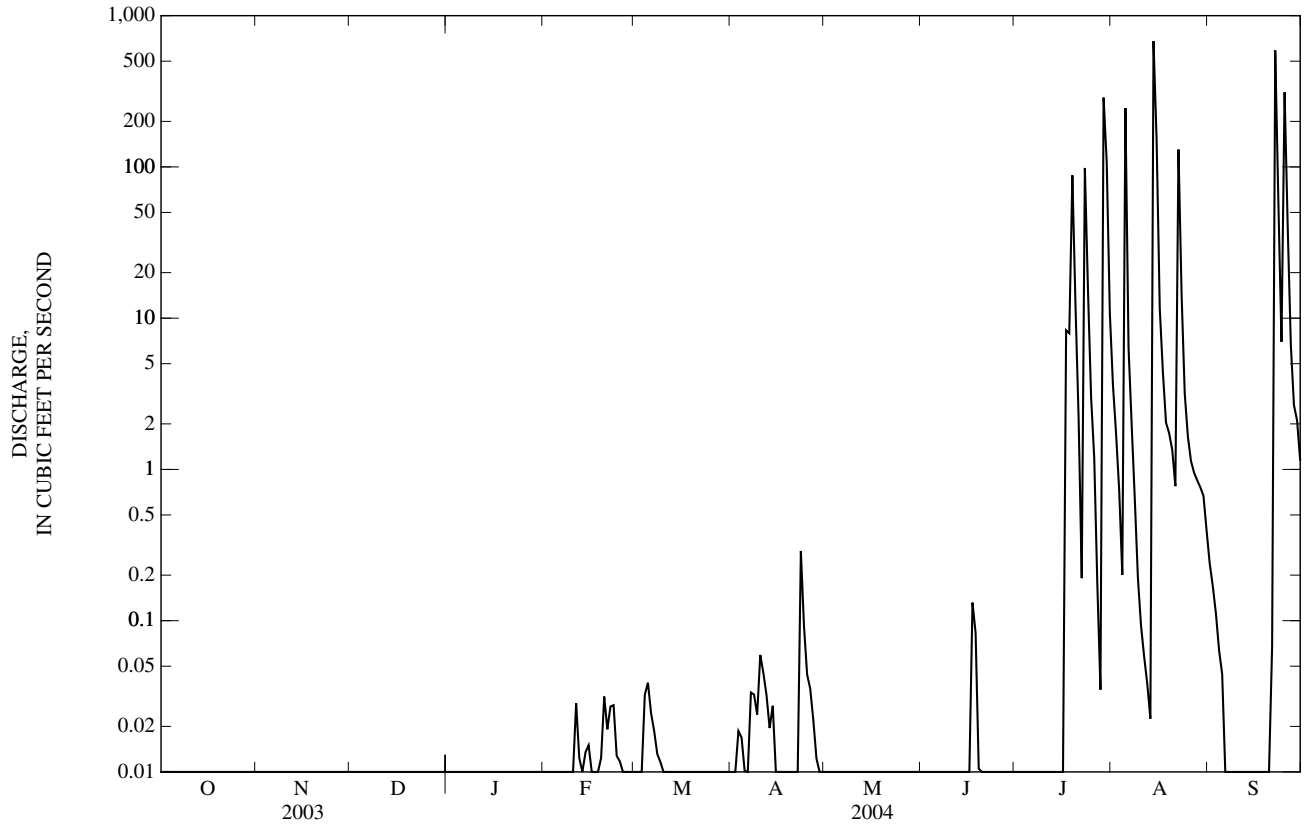
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2004, BY WATER YEAR (WY)

MEAN	9.45	1.83	1.97	1.88	1.66	1.40	5.18	33.2	30.0	31.8	49.4	25.1
MAX	334	12.1	9.59	8.07	6.76	4.42	116	525	514	204	406	235
(WY)	(1966)	(1966)	(1966)	(1988)	(1966)	(1958)	(1977)	(1955)	(1965)	(1958)	(1965)	(1963)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1965)	(1965)	(1965)	(1965)	(1994)	(1994)	(1965)	(2002)	(1954)	(1993)	(1972)	(1956)

07154500 CIMARRON RIVER NEAR KENTON, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1951 - 2004	
ANNUAL TOTAL	515.70		2,927.14			
ANNUAL MEAN	1.41		8.00		16.2	
HIGHEST ANNUAL MEAN					95.2	1965
LOWEST ANNUAL MEAN					0.65	1993
HIGHEST DAILY MEAN	122	Jun 19	678	Aug 14	11,000	Jun 17, 1965
LOWEST DAILY MEAN	0.00	at times	0.00	at times	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	0.00	May 19	0.00	Oct 1	0.00	Jun 14, 1952
MAXIMUM PEAK FLOW			3,270	Aug 14	a43,400	Oct 17, 1965
MAXIMUM PEAK STAGE			14.13	Aug 14	b22.32	Oct 17, 1965
ANNUAL RUNOFF (AC-FT)	1,020		5,810		11,730	
10 PERCENT EXCEEDS	0.39		1.1		7.0	
50 PERCENT EXCEEDS	0.00		0.00		0.80	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

a From rating curve extinded above 7,000 ft^3/s, on basis on contracted-opening measurement of peak flow.
b Present datum.



07156900 CIMARRON RIVER NEAR FORGAN, OK

LOCATION.--Lat 37°00'40", long 100°29'29", in SE ¼ SE ¼ sec.8, T.35 S., R.29 W., Meade County, KS, Hydrologic Unit 11040006, on downstream side of bridge on Kansas State Highway 23, 0.8 mi north of Oklahoma-Kansas State Line, 7.8 mi north of Forgan, and at mile 375.7.

DRAINAGE AREA.--8,536 mi^2, of which 4,316 mi^2 is probably noncontributing.

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

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

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

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	31	31	31	33	40	34	30	19	37	31	22
2	30	30	32	31	34	38	33	29	21	34	28	21
3	30	31	31	31	32	47	32	28	22	34	23	22
4	29	31	32	31	33	70	31	29	22	32	23	22
5	29	31	34	e27	33	63	30	29	23	27	24	24
6	30	31	34	e25	34	52	31	29	24	30	32	23
7	28	31	32	e27	34	46	33	28	21	32	32	24
8	30	31	33	31	35	41	32	25	19	30	34	22
9	32	30	e35	30	34	39	34	24	21	26	30	20
10	32	30	35	30	34	39	38	25	21	25	29	21
11	31	30	35	30	34	37	36	25	21	23	75	22
12	30	29	e34	30	34	35	35	28	21	24	40	23
13	31	31	36	31	32	35	35	27	18	25	33	21
14	30	32	36	31	32	36	34	24	20	25	33	18
15	29	33	37	31	32	36	33	25	19	22	33	19
16	29	30	36	32	32	34	33	24	23	24	34	20
17	29	31	35	33	32	35	31	24	27	29	32	24
18	29	30	34	31	34	35	29	25	25	28	29	21
19	29	31	33	31	35	34	29	27	27	24	32	21
20	29	32	33	31	34	33	724	27	100	20	29	20
21	29	29	33	30	33	34	99	27	46	21	29	22
22	29	31	33	30	34	34	98	24	37	23	30	32
23	29	30	32	31	33	34	58	22	36	43	31	49
24	29	29	32	31	32	33	58	22	29	47	28	36
25	28	31	30	33	33	33	47	22	28	45	24	33
26	29	31	29	32	35	34	38	23	27	39	24	33
27	29	31	32	33	33	35	32	23	32	34	25	33
28	29	30	31	32	35	35	27	26	36	29	26	32
29	29	30	30	31	41	34	28	22	37	36	27	39
30	29	30	29	32	---	32	29	20	40	32	25	37
31	30	---	30	32	---	33	---	21	---	32	23	---
TOTAL	915	918	1,019	952	976	1,196	1,861	784	862	932	948	776
MEAN	29.5	30.6	32.9	30.7	33.7	38.6	62.0	25.3	28.7	30.1	30.6	25.9
MAX	32	33	37	33	41	70	724	30	100	47	75	49
MIN	28	29	29	25	32	32	27	20	18	20	23	18
AC-FT	1,810	1,820	2,020	1,890	1,940	2,370	3,690	1,560	1,710	1,850	1,880	1,540

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2004, BY WATER YEAR (WY)

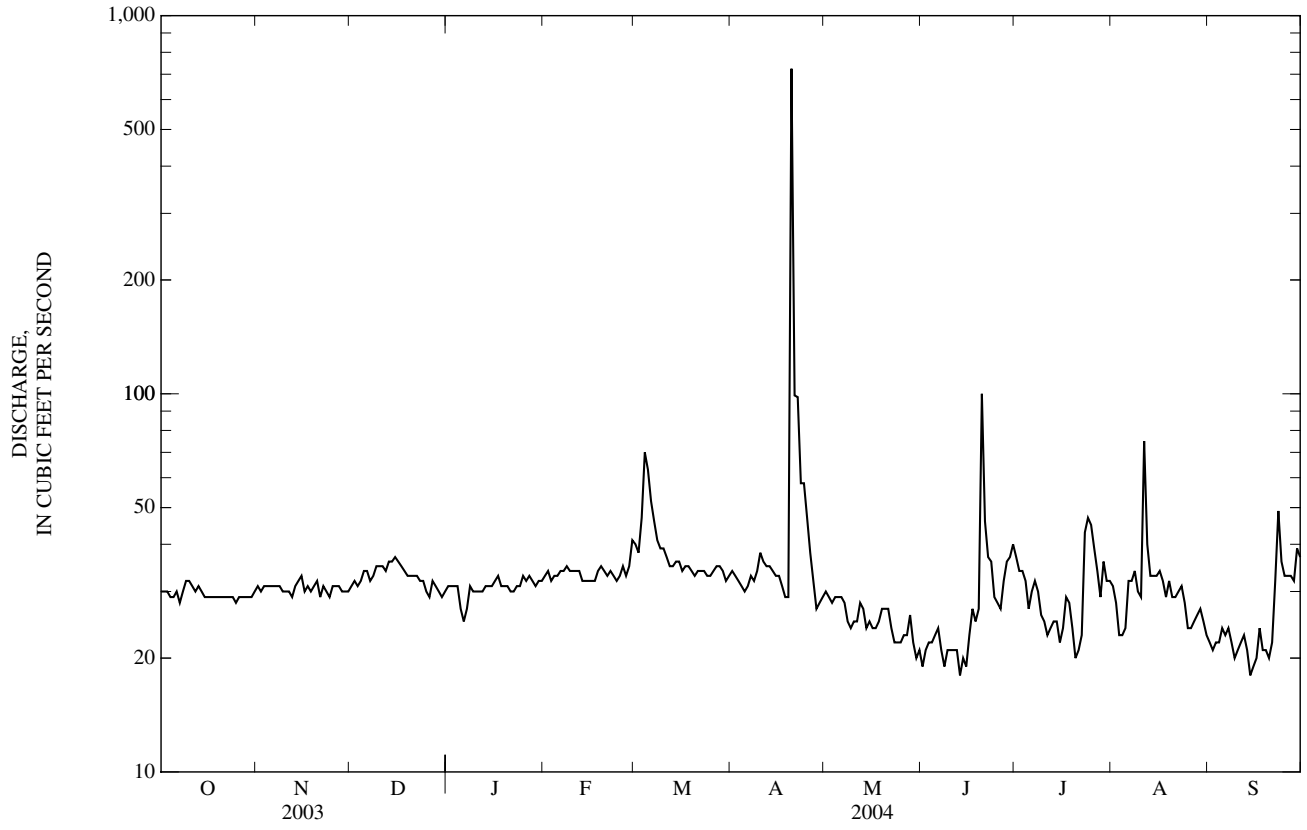
MEAN	63.5	51.8	53.7	53.4	57.1	56.9	66.7	71.0	58.5	44.8	47.7	44.8
MAX	751	114	102	110	167	111	376	476	364	211	208	210
(WY)	(1966)	(1972)	(1973)	(1967)	(1978)	(1973)	(1976)	(1977)	(1978)	(1967)	(1972)	(1966)
MIN	26.1	30.6	30.7	30.7	32.5	32.0	30.0	23.8	20.2	16.8	19.1	20.8
(WY)	(1992)	(2004)	(1990)	(2004)	(2003)	(2002)	(2003)	(1986)	(2002)	(2002)	(1983)	(1995)

e Estimated

07156900 CIMARRON RIVER NEAR FORGAN, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1966 - 2004	
ANNUAL TOTAL	13,089		12,139			
ANNUAL MEAN	35.9		33.2		55.8	
HIGHEST ANNUAL MEAN					145	1966
LOWEST ANNUAL MEAN					31.4	2002
HIGHEST DAILY MEAN	802	May 16	724	Apr 20	7,490	Oct 20, 1965
LOWEST DAILY MEAN	16	Jul 27	18	Jun 13,Sep 14	a12	Jul 21, 2002
ANNUAL SEVEN-DAY MINIMUM	18	Jul 22	20	Jun 8	14	Jul 16, 2002
MAXIMUM PEAK FLOW			2,300	Apr 20	21,200	Oct 20, 1965
MAXIMUM PEAK STAGE			5.88	Apr 20	8.10	Oct 20, 1965
ANNUAL RUNOFF (AC-FT)	25,960		24,080		40,440	
10 PERCENT EXCEEDS	41		36		80	
50 PERCENT EXCEEDS	31		31		43	
90 PERCENT EXCEEDS	20		22		26	

a Also occurred July 22, 2002.



07157950 CIMARRON RIVER NEAR BUFFALO, OK

LOCATION.--Lat 36°51'07", long 99°18'54", in SE ¼ NE ¼ sec.2, T.27 N., R.20 W., Harper County, Hydrologic Unit 11050001, near left bank on downstream side of pier of U.S. Highway 64, 0.5 mi downstream from Keno Creek, 17.0 mi northeast of Buffalo, and at mile 289.1.

DRAINAGE AREA.--12,004 mi^2, of which 4,813 mi^2 is probably noncontributing.

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

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

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

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 22	1200	*655	*6.05				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	5.1	25	41	e51	78	46	99	3.0	77	10	43
2	2.2	5.8	25	42	e52	82	46	95	2.7	79	6.7	23
3	1.7	7.3	27	43	e57	123	44	85	2.5	74	3.5	15
4	1.7	8.3	27	41	e59	241	42	82	1.9	51	3.8	8.9
5	2.9	8.3	26	e23	e65	467	41	75	1.8	41	2.2	6.5
6	2.9	8.5	24	e18	e60	426	40	71	2.0	147	2.0	4.6
7	2.5	8.7	27	e20	e58	255	41	65	1.2	68	12	3.1
8	16	9.7	29	e26	e58	184	39	59	0.80	59	9.6	2.1
9	89	12	33	33	81	154	39	53	1.2	46	4.8	1.5
10	24	15	e40	32	95	138	62	44	1.5	35	6.1	0.78
11	18	17	e30	57	84	125	52	39	0.77	27	46	0.39
12	15	16	e20	60	72	112	50	58	0.48	23	25	0.30
13	13	18	e21	53	67	107	48	39	0.22	19	65	0.18
14	9.6	28	e21	51	63	103	47	39	0.19	16	59	0.12
15	8.3	22	30	49	63	100	45	36	0.15	12	42	0.13
16	7.1	23	37	50	62	98	42	33	0.16	9.1	33	0.11
17	6.3	24	50	80	62	97	38	31	5.6	8.7	27	0.11
18	6.3	24	53	73	59	94	36	29	6.6	7.0	23	0.09
19	5.9	20	56	69	59	90	36	26	9.5	5.5	25	0.08
20	5.7	20	50	65	59	85	243	22	54	4.0	24	0.07
21	5.4	21	49	59	55	81	119	18	54	3.0	19	0.26
22	5.1	20	49	56	55	71	499	14	28	2.4	25	0.25
23	4.7	20	48	54	54	64	327	12	45	5.0	47	8.1
24	4.3	e15	46	53	54	75	277	9.0	44	7.9	23	2.7
25	3.4	21	46	55	55	71	270	7.1	31	4.8	19	0.79
26	3.6	22	46	54	54	64	189	8.5	23	4.0	16	0.50
27	3.7	24	46	e50	54	58	149	7.0	24	5.4	13	0.42
28	3.7	24	44	e49	55	56	126	5.5	93	6.4	8.7	0.40
29	3.7	24	41	e48	93	49	114	3.8	73	23	6.9	0.42
30	3.8	24	39	e49	---	48	103	3.7	78	15	11	0.36
31	4.7	---	40	e50	---	46	---	3.1	---	13	143	---
TOTAL	290.1	515.7	1,145	1,503	1,815	3,842	3,250	1,171.7	589.27	898.2	761.3	124.26
MEAN	9.36	17.2	36.9	48.5	62.6	124	108	37.8	19.6	29.0	24.6	4.14
MAX	89	28	56	80	95	467	499	99	93	147	143	43
MIN	1.7	5.1	20	18	51	46	36	3.1	0.15	2.4	2.0	0.07
AC-FT	575	1,020	2,270	2,980	3,600	7,620	6,450	2,320	1,170	1,780	1,510	246

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2004, BY WATER YEAR (WY)

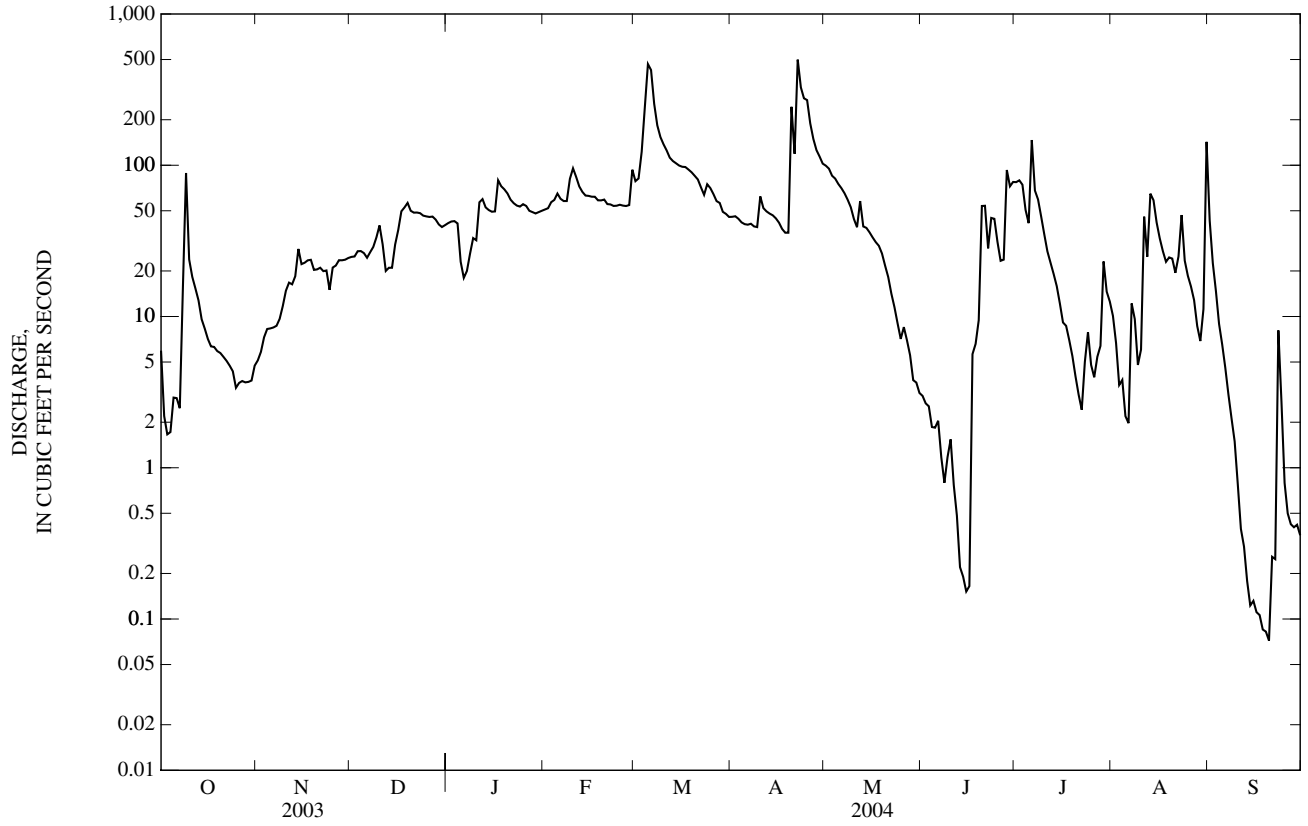
MEAN	85.7	76.2	80.8	89.0	115	176	142	195	216	84.5	77.5	117
MAX	788	482	270	155	225	1,848	1,304	851	1,227	461	476	1,100
(WY)	(1966)	(1972)	(1974)	(1964)	(1993)	(1973)	(1973)	(1987)	(1965)	(1962)	(1968)	(1973)
MIN	0.00	0.47	8.61	31.2	40.2	26.1	8.69	4.45	6.70	0.21	0.00	0.00
(WY)	(1981)	(1981)	(1981)	(1981)	(1981)	(1992)	(1981)	(1992)	(1966)	(1991)	(1976)	(1980)

e Estimated

07157950 CIMARRON RIVER NEAR BUFFALO, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1960 - 2004	
ANNUAL TOTAL	19,961.08		15,905.53			
ANNUAL MEAN	54.7		43.5		121	
HIGHEST ANNUAL MEAN					430	1973
LOWEST ANNUAL MEAN					18.8	2002
HIGHEST DAILY MEAN	798	May 19	499	Apr 22	12,500	Sep 26, 1973
LOWEST DAILY MEAN	0.00	Aug 20-26,28	0.07	Sep 20	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 20	0.10	Sep 14	0.00	Jul 19, 1960
MAXIMUM PEAK FLOW			655	Apr 22	26,400	Sep 26, 1973
MAXIMUM PEAK STAGE			a6.05	Apr 22	b5.57	Sep 26, 1973
ANNUAL RUNOFF (AC-FT)	39,590		31,550		87,980	
10 PERCENT EXCEEDS	113		86		222	
50 PERCENT EXCEEDS	39		28		53	
90 PERCENT EXCEEDS	0.21		2.1		0.06	

a Maximum gage height for this site and datum, 9.04 ft., May 27, 1987, 12,100 ft^3/s.
b Site and datum then in use.



07158000 CIMARRON RIVER NEAR WAYNOKA, OK

LOCATION.--Lat 36°31'02", long 98°52'45", in NW ¼ NE ¼ sec.35, T.24 N., R.16 W., Woods County, Hydrologic Unit 11050001, near left bank on downstream side of bridge on U.S. Highway 281, 4.0 mi south of Waynoka, and at mile 247.0.

DRAINAGE AREA.--13,334 mi^2, of which 4,830 mi^2 is probably noncontributing.

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

GAGE.--Water-stage recorder. Datum of gage is 1,367.35 ft above sea level. September 1903 to December 1905, nonrecording gage at the Atchison, Topeka and Santa Fe Railway Co. bridge 5 mi upstream at different datum. Feb. 4 to Mar. 3, 1938, nonrecording gage and Mar. 4, 1938, to Oct. 24, 1956, water-stage recorder, on former highway bridge 50 ft downstream at datum 0.15 ft higher. Oct. 25, 1956 to Sept. 1978 at same site and datum 0.15 ft higher.

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 21	0030	*3,770	*8.72				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	4.8	38	67	e90	222	95	221	1.4	167	22	83
2	52	6.4	39	70	e100	186	90	172	0.94	218	12	114
3	38	8.6	40	70	e95	192	86	144	0.95	179	6.4	64
4	29	11	42	69	e120	446	84	129	0.50	246	4.5	37
5	27	10	40	68	e135	2,240	83	114	0.41	164	2.8	23
6	23	9.8	39	e33	e150	1,300	82	98	0.36	510	3.3	25
7	19	9.8	40	e34	e145	848	85	83	0.24	823	36	13
8	17	11	42	56	e132	574	85	73	0.10	338	90	8.0
9	21	13	52	66	146	431	85	67	0.25	228	76	5.0
10	86	15	61	66	156	347	117	61	0.45	189	94	2.9
11	74	19	e60	66	168	290	179	57	0.14	150	211	1.9
12	58	18	e56	70	169	249	156	51	0.02	117	394	1.2
13	46	22	e52	87	153	218	131	48	0.00	94	186	0.54
14	35	37	e49	94	152	200	120	56	0.00	78	133	0.10
15	26	61	63	91	145	195	109	47	0.00	67	128	0.01
16	21	47	67	92	143	184	97	41	0.00	58	110	0.11
17	18	40	68	141	145	176	89	37	0.00	54	113	0.04
18	17	39	64	232	145	167	81	32	88	51	73	0.00
19	16	35	73	210	143	153	81	29	46	44	70	0.00
20	14	31	73	165	141	149	112	22	994	33	176	0.00
21	12	30	74	151	134	137	287	17	2,250	23	120	1.8
22	11	31	73	138	129	131	589	12	1,560	18	77	1.6
23	9.7	30	75	128	128	129	652	10	533	16	57	13
24	7.8	29	83	122	127	124	600	8.4	294	21	60	62
25	5.7	27	75	125	124	122	441	5.5	229	35	67	36
26	5.0	28	76	130	123	129	399	7.0	177	31	41	17
27	5.0	33	76	e120	122	144	309	6.2	141	23	25	12
28	4.8	31	72	e98	123	166	239	5.4	185	18	17	7.8
29	4.8	34	67	e95	149	136	190	3.1	220	21	13	5.1
30	4.2	35	67	e90	---	112	178	1.8	205	26	41	4.0
31	4.3	---	65	e83	---	100	---	2.1	---	32	100	---
TOTAL	782.3	756.4	1,861	3,127	3,932	10,197	5,931	1,660.5	6,927.76	4,072	2,559.0	539.10
MEAN	25.2	25.2	60.0	101	136	329	198	53.6	231	131	82.5	18.0
MAX	86	61	83	232	169	2,240	652	221	2,250	823	394	114
MIN	4.2	4.8	38	33	90	100	81	1.8	0.00	16	2.8	0.00
AC-FT	1,550	1,500	3,690	6,200	7,800	20,230	11,760	3,290	13,740	8,080	5,080	1,070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2004, BY WATER YEAR (WY)

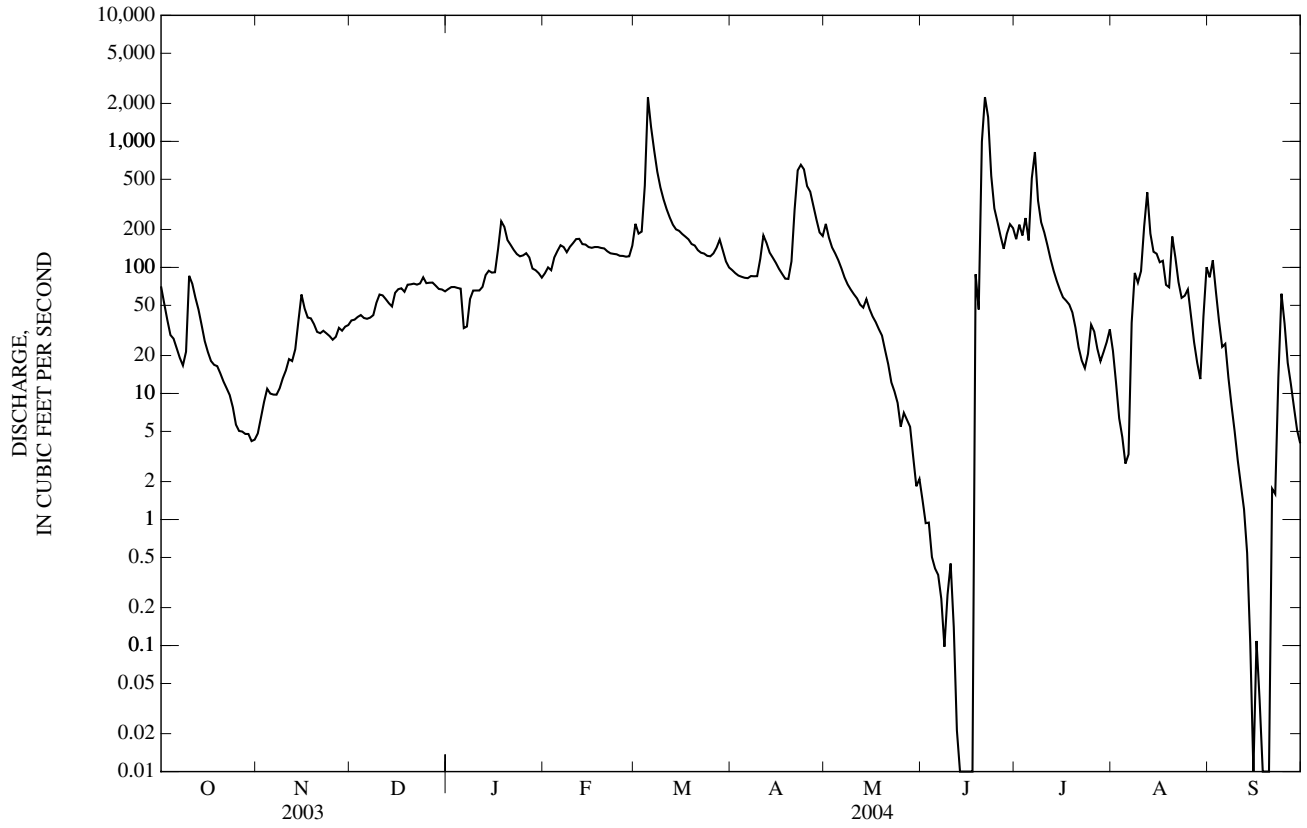
MEAN	211	129	118	134	186	257	361	750	579	321	215	245
MAX	2,644	651	493	465	1,011	2,196	2,944	5,673	3,674	3,826	2,507	1,475
(WY)	(1942)	(1999)	(1974)	(1998)	(1949)	(1973)	(1942)	(1957)	(1957)	(1950)	(1950)	(1973)
MIN	0.00	0.00	1.98	2.65	30.1	12.6	6.00	10.6	0.60	0.01	0.00	0.00
(WY)	(1940)	(1981)	(1955)	(1940)	(1957)	(1955)	(1956)	(1967)	(1966)	(1974)	(1970)	(1956)

e Estimated

07158000 CIMARRON RIVER NEAR WAYNOKA, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1938 - 2004	
ANNUAL TOTAL	35,688.58		42,345.06			
ANNUAL MEAN	97.8		116		293	
HIGHEST ANNUAL MEAN					1,081	1957
LOWEST ANNUAL MEAN					43.2	1991
HIGHEST DAILY MEAN	594	Jun 6	2,250	Jun 21	51,600	May 16, 1957
LOWEST DAILY MEAN	0.00	at times	0.00	at times	0.00	most years
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 17	0.02	Jun 11	0.00	Sep 3, 1939
MAXIMUM PEAK FLOW			3,770	Jun 21	a94,500	May 16, 1957
MAXIMUM PEAK STAGE			8.72	Jun 21	15.10	May 16, 1957
ANNUAL RUNOFF (AC-FT)	70,790		83,990		211,900	
10 PERCENT EXCEEDS	205		210		480	
50 PERCENT EXCEEDS	79		67		88	
90 PERCENT EXCEEDS	0.23		4.1		0.60	

a From rating curve extended above 45,000 ft^3/s on basis of contracted-opening measurment of peak flow.



07159100 CIMARRON RIVER NEAR DOVER, OK

LOCATION.--Lat 35°57'06", long 97°54'51", in SW ¼ NE ¼ sec.14, T.17 N., R.7 W., Kingfisher County, Hydrologic Unit 11050002, near right bank on downstream bridge on U.S. Highway 81, 1.0 mi downstream from Turkey Creek, 2.0 mi south of Dover, 2.5 mi upstream from Kingfisher Creek, and at mile 160.6.

DRAINAGE AREA.--15,713 mi^2, of which 4,926 mi^2 is probably noncontributing.

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

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

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 5	0900	*25,900	*19.26	Jun 22	0830	12,600	17.06

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	84	85	139	238	198	647	592	70	2,500	94	102
2	128	84	89	135	276	200	549	549	66	3,240	81	89
3	96	87	82	128	256	224	492	512	63	1,250	71	93
4	93	85	85	122	256	6,770	454	497	63	765	63	103
5	114	82	85	121	283	20,500	428	441	62	537	55	93
6	113	80	90	e114	321	10,800	408	396	65	469	52	92
7	107	82	92	e109	298	5,540	418	362	60	544	50	87
8	111	85	93	e120	278	2,890	600	336	56	1,380	50	77
9	3,710	89	100	128	306	2,060	497	308	63	1,410	48	65
10	2,680	95	115	145	349	1,600	737	287	78	760	46	58
11	585	93	114	130	389	1,330	2,280	269	75	493	94	52
12	348	92	129	126	427	1,140	1,030	251	63	382	341	46
13	256	93	183	128	342	1,040	711	238	55	312	299	41
14	250	107	168	126	315	952	598	234	50	267	666	38
15	231	114	182	124	298	873	506	225	44	231	652	35
16	203	118	171	143	270	819	450	208	40	206	611	33
17	185	118	162	402	257	767	409	195	39	188	315	33
18	168	120	149	725	246	728	382	185	91	172	235	29
19	157	127	149	680	236	690	356	174	101	156	194	26
20	146	118	150	628	222	657	340	157	150	143	206	23
21	131	103	145	513	216	627	325	141	2,670	129	254	21
22	125	101	143	394	206	596	346	131	10,800	115	345	20
23	120	93	159	338	203	576	1,240	120	6,360	114	332	28
24	112	93	163	311	201	554	1,970	116	3,190	400	212	50
25	104	89	168	291	192	547	3,660	105	1,470	207	159	50
26	99	91	166	264	188	532	2,610	104	899	134	132	38
27	94	91	165	253	187	521	1,310	102	670	111	110	39
28	95	92	156	243	186	4,450	960	97	1,090	120	160	43
29	95	90	146	249	194	3,440	780	91	2,790	177	468	41
30	89	86	143	e230	---	1,340	658	80	4,490	142	165	36
31	84	---	135	216	---	838	---	76	---	113	122	---
TOTAL	10,983	2,882	4,162	7,775	7,636	73,799	26,151	7,579	35,783	17,167	6,682	1,581
MEAN	354	96.1	134	251	263	2,381	872	244	1,193	554	216	52.7
MAX	3,710	127	183	725	427	20,500	3,660	592	10,800	3,240	666	103
MIN	84	80	82	109	186	198	325	76	39	111	46	20
AC-FT	21,780	5,720	8,260	15,420	15,150	146,400	51,870	15,030	70,980	34,050	13,250	3,140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2004, BY WATER YEAR (WY)

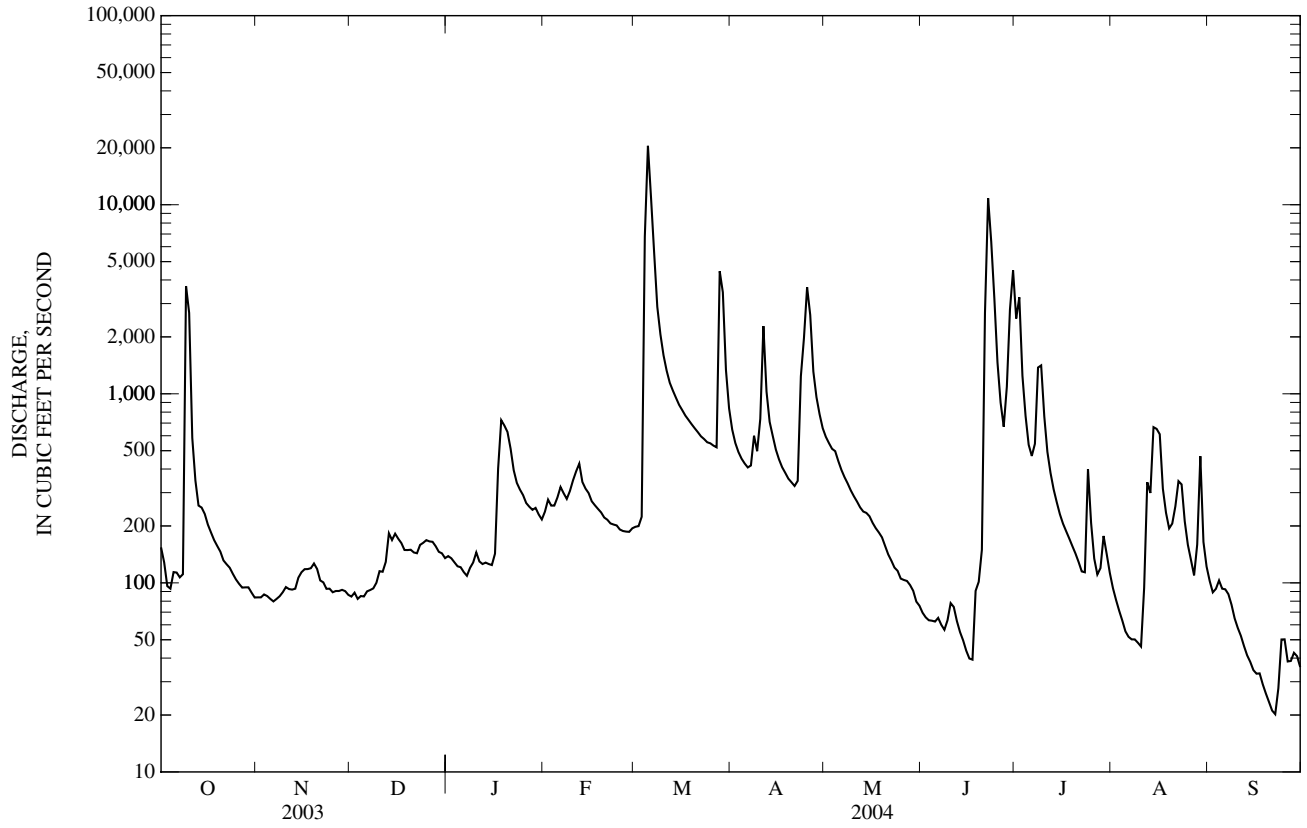
MEAN	844	851	478	402	586	1,279	1,120	2,071	1,508	556	503	564
MAX	9,071	5,171	1,864	1,549	2,410	4,840	6,442	11,750	6,969	2,131	2,622	2,311
(WY)	(1987)	(1999)	(1998)	(1998)	(1987)	(1998)	(1999)	(1993)	(1995)	(1999)	(1995)	(1996)
MIN	40.2	45.1	70.2	61.8	75.6	77.4	60.7	146	207	45.3	29.5	13.8
(WY)	(1985)	(1985)	(1977)	(1977)	(1981)	(1977)	(1981)	(1996)	(1984)	(1974)	(1984)	(1984)

e Estimated

07159100 CIMARRON RIVER NEAR DOVER, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1974 - 2004	
ANNUAL TOTAL	149,488		202,180			
ANNUAL MEAN	410		552		898	
HIGHEST ANNUAL MEAN					2,804	1987
LOWEST ANNUAL MEAN					250	2002
HIGHEST DAILY MEAN	7,580	May 17	20,500	Mar 5	80,200	Oct 3, 1986
LOWEST DAILY MEAN	15	Aug 22	20	Sep 22	4.3	Sep 23, 1980
ANNUAL SEVEN-DAY MINIMUM	16	Aug 21	26	Sep 17	7.5	Sep 19, 1980
MAXIMUM PEAK FLOW			25,900	Mar 5	123,000	Oct 3, 1986
MAXIMUM PEAK STAGE			19.26	Mar 5	a26.10	Oct 3, 1986
ANNUAL RUNOFF (AC-FT)	296,500		401,000		650,500	
10 PERCENT EXCEEDS	752		954		1,800	
50 PERCENT EXCEEDS	315		168		290	
90 PERCENT EXCEEDS	43		63		61	

a From high-water mark.



07159550 LAKE HEFNER AT OKLAHOMA CITY, OK

LOCATION.--Lat 35°34'58", long 97°35'43", in NW ¼ SE ¼ sec.23, T.13 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, on south side of dam on Bluff Creek, 50 ft north of intake structure, 3.0 mi northeast of Hefner Canal at Oklahoma City (07240000) and 6.0 mi northeast of Bethany.

DRAINAGE AREA.--9.69 mi^2. The source of water for Lake Hefner is mainly diversion of water from the North Canadian River at Lake Overholser through Bluff Creek Canal and runoff in the drainage basin.

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 77,880 acre-ft, May 5, July 1, 2004, elevation 1,199.93 ft; minimum, 55,000 acre-ft, at times in WY 2000, elevation, 1,190.36 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 77,880 acre-ft, May 5, July 1, elevation 1,199.93 ft; minimum, 59,600 acre-ft, Feb. 29, elevation, 1,192.46 ft.

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

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

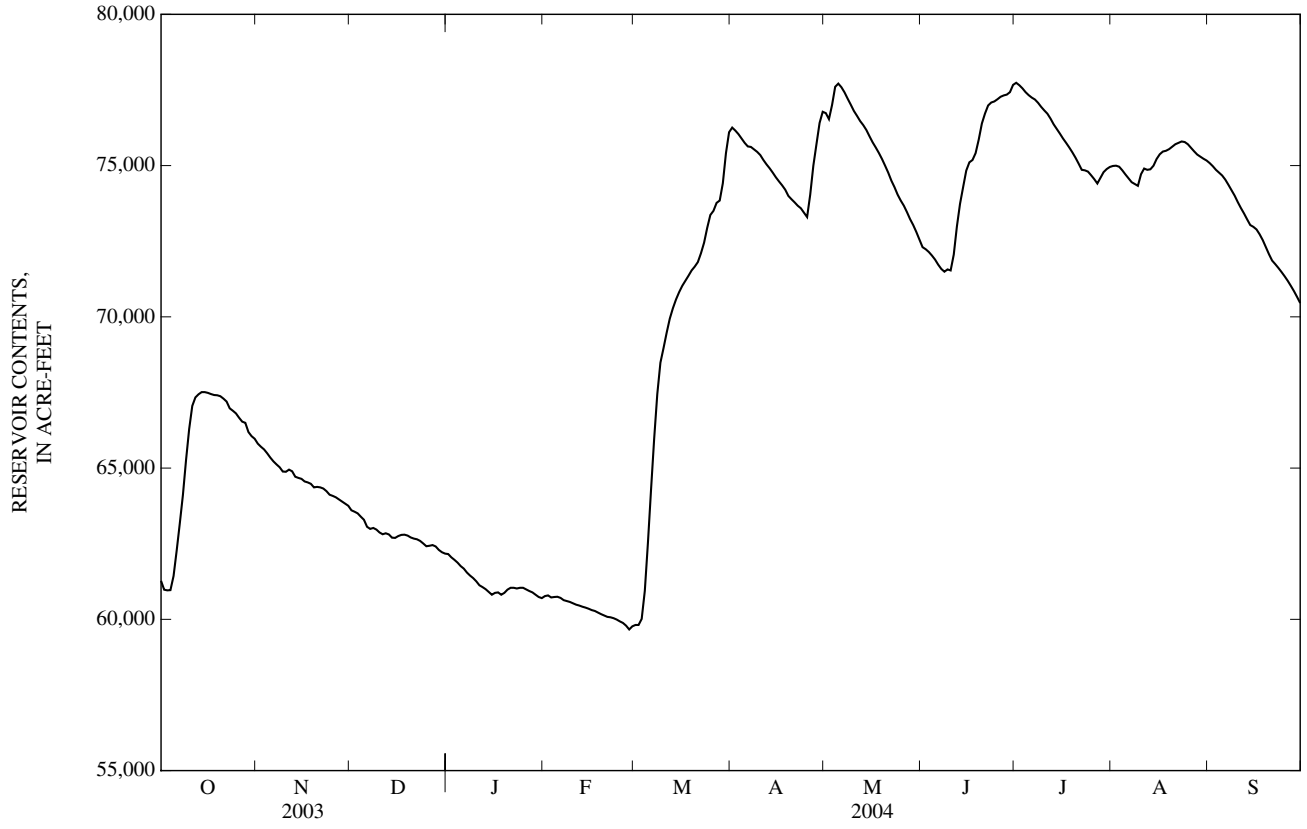
RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61,330	65,920	63,730	62,160	60,690	59,840	76,270	76,840	72,470	77,770	74,970	75,150
2	61,240	65,750	63,540	62,160	60,810	59,800	76,250	76,680	72,220	77,720	75,000	75,050
3	60,850	65,680	63,570	62,000	60,780	59,820	76,110	76,460	72,240	77,630	75,000	74,950
4	61,010	65,590	63,470	61,950	60,690	60,110	76,000	77,270	72,090	77,520	74,950	74,820
5	60,940	65,440	63,350	61,840	60,760	61,360	75,840	77,770	71,990	77,380	74,790	74,740
6	61,680	65,300	63,260	61,720	60,740	63,120	75,710	77,680	71,840	77,300	74,660	74,640
7	62,570	65,180	62,960	61,650	60,690	64,880	75,600	77,540	71,670	77,220	74,540	74,480
8	63,470	65,090	63,010	61,490	60,600	66,520	75,630	77,360	71,540	77,170	74,410	74,310
9	64,430	65,000	63,030	61,420	60,600	67,910	75,490	77,140	71,470	77,030	74,380	74,130
10	65,680	64,830	62,940	61,330	60,560	68,770	75,440	76,950	71,620	76,900	74,310	73,950
11	66,590	64,900	62,840	61,220	60,520	69,060	75,300	76,730	71,490	76,790	74,920	73,720
12	67,290	64,970	62,800	61,080	60,470	69,680	75,120	76,600	72,340	76,680	74,890	73,540
13	67,360	64,860	62,870	61,060	60,450	70,070	75,000	76,410	73,310	76,490	74,840	73,360
14	67,480	64,640	62,780	60,970	60,400	70,390	74,870	76,300	73,950	76,300	74,890	73,150
15	67,530	64,690	62,660	60,870	60,380	70,670	74,720	76,110	74,460	76,170	75,050	72,970
16	67,500	64,620	62,710	60,780	60,340	70,890	74,560	75,900	75,020	76,000	75,300	72,970
17	67,480	64,530	62,780	60,920	60,290	71,090	74,430	75,710	75,150	75,840	75,410	72,850
18	67,430	64,530	62,800	60,870	60,270	71,240	74,310	75,540	75,200	75,710	75,490	72,670
19	67,410	64,460	62,800	60,780	60,200	71,420	74,150	75,360	75,520	75,540	75,490	72,470
20	67,410	64,320	62,750	60,920	60,160	71,590	73,920	75,150	76,030	75,380	75,570	72,220
21	67,360	64,410	62,680	61,010	60,110	71,690	73,870	74,920	76,570	75,200	75,650	71,990
22	67,260	64,340	62,660	61,060	60,070	71,870	73,740	74,690	76,790	75,000	75,730	71,790
23	67,170	64,320	62,640	61,040	60,070	72,220	73,640	74,410	77,090	74,790	75,760	71,720
24	66,880	64,200	62,570	61,010	60,020	72,570	73,560	74,230	77,090	74,870	75,810	71,570
25	66,900	64,080	62,480	61,060	59,980	73,130	73,380	73,950	77,140	74,770	75,760	71,440
26	66,760	64,080	62,390	61,040	59,910	73,490	73,260	73,790	77,220	74,640	75,680	71,290
27	66,620	64,010	62,460	60,970	59,870	73,510	74,430	73,610	77,300	74,510	75,540	71,140
28	66,500	63,940	62,460	60,920	59,750	73,900	75,280	73,380	77,330	74,360	75,440	70,970
29	66,500	63,870	62,390	60,870	59,620	73,820	75,920	73,150	77,360	74,720	75,330	70,790
30	66,040	63,800	62,250	60,780	---	74,720	76,650	72,970	77,460	74,820	75,280	70,590
31	66,060	---	62,200	60,720	---	75,760	---	72,720	---	74,920	75,200	---
MAX	67,530	65,920	63,730	62,160	60,810	75,760	76,650	77,770	77,460	77,770	75,810	75,150
MIN	60,850	63,800	62,200	60,720	59,620	59,800	73,260	72,720	71,470	74,360	74,310	70,590
(‡)	1195.26	1194.30	1193.61	1192.96	1192.47	1199.15	1199.48	1197.97	1199.78	1198.83	1198.94	1197.12
(‡‡)	+4590	-2260	-1600	-1480	-1100	+16140	+890	-3930	+4740	-2540	+280	-4610

CAL YR 2003 MAX 77410 MIN 60850 (‡‡) -14050
WTR YR 2004 MAX 77770 MIN 59620 (‡‡) +9120

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

07159550 LAKE HEFNER AT OKLAHOMA CITY, OK—Continued



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

LOCATION.--Lat 35°40'02", long 97°35'45", in NE ¼, NW ¼, sec 26, T.14 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, at county road bridge 0.4 mi upstream of Deer Creek and 0.6 mi west of State Highway 74.

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
SEP											
16...	1226	1028	1028	16.83	123	732	7.3	7.9	917	23.8	2.00
16...	1227	1028	1028	16.83	123	732	7.2	7.8	914	23.8	4.00
16...	1228	1028	1028	16.83	123	732	7.3	7.9	912	23.8	6.00
16...	1229	1028	1028	16.83	123	732	7.3	7.8	909	23.8	8.00
16...	1230	1028	1028	16.83	123	732	7.3	7.9	908	23.8	10.0
16...	1231	1028	1028	16.83	123	732	7.4	7.9	906	23.8	12.0
16...	1232	1028	1028	16.83	123	732	7.4	7.9	906	23.8	14.0
16...	1233	1028	1028	16.83	123	732	7.3	7.8	905	23.8	16.0
16...	1234	1028	1028	16.83	123	732	7.3	7.8	905	23.8	18.0
16...	1235	1028	1028	16.83	123	732	7.2	7.8	903	23.8	20.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)
MAY													
18...	1400	1028	80020	3.8	739	6.9	7.8	1,160	29.5	23.2	256	307	3
JUN													
16...	1305	1028	80020	3.6	740	6.5	7.8	887	32.6	25.4	188	226	1
JUL													
20...	1150	1028	80020	3.4	734	6.5	7.9	1,120	31.7	26.8	236	E280	E4
AUG													
17...	1220	1028	80020	22	736	7.5	7.7	556	29.0	23.4	132	159	.0
SEP													
16...	1225	1028	80020	123	732	7.3	7.9	906	26.8	23.8	147	177	.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbophenothion, water, unfltrd ug/L (39786)	Chlorpyrifos water unfltrd ug/L (38932)	Diazinon, water, unfltrd ug/L (39570)	Disulfoton, water, unfltrd ug/L (39011)	Ethion, water, unfltrd ug/L (39398)	Fonofos water unfltrd ug/L (82614)	Isofenfos, surrog, Sch1319 wat unf percent recovry (90712)	Malathion, water, unfltrd ug/L (39530)	Methyl parathion, water, unfltrd ug/L (39600)	Parathion, water, unfltrd ug/L (39540)	Phorate water unfltrd ug/L (39023)	Tribuphos, water, unfltrd ug/L (39040)
MAY												
18...	<.02	<.01	.03	<.10	<.01	<.01	39.5	<.10	<.01	<.01	<.02	<.02
JUN												
16...	<.02	<.01	<.02	<.10	<.01	<.01	21.7	<.10	<.01	<.01	<.02	<.02
JUL												
20...	<.02	<.01	<.02	<.10	<.01	<.01	81.0	<.10	<.01	<.01	<.02	<.02
AUG												
17...	<.02	<.01	.02	<.10	<.01	<.01	68.8	<.10	<.01	<.01	<.02	<.02
SEP												
16...	<.02	<.01	E.01	<.10	<.01	<.01	74.8	<.10	<.01	<.01	<.02	<.02

07159643 DEER CREEK BELOW BLUFF CREEK AT OKLAHOMA CITY, OK

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

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
SEP										
16...	1042	1028	1028	12	732	5.8	7.7	1,270	23.8	4.00
16...	1043	1028	1028	12	732	5.9	7.7	1,270	23.8	6.00
16...	1044	1028	1028	12	732	6.0	7.7	1,270	23.8	8.00
16...	1045	1028	1028	12	732	6.0	7.7	1,270	23.8	10.0
16...	1046	1028	1028	12	732	6.1	7.7	1,270	23.8	12.0
16...	1047	1028	1028	12	732	6.1	7.7	1,270	23.8	14.0
16...	1048	1028	1028	12	732	6.1	7.7	1,270	23.9	16.0
16...	1049	1028	1028	12	732	6.1	7.7	1,270	23.9	18.0
16...	1050	1028	1028	12	732	6.1	7.7	1,270	23.9	20.0
16...	1051	1028	1028	12	732	6.1	7.7	1,270	23.9	22.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)
MAY													
18...	1245	1028	80020	7.6	739	8.2	7.7	1,260	29.6	23.3	190	228	2
JUN													
16...	1200	1028	80020	6.0	740	8.4	7.7	1,040	31.2	25.5	138	166	.0
JUL													
20...	1035	1028	80020	11	734	8.0	7.7	1,280	30.7	25.9	210	E251	E2
AUG													
17...	1110	1028	80020	55	736	7.6	7.5	767	27.2	23.0	167	203	.0
SEP													
16...	1041	1028	80020	12	732	6.1	7.7	1,270	25.0	23.8	171	207	.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbophenothion, water, unfltrd ug/L (39786)	Chlorpyrifos water unfltrd ug/L (38932)	Diazinon, water, unfltrd ug/L (39570)	Disulfoton, water, unfltrd ug/L (39011)	Ethion, water, unfltrd ug/L (39398)	Fonofos water unfltrd ug/L (82614)	Isofenfos, surrog, Sch1319 wat unf percent recovry (90712)	Malathion, water, unfltrd ug/L (39530)	Methyl parathion, water, unfltrd ug/L (39600)	Parathion, water, unfltrd ug/L (39540)	Phorate water unfltrd ug/L (39023)	Tribuphos, water, unfltrd ug/L (39040)
MAY												
18...	<.02	<.01	.02	<.10	<.01	<.01	75.5	<.10	<.01	<.01	<.02	<.02
JUN												
16...	<.02	E.01	.04	<.10	<.01	<.01	81.0	<.10	<.01	<.01	<.02	<.02
JUL												
20...	<.02	<.01	E.01	<.10	<.01	<.01	74.5	<.10	<.01	<.01	<.02	<.02
AUG												
17...	<.02	<.01	E.01	<.10	<.01	<.01	61.7	<.10	<.01	<.01	<.02	<.02
SEP												
16...	<.02	<.01	<.02	<.10	<.01	<.01	73.6	<.10	<.01	<.01	<.02	<.02

07159650 DEER CREEK AT OKLAHOMA CITY, OK

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

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
SEP											
16...	0952	1028	1028	26.97	20	732	5.2	7.5	1,340	24.3	4.00
16...	0953	1028	1028	26.97	20	732	5.4	7.5	1,340	24.3	6.00
16...	0954	1028	1028	26.97	20	732	5.5	7.5	1,340	24.3	8.00
16...	0955	1028	1028	26.97	20	732	5.6	7.5	1,340	24.3	10.0
16...	0956	1028	1028	26.97	20	732	5.7	7.5	1,340	24.3	12.0
16...	0957	1028	1028	26.97	20	732	5.8	7.5	1,340	24.3	14.0
16...	0958	1028	1028	26.97	20	732	5.9	7.5	1,340	24.3	16.0
16...	0959	1028	1028	26.97	20	732	5.9	7.5	1,340	24.3	18.0
16...	1000	1028	1028	26.97	20	732	6.0	7.5	1,340	24.3	20.0
16...	1001	1028	1028	26.97	20	732	6.1	7.5	1,340	24.3	22.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)
MAY													
18...	1100	1028	80020	19	739	6.8	7.3	1,310	26.7	21.7	129	156	.0
JUN													
16...	1030	1028	80020	18	740	6.4	7.3	1,220	29.1	24.1	88	106	.0
JUL													
20...	0920	1028	80020	21	734	6.6	7.4	1,320	30.0	25.0	148	179	.0
AUG													
17...	1010	1028	80020	79	736	6.7	7.4	841	26.0	22.9	164	199	.0
SEP													
16...	0950	1028	80020	20	732	5.7	7.5	1,340	23.0	24.3	123	149	.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbophenothion, water, unfltrd ug/L (39786)	Chlorpyrifos water unfltrd ug/L (38932)	Diazinon, water, unfltrd ug/L (39570)	Disulfoton, water, unfltrd ug/L (39011)	Ethion, water, unfltrd ug/L (39398)	Fonofos water unfltrd ug/L (82614)	Isofenfos, surrog, Sch1319 wat unf percent recovry (90712)	Malathion, water, unfltrd ug/L (39530)	Methyl parathion, water, unfltrd ug/L (39600)	Parathion, water, unfltrd ug/L (39540)	Phorate water unfltrd ug/L (39023)	Tribuphos, water, unfltrd ug/L (39040)
MAY												
18...	<.02	<.01	.04	<.10	<.01	<.01	62.7	<.10	<.01	<.01	<.02	<.02
JUN												
16...	<.02	<.01	.05	<.10	<.01	<.01	68.6	<.10	<.01	<.01	<.02	<.02
JUL												
20...	<.02	<.01	E.01	<.10	<.01	<.01	61.7	<.10	<.01	<.01	<.02	<.02
AUG												
17...	<.02	<.01	E.01	<.10	<.01	<.01	65.0	<.10	<.01	<.01	<.02	<.02
SEP												
16...	<.02	<.01	E.02	<.10	<.01	<.01	78.3	<.10	<.01	<.01	<.02	<.02

07159730 CHISHOLM CREEK AT EDMOND, OK

LOCATION.--Lat 35°40'55", long 97°32'06", in SE ¼, SE ¼, sec 17, T.14 N., R.3 W., Oklahoma County, Hydrologic Unit 11050002, at bridge on 206th St., 0.2 mi west of Western Ave., 1.8 mi south of Logan County line.

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

REMARKS.--Samples were collected monthly from May to July and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field. No flow August 19 and September 9.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
SEP											
16...	0846	1028	1028	24.93	.67	732	6.0	7.7	392	24.4	.50
16...	0847	1028	1028	24.93	.67	732	6.0	7.7	392	24.4	1.00
16...	0848	1028	1028	24.93	.67	732	6.0	7.7	391	24.4	1.50
16...	0849	1028	1028	24.93	.67	732	5.9	7.7	391	24.4	2.00
16...	0850	1028	1028	24.93	.67	732	5.8	7.7	390	24.4	2.50

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)
MAY													
18...	0920	1028	80020	.61	739	4.4	7.4	953	24.6	21.5	258	311	2
JUN													
16...	0905	1028	80020	.96	740	4.4	7.5	395	26.8	24.8	113	136	.0
JUL													
20...	0830	1028	80020	.75	734	4.9	7.7	621	27.7	26.0	203	245	1
AUG													
17...	0852	1028	80020	10	736	7.0	7.3	279	25.0	22.8	83	E100	E.0
SEP													
16...	0845	1028	80020	.67	732	5.9	7.7	391	22.7	24.4	94	114	.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbophenothion, water, unfltrd ug/L (39786)	Chlorpyrifos water unfltrd ug/L (38932)	Diazinon, water, unfltrd ug/L (39570)	Disulfoton, water, unfltrd ug/L (39011)	Ethion, water, unfltrd ug/L (39398)	Fonofos water unfltrd ug/L (82614)	Isofenfos, surrog, Sch1319 wat unf percent recovry (90712)	Malathion, water, unfltrd ug/L (39530)	Methyl parathion, water, unfltrd ug/L (39600)	Parathion, water, unfltrd ug/L (39540)	Phorate water unfltrd ug/L (39023)	Tribuphos, water, unfltrd ug/L (39040)
MAY												
18...	<.02	<.01	E.02	<.10	<.01	<.01	62.5	<.10	<.01	<.01	<.02	<.02
JUN												
16...	<.02	<.01	E.02	<.10	<.01	<.01	68.7	<.10	<.01	<.01	<.02	<.02
JUL												
20...	<.02	<.01	E.01	<.10	<.01	<.01	30.3	<.10	<.01	<.01	<.02	<.02
AUG												
17...	<.02	<.01	E.01	<.10	<.01	<.01	64.2	<.10	<.01	<.01	<.02	<.02
SEP												
16...	<.02	<.01	<.02	<.10	<.01	<.01	56.9	<.10	<.01	<.01	<.02	<.02

07159735 CHISHOLM CREEK NEAR EDMOND, OK

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

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
SEP											
16...	0756	1028	1028	26.38	12	732	6.3	7.6	1,080	24.7	2.00
16...	0757	1028	1028	26.38	12	732	6.2	7.6	1,080	24.7	4.00
16...	0758	1028	1028	26.38	12	732	6.2	7.6	1,080	24.7	6.00
16...	0759	1028	1028	26.38	12	732	6.2	7.6	1,080	24.8	8.00
16...	0800	1028	1028	26.38	12	732	6.2	7.6	1,080	24.8	10.0
16...	0801	1028	1028	26.38	12	732	6.2	7.6	1,080	24.8	12.0
16...	0802	1028	1028	26.38	12	732	6.2	7.6	1,080	24.8	14.0
16...	0803	1028	1028	26.38	12	732	6.2	7.6	1,080	24.8	16.0
16...	0804	1028	1028	26.38	12	732	6.2	7.6	1,080	24.7	18.0
16...	0805	1028	1028	26.38	12	732	6.2	7.6	1,080	24.7	20.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)
MAY													
18...	0830	1028	80020	8.6	739	6.8	7.5	1,220	23.8	22.7	117	142	.0
JUN													
16...	0800	1028	80020	8.0	740	6.2	7.6	1,040	22.3	25.6	99	118	1
JUL													
20...	0735	1028	80020	12	734	6.0	7.5	1,180	25.7	26.8	132	160	.0
AUG													
17...	0746	1028	80020	25	736	6.8	7.2	545	23.8	22.5	125	151	.0
SEP													
16...	0754	1028	80020	12	732	6.2	7.6	1,080	22.0	24.8	125	151	.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Carbophenothion, water, unfltrd ug/L (39786)	Chlorpyrifos water unfltrd ug/L (38932)	Diazinon, water, unfltrd ug/L (39570)	Disulfoton, water, unfltrd ug/L (39011)	Ethion, water, unfltrd ug/L (39398)	Fonofos water unfltrd ug/L (82614)	Isofenfos, surrog, Sch1319 wat unf percent recovry (90712)	Malathion, water, unfltrd ug/L (39530)	Methyl parathion, water, unfltrd ug/L (39600)	Parathion, water, unfltrd ug/L (39540)	Phorate water unfltrd ug/L (39023)	Tribuphos, water, unfltrd ug/L (39040)
MAY												
18...	<.02	<.01	.02	<.10	<.01	<.01	91.3	<.10	<.01	<.01	<.02	<.02
JUN												
16...	<.02	<.01	.02	<.10	<.01	<.01	84.5	<.10	<.01	<.01	<.02	<.02
JUL												
20...	<.02	<.01	E.02	<.10	<.01	<.01	85.6	<.10	<.01	<.01	<.02	<.02
AUG												
17...	<.02	<.01	.02	<.10	<.01	<.01	81.4	E.01	<.01	<.01	<.02	<.02
SEP												
16...	<.02	<.01	.02	<.10	<.01	<.01	79.0	<.10	<.01	<.01	<.02	<.02

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07160000 CIMARRON RIVER NEAR GUTHRIE, OK

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

DRAINAGE AREA.--16,892 mi^2, of which 4,926 mi^2 is probably noncontributing.

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

REVISED RECORDS.--WSP 1341: Drainage area.

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 5	2130	*55,200	*12.71	Jun 23	0100	27,500	9.47

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	116	153	172	310	287	1,810	1,180	354	7,500	294	225
2	164	119	152	171	359	317	1,350	1,240	262	6,730	234	189
3	171	118	153	167	476	285	1,100	922	241	5,000	199	166
4	146	120	155	161	406	4,310	931	787	254	2,170	209	142
5	140	120	156	157	392	46,000	826	727	242	1,340	177	151
6	144	122	156	130	424	26,000	758	630	228	1,110	172	144
7	152	121	158	112	447	17,200	716	546	219	1,110	157	141
8	149	124	162	148	416	10,800	792	492	205	1,220	147	137
9	2,440	125	175	160	388	7,840	1,320	450	266	2,030	148	133
10	9,610	129	193	155	399	5,770	1,170	420	532	1,990	199	129
11	2,610	132	191	163	435	4,380	2,090	399	466	1,180	e5,000	126
12	861	138	201	166	451	3,570	4,400	373	303	814	e8,500	122
13	523	139	217	164	499	3,030	2,030	356	232	645	e2,700	117
14	376	148	236	163	430	2,700	1,310	353	199	542	e1,100	112
15	306	152	261	175	376	2,400	1,030	354	183	461	e1,200	107
16	271	163	253	171	358	2,170	844	345	172	398	e2,200	99
17	231	212	240	297	333	2,000	718	319	163	342	e2,000	94
18	199	222	222	806	311	1,870	617	301	193	300	e1,100	e91
19	181	228	204	945	299	1,760	567	290	323	272	e718	e88
20	165	201	196	762	288	1,650	545	277	829	252	510	e85
21	154	179	186	689	273	1,520	526	260	1,260	233	424	e82
22	145	167	183	602	264	1,410	512	243	15,200	217	449	e80
23	138	161	184	506	257	1,310	652	239	24,100	206	486	78
24	133	154	185	444	244	1,240	2,090	236	11,600	513	489	80
25	124	151	189	445	241	1,210	4,130	229	5,160	1,110	349	93
26	116	152	184	400	236	1,190	6,720	222	2,840	592	280	110
27	119	150	184	368	225	1,150	4,250	217	1,700	328	234	103
28	120	152	201	336	215	1,660	2,270	218	1,220	267	207	91
29	118	152	218	317	238	12,300	1,590	215	1,840	284	196	91
30	114	152	192	e300	---	5,900	1,300	299	5,100	557	499	90
31	114	---	179	e306	---	2,900	---	341	---	437	308	---
TOTAL	20,356	4,519	5,919	10,058	9,990	176,129	48,964	13,480	75,886	40,150	30,885	3,496
MEAN	657	151	191	324	344	5,682	1,632	435	2,530	1,295	996	117
MAX	9,610	228	261	945	499	46,000	6,720	1,240	24,100	7,500	8,500	225
MIN	114	116	152	112	215	285	512	215	163	206	147	78
AC-FT	40,380	8,960	11,740	19,950	19,820	349,400	97,120	26,740	150,500	79,640	61,260	6,930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2004, BY WATER YEAR (WY)

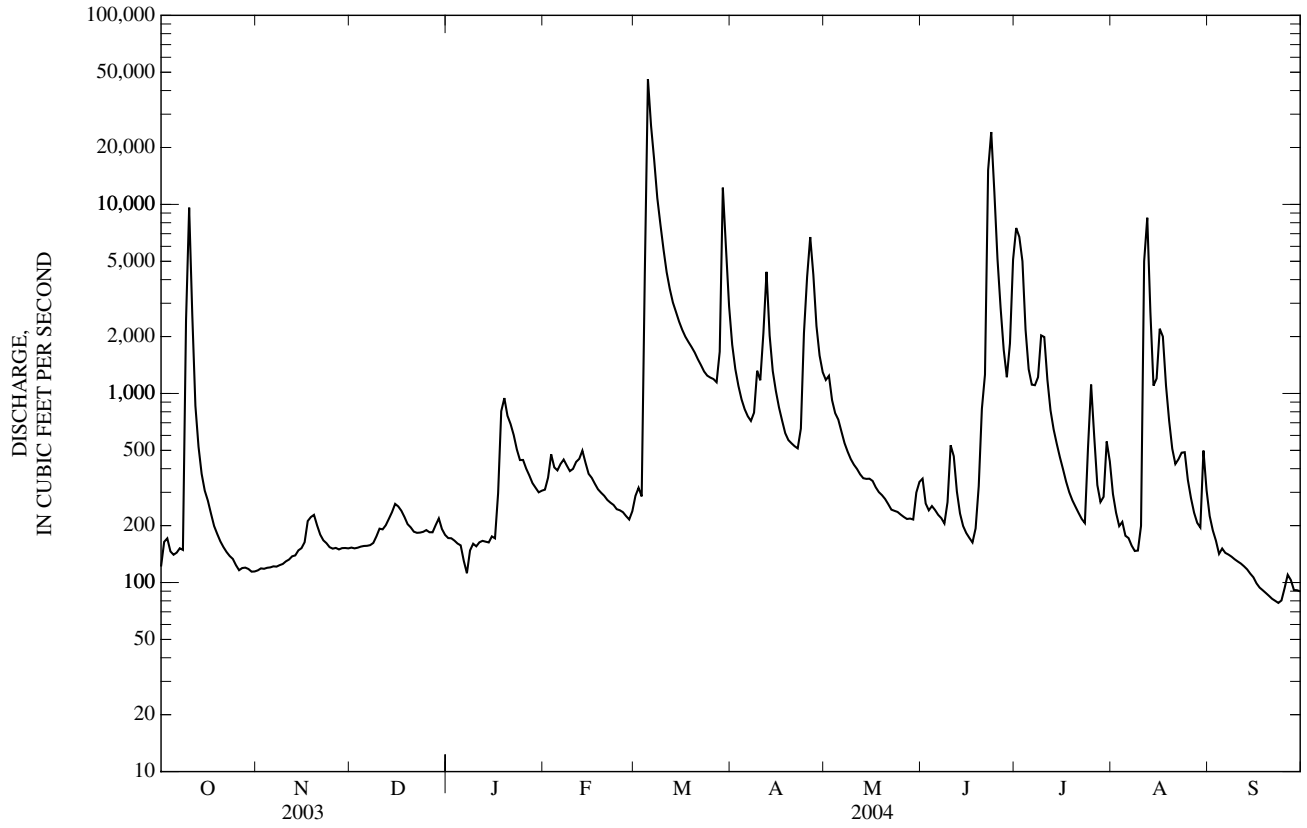
MEAN	1,108	864	557	494	699	1,317	1,574	2,498	2,222	887	650	880
MAX	13,800	8,748	2,874	2,266	4,063	6,603	9,372	20,630	14,860	4,220	4,182	3,988
(WY)	(1987)	(1999)	(1993)	(1993)	(1987)	(1998)	(1999)	(1993)	(1995)	(1950)	(1995)	(1989)
MIN	0.79	0.70	1.39	6.38	21.7	24.7	66.5	63.0	58.6	9.58	26.1	8.03
(WY)	(1953)	(1955)	(1955)	(1940)	(1957)	(1955)	(1956)	(1971)	(1953)	(1954)	(1943)	(1954)

e Estimated

07160000 CIMARRON RIVER NEAR GUTHRIE, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1938 - 2004	
ANNUAL TOTAL	215,735		439,832			
ANNUAL MEAN	591		1,202		1,142	
HIGHEST ANNUAL MEAN					3,901	1987
LOWEST ANNUAL MEAN					192	1953
HIGHEST DAILY MEAN	9,610	Oct 10	46,000	Mar 5	112,000	May 17, 1957
LOWEST DAILY MEAN	31	Aug 27	78	Sep 23	a0.30	Oct 20, 1939
ANNUAL SEVEN-DAY MINIMUM	33	Aug 22	83	Sep 18	0.39	Oct 19, 1939
MAXIMUM PEAK FLOW			55,200	Mar 5	158,000	May 17, 1957
MAXIMUM PEAK STAGE			12.71	Mar 5	18.58	May 17, 1957
ANNUAL RUNOFF (AC-FT)	427,900		872,400		827,500	
10 PERCENT EXCEEDS	1,030		2,180		2,210	
50 PERCENT EXCEEDS	498		282		350	
90 PERCENT EXCEEDS	78		125		60	

a Also occurred Oct. 21-22, Nov. 2, 1939.



07160350 SKELETON CREEK AT ENID, OK

LOCATION.--Lat 36°22'34", long 97°48'00", in NW ¼ NW ¼ sec.24, T.22 N., R.6 W., Garfield County, Hydrologic Unit 11050002, on left bank, 600 ft below confluence of Boggy Creek, at mile 47.5.

DRAINAGE AREA.--70.3 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 1,110.48 ft above sea level.

REMARKS.--Records good. Low flows regulated by releases of effluent from the City of Enid water treatment plant, 1 mile upstream. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 10, 1973, stage unknown, discharge 81,000 ft^3/s, from slope-area measurement of peak flow at Southgate Road, one mile below gage.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	7.1	6.1	6.6	24	17	18	31	e10	28	7.1	9.7
2	5.8	5.8	8.4	7.3	27	9.4	15	13	18	41	6.0	11
3	4.2	5.5	12	6.4	13	16	15	11	15	22	5.8	7.6
4	3.1	6.1	7.6	6.6	11	1,680	11	12	38	15	7.0	8.5
5	19	5.6	9.1	7.7	23	566	13	11	29	15	5.2	12
6	7.2	6.0	8.6	8.0	23	70	11	15	9.7	50	5.2	40
7	4.9	5.6	6.7	9.4	10	39	12	15	6.6	18	5.6	8.5
8	3.5	5.8	8.7	7.2	11	26	13	12	6.4	14	5.3	7.8
9	207	5.2	10	9.3	35	20	13	14	52	12	5.2	7.7
10	20	8.2	9.4	7.4	28	18	94	16	59	9.1	6.4	7.6
11	5.7	6.9	10	6.7	16	13	24	18	10	8.9	443	6.8
12	4.6	5.3	6.5	6.9	14	16	13	18	8.0	8.8	61	6.0
13	4.0	9.1	11	6.9	13	13	13	21	8.6	9.6	18	6.6
14	4.7	22	11	7.1	13	13	13	33	7.9	9.1	10	6.4
15	4.7	7.9	30	7.1	11	12	10	12	7.4	8.2	6.9	5.1
16	3.9	5.8	27	9.5	10	13	11	9.4	11	9.3	7.9	6.0
17	5.1	7.1	11	242	12	13	9.7	12	18	7.2	6.6	5.4
18	5.9	5.1	12	91	9.3	13	9.0	10	11	7.1	5.9	4.5
19	3.5	5.2	8.9	25	11	13	9.5	12	48	5.6	42	4.7
20	4.3	5.6	8.1	19	8.5	11	13	8.5	72	7.3	26	4.2
21	6.8	6.7	7.6	12	8.0	11	13	11	105	6.6	10	4.4
22	6.4	5.7	8.7	8.8	8.0	12	307	11	99	6.0	8.3	4.8
23	4.2	5.9	52	9.8	7.9	11	50	11	24	155	9.5	18
24	6.6	5.3	10	8.0	8.7	10	91	12	11	66	9.4	11
25	8.1	6.5	7.0	9.1	11	13	26	10	7.2	11	6.6	6.0
26	7.8	6.4	9.0	9.5	7.4	11	16	11	12	7.6	8.4	4.3
27	8.8	6.6	7.2	12	8.0	73	12	11	10	7.3	6.4	5.6
28	7.2	8.4	6.0	9.3	8.3	1,170	12	e12	323	40	27	5.6
29	5.6	7.5	7.3	10	34	92	11	e11	45	38	9.3	5.0
30	13	6.0	7.7	8.2	---	38	19	e11	34	8.9	9.4	6.5
31	5.4	---	8.3	9.7	---	25	---	e10	---	6.1	6.9	---
TOTAL	418.0	205.9	352.9	603.5	424.1	4,057.4	897.2	424.9	1,115.8	657.7	797.3	247.3
MEAN	13.5	6.86	11.4	19.5	14.6	131	29.9	13.7	37.2	21.2	25.7	8.24
MAX	207	22	52	242	35	1,680	307	33	323	155	443	40
MIN	3.1	5.1	6.0	6.4	7.4	9.4	9.0	8.5	6.4	5.6	5.2	4.2
AC-FT	829	408	700	1,200	841	8,050	1,780	843	2,210	1,300	1,580	491

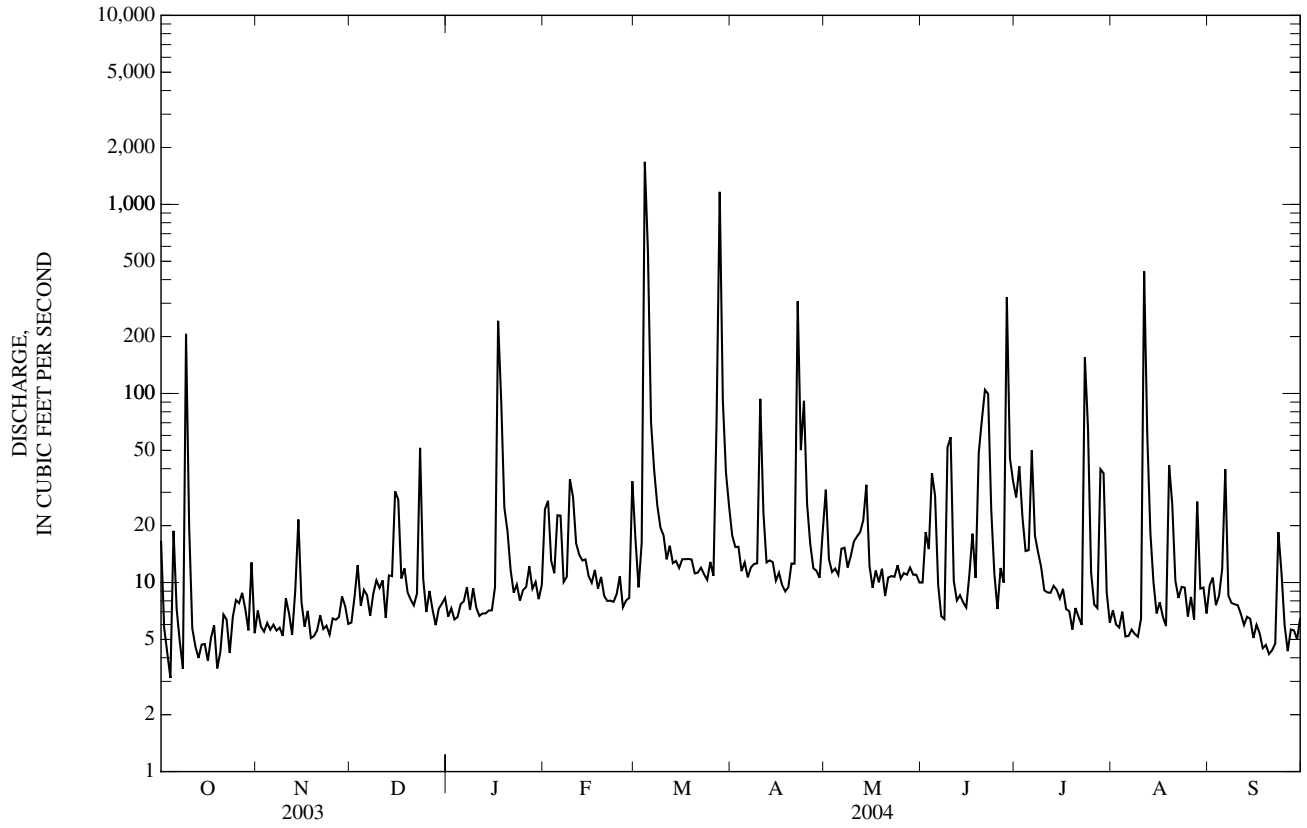
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2004, BY WATER YEAR (WY)

MEAN	45.4	35.2	31.4	25.4	37.2	65.3	57.5	43.9	48.9	35.2	19.1	28.3
MAX	145	147	66.2	60.2	101	200	205	71.3	224	120	45.0	71.4
(WY)	(1999)	(1999)	(1998)	(1999)	(1997)	(1998)	(1999)	(1999)	(1999)	(1997)	(1997)	(1997)
MIN	4.64	6.86	6.15	8.60	10.0	7.28	8.27	9.25	14.4	5.93	5.34	6.66
(WY)	(2002)	(2004)	(2002)	(2002)	(2002)	(2002)	(1996)	(1996)	(2003)	(2003)	(2001)	(2000)

e Estimated

07160350 SKELETON CREEK AT ENID, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1996 - 2004	
ANNUAL TOTAL	5,311.7		10,202.0			
ANNUAL MEAN	14.6		27.9		40.8	
HIGHEST ANNUAL MEAN					98.4	1999
LOWEST ANNUAL MEAN					17.5	2002
HIGHEST DAILY MEAN	456	May 16	1,680	Mar 4	3,350	Nov 1, 1998
LOWEST DAILY MEAN	2.1	Aug 22	3.1	Oct 4	2.1	Aug 22, 2003
ANNUAL SEVEN-DAY MINIMUM	2.6	Sep 6	4.5	Oct 13	2.6	Sep 6, 2003
MAXIMUM PEAK FLOW			3,550	Mar 4	8,180	Nov 1, 1998
MAXIMUM PEAK STAGE			10.19	Mar 4	14.70	Nov 1, 1998
ANNUAL RUNOFF (AC-FT)	10,540		20,240		29,530	
10 PERCENT EXCEEDS	21		34		53	
50 PERCENT EXCEEDS	9.7		9.7		14	
90 PERCENT EXCEEDS	3.2		5.6		5.7	



07160500 SKELETON CREEK NEAR LOVELL, OK

LOCATION.--Lat 36°03'36", long 97°35'05", in NW $^1/_4$ SW $^1/_4$ sec.1, T.18 N., R.4 W., Logan County, Hydrologic Unit 11050002, on right bank downstream bridge abutment on State Highway 74, 2 mi upstream from Otter Creek, 2.8 mi east of Lovell, and at mile 14.6.

DRAINAGE AREA.--410 mi^2.

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

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 9	1200	5,250	27.27	Jun 22	0730	4,290	24.11
Mar 5	0430	*33,300	*44.46	Aug 11	1200	3,900	23.19
Mar 29	0300	4,280	24.22				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	15	14	13	36	46	127	46	11	148	18	14
2	42	11	13	16	50	58	108	62	11	155	15	12
3	19	11	12	14	69	42	94	46	11	106	13	12
4	12	11	16	13	59	6,240	84	37	20	64	11	12
5	9.8	12	18	12	63	23,200	78	35	19	43	9.5	11
6	12	11	14	11	108	4,010	72	32	e18	61	11	12
7	18	10	13	8.1	e100	466	70	31	e17	83	10	19
8	14	11	16	13	e60	282	74	32	e16	66	10	21
9	3,760	11	16	16	76	218	78	31	e50	33	10	14
10	2,070	12	18	14	210	180	155	27	e40	28	10	10
11	167	12	19	16	142	152	415	25	e31	23	2,420	9.4
12	68	14	19	15	84	133	165	27	e24	19	1,820	9.3
13	37	15	20	14	62	123	100	27	17	16	199	9.1
14	24	14	16	13	56	123	82	27	13	16	79	9.0
15	18	22	30	13	52	114	72	42	13	16	49	8.7
16	16	23	25	15	48	106	66	32	13	15	42	9.7
17	14	20	51	409	43	99	61	26	10	14	41	8.6
18	12	19	27	1,010	42	96	58	23	14	14	28	8.1
19	12	16	20	e300	41	90	54	23	21	13	160	7.9
20	13	15	20	e120	39	86	53	20	34	12	294	7.7
21	9.4	14	18	e80	35	77	54	21	1,500	9.9	120	7.3
22	8.9	14	17	e54	32	70	73	16	3,250	9.8	57	6.9
23	11	14	17	45	31	69	268	17	856	62	35	6.7
24	12	12	48	41	32	68	138	16	166	203	26	6.7
25	9.0	12	28	44	31	67	150	16	76	97	22	7.4
26	8.7	12	19	45	31	68	85	16	48	34	20	9.5
27	12	13	17	36	32	68	63	17	34	21	16	10
28	12	13	17	29	29	1,780	49	17	88	17	14	8.6
29	13	13	14	e27	32	2,350	43	16	362	28	14	7.7
30	11	15	13	e25	---	277	41	14	147	63	20	7.4
31	11	---	14	27	---	164	---	12	---	30	16	---
TOTAL	6,526.8	417	619	2,508.1	1,725	40,922	3,030	829	6,930	1,519.7	5,609.5	302.7
MEAN	211	13.9	20.0	80.9	59.5	1,320	101	26.7	231	49.0	181	10.1
MAX	3,760	23	51	1,010	210	23,200	415	62	3,250	203	2,420	21
MIN	8.7	10	12	8.1	29	42	41	12	10	9.8	9.5	6.7
AC-FT	12,950	827	1,230	4,970	3,420	81,170	6,010	1,640	13,750	3,010	11,130	600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2004, BY WATER YEAR (WY)

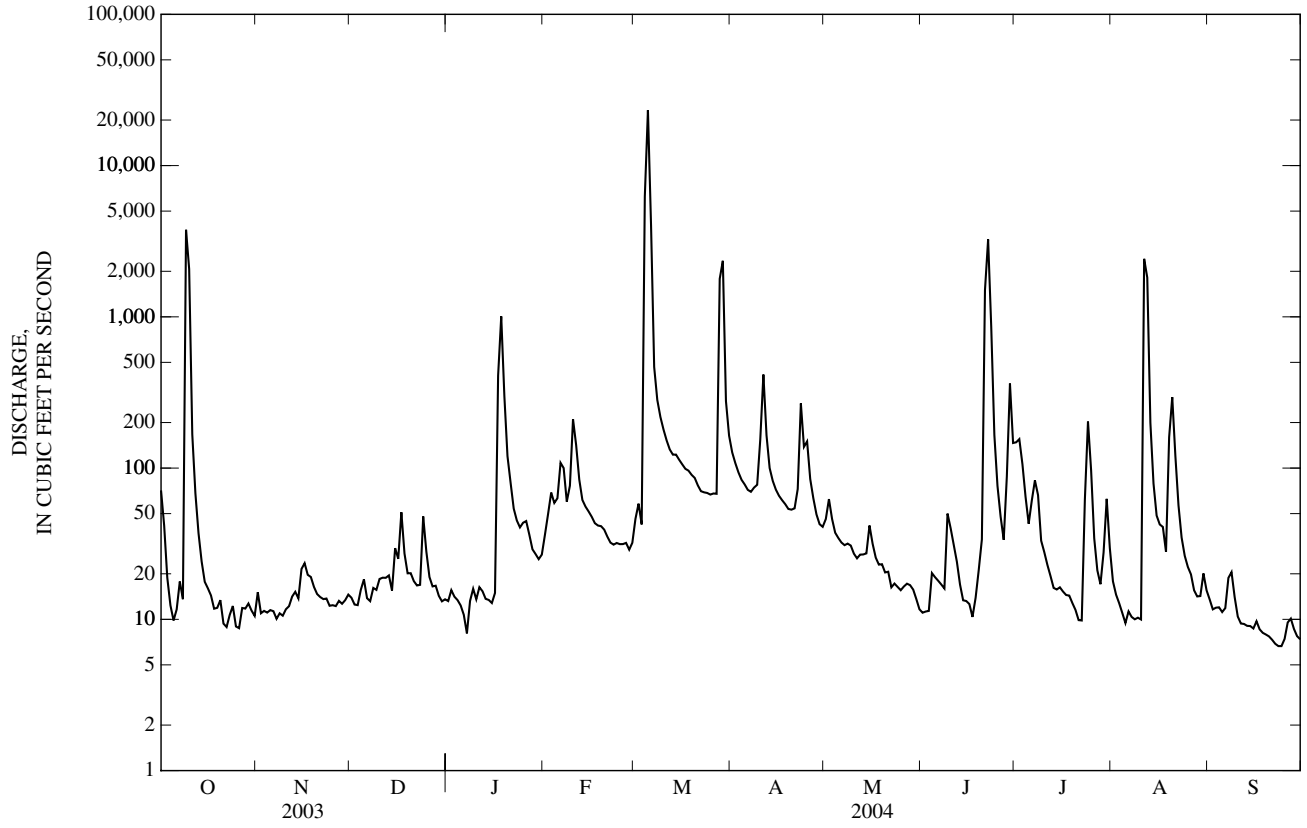
MEAN	173	99.3	51.3	50.3	70.7	154	129	376	221	99.3	74.8	132
MAX	2,450	1,285	369	357	667	1,320	847	2,850	1,390	739	966	1,046
(WY)	(1987)	(1975)	(1993)	(1993)	(1975)	(2004)	(1988)	(1957)	(1957)	(1950)	(1992)	(1961)
MIN	0.40	1.34	2.13	3.23	3.81	2.55	2.80	4.72	8.41	0.34	3.45	0.40
(WY)	(1953)	(1955)	(1955)	(1953)	(1953)	(1955)	(1955)	(1971)	(1959)	(1954)	(1971)	(1956)

e Estimated

07160500 SKELETON CREEK NEAR LOVELL, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1950 - 2004	
ANNUAL TOTAL	25,076.3		70,938.8			
ANNUAL MEAN	68.7		194		136	
HIGHEST ANNUAL MEAN					501	1987
LOWEST ANNUAL MEAN					16.9	1953
HIGHEST DAILY MEAN	3,760	Oct 9	23,200	Mar 5	39,200	May 16, 1957
LOWEST DAILY MEAN	3.2	Aug 23	6.7	Sep 23,24	a0.00	Sep 23, 1953
ANNUAL SEVEN-DAY MINIMUM	3.7	Jul 23	7.2	Sep 19	0.00	Sep 23, 1953
MAXIMUM PEAK FLOW			33,300	Mar 5	b75,200	May 16, 1957
MAXIMUM PEAK STAGE			44.46	Mar 5	45.47	May 9, 1993
ANNUAL RUNOFF (AC-FT)	49,740		140,700		98,700	
10 PERCENT EXCEEDS	84		149		177	
50 PERCENT EXCEEDS	24		23		16	
90 PERCENT EXCEEDS	5.6		11		3.9	

a No flow at times in 1953, 1954, 1956.
b Gage height 44.58 ft.



07161450 CIMARRON RIVER NEAR RIPLEY, OK

LOCATION.--Lat 35°59'09", long 96°54'43", in SE ¼ SE ¼ sec.31, T.18 N., R.4 E., Payne County, Hydrologic Unit 11050003, on right bank at downstream side of bridge on State Highway 33, 2.2 mi upstream from Stillwater Creek, 2.5 mi south of Ripley, 2.8 mi downstream from Sand Creek, 7.0 mi east of Perkins, and at mile 79.2.

DRAINAGE AREA.--17,979 mi^2 of which 4,926 mi^2 is probably noncontributing.

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

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

REMARKS.--No estimated daily discharge. Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 10	2200	23,500	16.77	Mar 29	2330	17,200	15.68
Mar 6	0230	*83,400	*23.04	Jun 23	1500	28,800	17.59

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

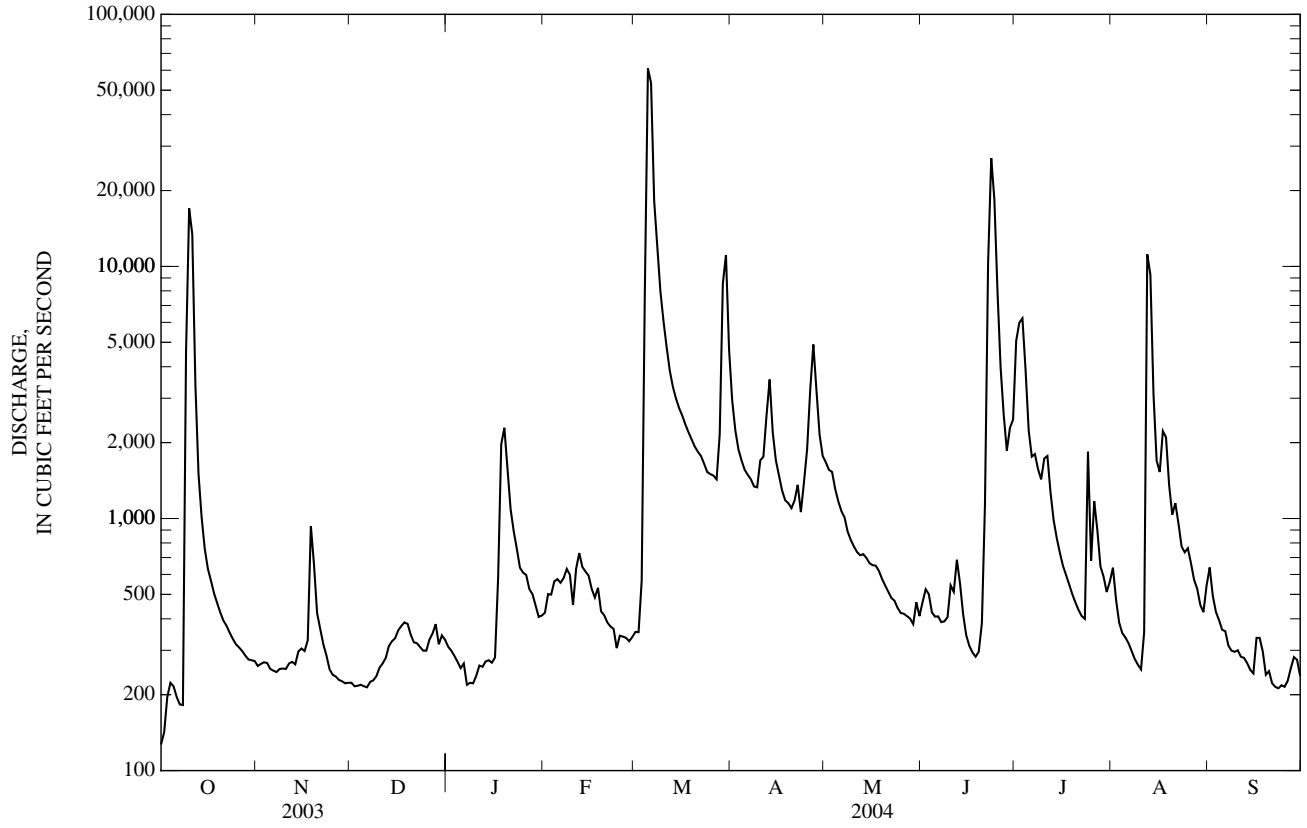
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127	260	223	310	423	355	2,940	1,670	466	5,070	638	639
2	142	265	216	299	501	354	2,240	1,560	524	5,980	476	493
3	196	269	217	285	499	567	1,880	1,530	501	6,220	386	426
4	223	267	219	270	563	7,820	1,700	1,310	424	3,890	351	395
5	216	253	216	255	575	61,000	1,560	1,170	408	2,240	337	362
6	196	249	214	266	556	53,400	1,490	1,070	409	1,760	320	357
7	183	246	225	219	581	18,200	1,430	1,010	388	1,800	298	313
8	182	253	228	223	631	12,000	1,340	887	391	1,570	277	299
9	4,540	254	237	222	598	7,960	1,330	822	406	1,430	263	296
10	17,000	253	256	238	454	6,050	1,700	775	543	1,730	252	300
11	13,400	266	266	261	633	4,780	1,760	736	512	1,770	354	283
12	3,400	270	280	258	729	3,860	2,560	715	686	1,270	11,200	280
13	1,500	264	312	271	642	3,330	3,560	722	553	984	9,270	267
14	1,010	297	326	274	616	2,990	2,190	698	417	836	3,110	251
15	758	305	335	268	593	2,740	1,700	665	344	731	1,700	243
16	632	298	360	281	525	2,560	1,480	653	312	648	1,530	336
17	566	329	375	580	486	2,360	1,290	650	294	596	2,220	336
18	504	934	387	1,970	531	2,200	1,180	620	283	546	2,100	297
19	461	658	382	2,290	428	2,060	1,150	577	296	500	1,360	240
20	423	421	346	1,580	413	1,930	1,100	543	384	464	1,040	248
21	393	365	323	1,090	387	1,840	1,180	513	1,140	433	1,150	222
22	375	317	320	890	373	1,770	1,360	484	10,400	410	954	215
23	352	286	309	758	365	1,650	1,060	472	26,900	400	774	212
24	333	252	299	638	306	1,530	1,390	442	18,500	1,840	734	218
25	317	240	299	610	343	1,500	1,880	422	8,000	681	762	215
26	308	236	331	597	340	1,480	3,240	419	3,980	1,170	665	227
27	298	229	350	525	336	1,430	4,900	410	2,580	900	571	255
28	286	226	381	501	326	2,160	3,220	401	1,860	645	526	282
29	276	222	317	452	339	8,540	2,150	381	2,290	588	454	275
30	274	223	344	407	---	11,100	1,770	465	2,470	511	425	237
31	272	---	330	412	---	4,670	---	410	---	562	542	---
TOTAL	49,143	9,207	9,223	17,500	14,092	234,186	57,730	23,202	86,661	48,175	45,039	9,019
MEAN	1,585	307	298	565	486	7,554	1,924	748	2,889	1,554	1,453	301
MAX	17,000	934	387	2,290	729	61,000	4,900	1,670	26,900	6,220	11,200	639
MIN	127	222	214	219	306	354	1,060	381	283	400	252	212
AC-FT	97,480	18,260	18,290	34,710	27,950	464,500	114,500	46,020	171,900	95,560	89,330	17,890

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)

MEAN	1,188	1,854	1,625	1,303	1,541	3,540	3,492	4,071	3,938	1,372	1,357	1,370
MAX	4,454	11,490	4,585	3,541	4,723	9,824	12,610	26,790	18,300	4,301	5,520	4,554
(WY)	(2003)	(1999)	(1999)	(1993)	(1999)	(1990)	(1999)	(1993)	(1995)	(1999)	(1995)	(1989)
MIN	193	210	233	287	244	234	402	317	593	246	102	119
(WY)	(1991)	(2002)	(1991)	(1991)	(1991)	(1991)	(1991)	(1996)	(1996)	(2003)	(2003)	(2000)

07161450 CIMARRON RIVER NEAR RIPLEY, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1988 - 2004	
ANNUAL TOTAL	344,869		603,177			
ANNUAL MEAN	945		1,648		2,221	
HIGHEST ANNUAL MEAN					5,533	1999
LOWEST ANNUAL MEAN					437	1991
HIGHEST DAILY MEAN	17,000	Oct 10	61,000	Mar 5	137,000	May 10, 1993
LOWEST DAILY MEAN	36	Aug 28	127	Oct 1	36	Aug 28, 2003
ANNUAL SEVEN-DAY MINIMUM	45	Aug 23	183	Oct 1	45	Aug 23, 2003
MAXIMUM PEAK FLOW			83,400	Mar 6	141,000	May 10, 1993
MAXIMUM PEAK STAGE			23.04	Mar 6	28.36	May 10, 1993
ANNUAL RUNOFF (AC-FT)	684,000		1,196,000		1,609,000	
10 PERCENT EXCEEDS	1,770		2,630		4,690	
50 PERCENT EXCEEDS	673		490		838	
90 PERCENT EXCEEDS	128		245		241	



07164500 ARKANSAS RIVER AT TULSA, OK

LOCATION.--Lat 36°08'26", long 96°00'22", in NE $^1/_4$ SW $^1/_4$ sec.11, T.19 N., R.12 E., Tulsa County, Hydrologic Unit 11110101, at right abutment on downstream side of 11th Street bridge in Tulsa, 10.1 mi upstream from Polecat Creek, 15.1 mi downstream from Keystone Dam, and at mile 523.7.

DRAINAGE AREA.--74,615 mi^2, of which 12,541 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1341: Drainage area.

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

REMARKS.--No estimated daily discharge. Records fair. Except for 109 mi^2 intervening area, flow completely regulated by Keystone Lake (station 07164200) since September 1964. Prior to September 1964, minor regulation by John Martin Lake in Colorado and by Great Salt Plains Lake (station 07150000). U.S. Army Corps of Engineers' satellite telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,740	1,920	1,630	695	2,250	3,070	19,700	11,400	5,340	10,600	15,900	4,030
2	3,520	753	1,280	1,200	5,930	4,230	18,600	11,100	6,600	14,600	18,600	3,910
3	3,090	3,320	2,780	1,530	8,670	4,270	16,400	11,200	3,050	36,100	21,500	3,820
4	821	3,520	3,310	303	8,740	5,340	16,400	15,500	2,690	39,700	21,400	1,590
5	455	2,850	3,610	3,970	8,250	10,300	15,100	20,900	1,770	36,000	17,900	246
6	4,900	1,740	2,010	6,430	8,710	34,100	13,100	20,600	465	11,700	12,500	377
7	7,060	2,070	2,180	4,910	7,220	62,300	12,100	20,200	2,270	8,330	9,150	1,090
8	6,910	1,520	2,500	3,120	6,220	69,700	12,000	20,500	2,250	8,480	9,220	3,470
9	10,400	897	2,320	1,810	7,100	67,400	9,350	21,000	3,360	9,930	9,310	3,110
10	24,400	1,830	2,500	1,790	8,710	65,400	5,850	21,100	5,080	15,600	10,100	3,560
11	25,900	3,470	4,590	631	8,700	63,700	2,400	21,200	6,620	30,400	12,800	2,000
12	37,200	2,990	5,340	1,080	8,710	62,400	1,380	19,900	4,910	26,400	7,830	1,930
13	40,600	3,180	2,140	2,170	9,420	60,500	7,270	14,800	2,350	20,000	12,700	2,940
14	36,600	2,670	1,680	3,060	7,340	58,100	7,850	14,800	3,990	19,800	9,710	2,050
15	27,100	1,500	3,670	4,170	5,460	50,800	7,820	19,900	9,760	20,000	9,470	1,280
16	18,700	940	1,930	4,300	7,970	38,600	4,900	20,100	9,540	18,900	11,700	2,700
17	14,300	2,790	2,210	3,130	8,610	27,900	5,160	26,000	9,420	16,200	12,600	2,900
18	9,650	2,670	974	1,180	8,110	25,500	5,660	32,100	5,450	16,200	4,860	1,280
19	7,130	1,610	1,400	2,690	9,410	19,300	5,680	29,500	3,010	16,100	2,320	341
20	8,960	3,480	1,160	4,540	10,600	19,000	5,940	23,500	1,400	15,900	5,560	1,610
21	7,660	2,790	344	3,870	5,530	18,800	6,420	18,300	2,340	15,800	6,480	3,760
22	4,820	1,610	476	3,480	3,820	18,600	8,200	12,300	18,600	15,700	6,760	2,310
23	8,020	1,400	1,630	2,660	4,610	15,600	5,990	8,740	31,400	15,800	8,130	2,050
24	8,380	2,990	451	1,380	6,440	11,900	5,780	7,710	31,500	16,000	4,900	1,260
25	5,090	3,960	1,440	770	6,370	11,800	7,750	4,630	29,200	15,700	414	1,130
26	4,490	3,200	1,440	2,290	6,640	11,800	12,900	3,960	25,000	15,700	2,930	1,070
27	4,730	2,230	830	3,670	8,790	12,000	12,800	5,890	24,600	15,600	2,900	921
28	4,200	1,540	540	4,740	3,200	11,300	11,200	6,210	20,200	15,700	1,200	1,340
29	4,070	3,590	376	3,900	2,500	7,890	11,300	3,870	15,700	15,900	157	878
30	3,990	3,850	1,340	4,190	---	14,700	11,200	3,810	23,100	15,800	2,320	1,350
31	4,410	---	1,240	3,780	---	19,000	---	3,790	---	15,800	6,620	---
TOTAL	352,296	72,880	59,321	87,439	204,030	905,300	286,200	474,510	310,965	564,440	277,941	60,303
MEAN	11,360	2,429	1,914	2,821	7,036	29,200	9,540	15,310	10,370	18,210	8,966	2,010
MAX	40,600	3,960	5,340	6,430	10,600	69,700	19,700	32,100	31,500	39,700	21,500	4,030
MIN	455	753	344	303	2,250	3,070	1,380	3,790	465	8,330	157	246
AC-FT	698,800	144,600	117,700	173,400	404,700	1,796,000	567,700	941,200	616,800	1,120,000	551,300	119,600

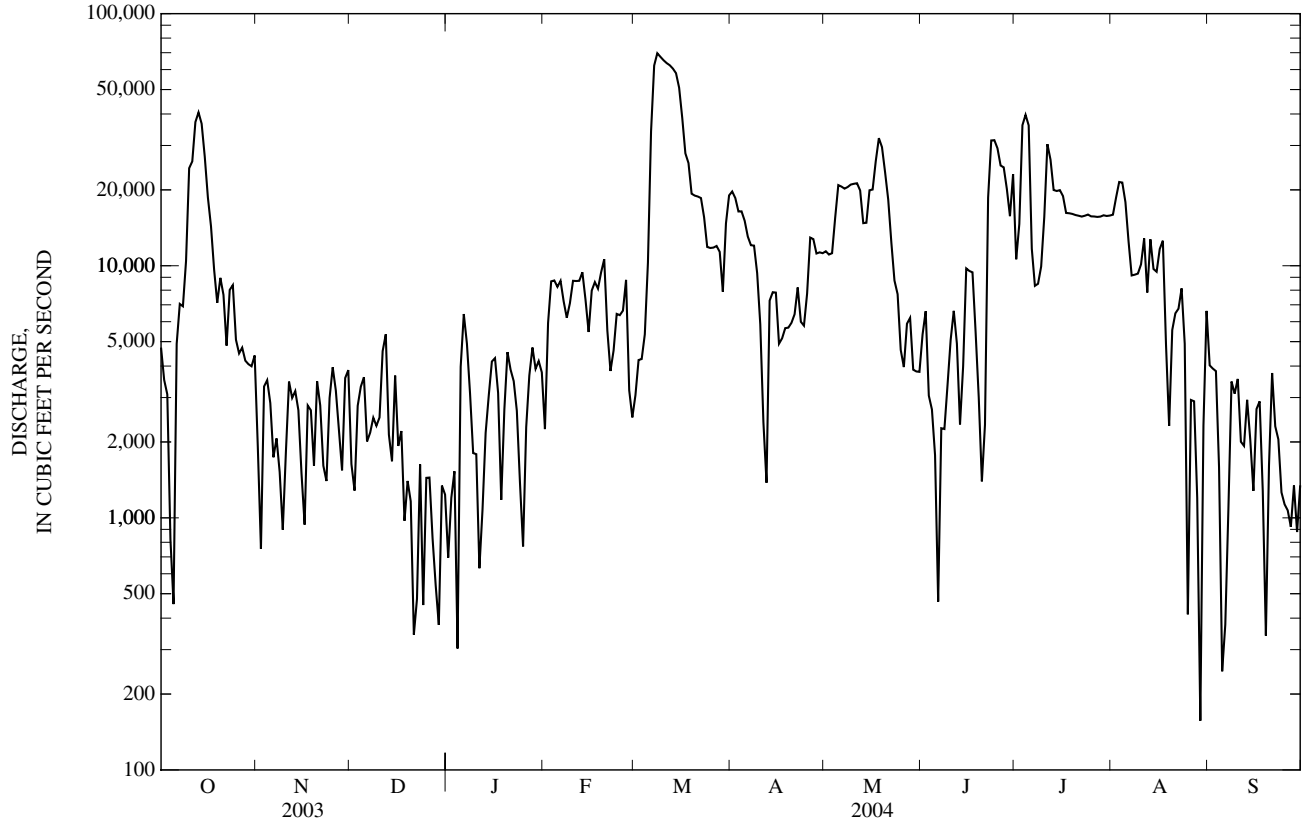
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2004, BY WATER YEAR (WY)

MEAN	7,611	7,536	4,956	5,085	5,784	11,890	12,220	14,020	14,810	9,738	5,729	5,307
MAX	72,720	54,540	16,830	19,850	22,500	42,890	44,460	81,400	69,820	37,630	32,970	23,280
(WY)	(1987)	(1999)	(1993)	(1998)	(1993)	(1987)	(1973)	(1993)	(1995)	(1999)	(1995)	(1989)
MIN	491	457	545	483	494	490	557	881	2,595	1,314	783	893
(WY)	(1965)	(1983)	(2002)	(1967)	(1967)	(1977)	(1981)	(1967)	(1966)	(1991)	(2001)	(1998)

07164500 ARKANSAS RIVER AT TULSA, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1965 - 2004	
ANNUAL TOTAL	2,578,235		3,655,625			
ANNUAL MEAN	7,064		9,988		a8,733	
HIGHEST ANNUAL MEAN					22,930	1999
LOWEST ANNUAL MEAN					1,813	1991
HIGHEST DAILY MEAN	43,100	Mar 28	69,700	Mar 8	261,000	Oct 5, 1986
LOWEST DAILY MEAN	277	Jan 5	157	Aug 29	b33	Feb 25, 1977
ANNUAL SEVEN-DAY MINIMUM	917	Dec 24	889	Dec 27	277	Oct 20, 1982
MAXIMUM PEAK FLOW			70,300	Mar 8	307,000	Oct 5, 1986
MAXIMUM PEAK STAGE			12.53	Mar 8	25.21	Oct 5, 1986
ANNUAL RUNOFF (AC-FT)	5,114,000		7,251,000		6,327,000	
10 PERCENT EXCEEDS	16,300		21,300		22,200	
50 PERCENT EXCEEDS	4,490		5,730		4,350	
90 PERCENT EXCEEDS	1,400		1,280		706	

a Prior to regulation 1926-64, 6,554 ft^3/s.
b Minimum daily for period of record, 27 ft^3/s, Oct.12, 13. 1956.



07164500 ARKANSAS RIVER AT TULSA, OK—Continued

WATER-QUALITY RECORDS

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

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1977 to July 1985, October 1987 to May 1998.
WATER TEMPERATURE: March 1977 to July 1985, October 1987 to current year.

INSTRUMENTATION.--Water temperature monitor provides continuous readings.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 7,820 microsiemens, Feb. 16, 1978; minimum, 299 microsiemens, Nov. 5, 1994.
WATER TEMPERATURE: Maximum, 34.2 C, Aug. 4, 2001; minimum, -0.2 C, Dec. 25, 2000, Jan. 2, 2001.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 31.8°C, July 20; minimum, 1.4°C, Jan. 27.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	24.0	20.1	21.4	---	---	---	11.2	9.4	10.2	11.5	8.0	9.5
2	22.7	20.6	21.8	---	---	---	9.9	8.6	9.2	14.8	11.5	12.7
3	23.7	21.1	22.3	---	---	---	10.0	8.3	9.3	13.5	10.3	12.0
4	23.8	21.9	23.0	---	---	---	10.6	9.3	9.9	12.3	5.0	8.9
5	23.0	20.9	22.0	---	---	---	10.0	7.5	8.2	6.0	3.5	4.6
6	23.5	21.3	22.3	13.6	12.1	12.7	9.2	7.6	8.4	5.4	2.9	4.2
7	24.1	20.4	22.5	13.4	11.5	12.6	9.1	7.3	8.3	5.2	4.0	4.6
8	23.7	20.3	22.4	13.7	12.5	13.3	10.5	8.5	9.4	6.5	4.2	5.4
9	---	---	---	13.3	12.0	12.5	11.2	6.1	10.1	6.2	4.4	5.3
10	---	---	---	14.4	12.2	13.0	6.3	3.9	5.1	6.2	4.1	5.2
11	---	---	---	16.7	14.4	15.7	7.5	5.7	6.5	8.2	5.1	6.6
12	---	---	---	16.2	14.5	15.6	7.6	5.8	6.7	8.8	6.9	7.7
13	---	---	---	14.5	12.7	13.1	7.2	6.3	6.7	8.8	7.2	8.0
14	---	---	---	13.2	12.1	12.7	7.2	5.9	6.5	8.5	7.0	7.9
15	---	---	---	13.7	11.9	12.9	9.1	6.5	7.8	8.0	5.9	7.0
16	---	---	---	14.8	12.9	13.6	8.0	5.4	6.4	7.5	6.8	7.0
17	---	---	---	15.7	13.1	14.4	7.2	4.5	5.8	8.6	6.8	7.7
18	---	---	---	15.1	11.6	14.1	7.7	5.6	6.8	7.7	5.1	6.6
19	---	---	---	13.4	10.6	11.9	7.2	5.4	6.5	5.3	2.3	3.9
20	---	---	---	14.3	12.0	13.2	7.4	5.5	6.5	5.6	4.1	4.8
21	---	---	---	14.6	12.6	13.6	9.8	6.5	8.0	---	---	---
22	---	---	---	15.6	12.6	13.8	12.4	9.4	10.7	---	---	---
23	---	---	---	15.8	9.1	11.9	10.9	6.9	8.0	---	---	---
24	---	---	---	10.5	7.5	8.9	8.1	6.1	7.1	8.9	6.7	7.7
25	---	---	---	11.6	9.1	10.2	7.1	5.2	6.3	9.5	8.7	9.2
26	---	---	---	12.5	10.5	11.5	8.3	6.2	7.3	8.7	2.9	6.4
27	---	---	---	12.2	9.3	10.5	12.8	8.3	10.2	4.1	1.4	2.7
28	---	---	---	9.7	7.1	8.6	11.7	9.4	10.9	6.2	3.3	4.5
29	---	---	---	10.7	7.9	9.3	9.4	7.3	8.3	5.8	3.0	4.3
30	---	---	---	11.8	9.5	10.5	7.5	5.6	6.8	4.6	2.0	3.2
31	---	---	---	---	---	---	8.5	6.1	7.2	4.9	3.0	3.9
MONTH	24.1	20.1	22.2	16.7	7.1	12.4	12.8	3.9	7.9	14.8	1.4	6.5

07164500 ARKANSAS RIVER AT TULSA, OK—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.3	4.4	4.8	9.6	7.5	8.6	16.7	13.4	14.8	19.5	17.6	18.4
2	5.3	3.8	4.6	8.9	6.6	7.9	17.2	13.9	15.4	20.6	16.9	18.6
3	5.4	2.9	4.1	8.2	7.3	7.8	17.4	14.4	15.7	20.8	16.9	18.7
4	4.8	3.7	4.1	10.3	8.2	9.2	17.3	14.3	15.7	20.9	17.1	18.9
5	4.7	3.9	4.2	9.5	7.7	8.8	16.9	14.4	15.5	21.5	17.9	19.5
6	4.3	3.1	3.7	9.1	6.8	7.8	17.0	14.8	15.9	22.1	18.3	20.0
7	4.3	2.2	3.1	9.4	7.5	8.5	16.7	15.1	15.8	21.9	19.1	20.3
8	4.2	1.9	3.0	10.5	8.9	9.6	18.2	15.0	16.4	22.4	19.2	20.6
9	4.7	3.4	4.1	10.5	9.3	9.8	16.7	14.7	15.2	22.4	19.7	20.9
10	5.4	2.8	4.1	10.7	9.5	10	15.2	13.4	14.3	22.5	19.9	21.0
11	4.6	3.3	3.9	10.8	9.7	10.1	15.2	12.8	14.0	22.9	20.1	21.3
12	4.3	2.3	3.2	11.1	9.7	10.3	14.8	12.4	13.8	22.1	20.8	21.3
13	4.7	2.1	3.2	10.3	10.0	10.2	16.5	11.8	14.2	22.1	21.1	21.6
14	3.8	3.1	3.4	11.0	10.0	10.3	17.9	13.5	15.6	21.3	20.2	20.8
15	4.9	1.9	3.3	10.6	9.9	10.2	18.5	14.3	16.3	23.0	20.2	21.3
16	4.8	2.1	3.4	10.9	9.6	10.2	21.9	15.6	17.9	23.9	20.7	22.1
17	5.5	3.0	4.1	12.5	9.8	10.9	19.7	16.5	17.8	23.4	21.2	22.2
18	6.1	3.0	4.5	12.8	10.5	11.5	18.7	16.6	17.1	23.2	21.4	22.2
19	7.5	4.3	5.9	12.9	10.5	11.6	17.6	16.0	16.8	24.4	21.5	22.7
20	6.8	4.6	5.6	13.4	11.8	12.5	19.1	16.6	17.6	25.5	21.9	23.5
21	8.0	3.9	5.6	13.0	10.6	11.7	19.9	16.7	18.1	25.3	22.5	23.8
22	7.9	4.6	6.2	13.0	10.3	11.5	18.9	16.5	17.7	24.7	22.1	23.4
23	7.7	5.8	6.8	14.2	11.0	12.4	18.6	16.6	17.2	26.1	22.2	24.0
24	5.8	5.1	5.5	13.1	12.2	12.6	18.0	16.3	17.0	26.0	23.2	24.4
25	6.5	4.0	5.2	14.2	12.8	13.4	19.7	16.3	17.8	25.1	23.0	23.8
26	7.8	4.5	6.2	15.2	13.4	14.2	19.9	17.4	18.6	24.4	22.3	23.2
27	7.9	4.5	6.2	15.0	13.7	14.2	20.3	17.6	18.8	26.4	23.0	24.5
28	7.6	6.0	6.8	15.8	13.9	14.7	20.1	18.1	19.1	28.2	23.4	25.7
29	9.3	7.3	8.1	16.2	13.2	14.7	19.9	17.9	18.8	27.0	23.9	25.3
30	---	---	---	15.9	13.2	14.4	20.8	18.4	19.5	28.2	24.0	25.8
31	---	---	---	16.3	13.3	14.6	---	---	---	27.9	22.7	25.3
MONTH	9.3	1.9	4.7	16.3	6.6	11.1	21.9	11.8	16.6	28.2	16.9	22.1
		JUNE			JULY			AUGUST			SEPTEMBER	
1	28.2	23.1	25.5	30.3	23.3	26.7	29.8	26.2	27.8	---	---	---
2	26.5	23.2	24.7	27.8	20.4	24.5	29.5	26.4	27.9	---	---	---
3	27.9	22.7	25.0	28.7	26.3	27.3	30.1	26.7	28.2	---	---	---
4	26.5	24.1	24.7	28.3	26.4	27.1	---	---	---	---	---	---
5	25.1	22.4	23.8	---	---	---	---	---	---	---	---	---
6	27.9	24.2	25.9	---	---	---	---	---	---	---	---	---
7	26.8	24.6	25.7	---	---	---	---	---	---	---	---	---
8	27.6	24.0	25.7	---	---	---	---	---	---	---	---	---
9	26.9	24.2	24.7	---	---	---	---	---	---	---	---	---
10	26.1	23.7	24.6	---	---	---	---	---	---	---	---	---
11	27.9	24.4	25.8	---	---	---	---	---	---	---	---	---
12	29.1	24.8	26.9	---	---	---	---	---	---	---	---	---
13	29.1	25.0	27.0	---	---	---	---	---	---	---	---	---
14	31.1	25.4	27.8	---	---	---	---	---	---	27.9	25.2	26.6
15	27.7	25.3	26.5	---	---	---	---	---	---	28.2	25.6	27.0
16	27.9	25.2	26.5	---	---	---	---	---	---	28.7	25.9	27.2
17	28.8	25.2	26.8	---	---	---	---	---	---	29.5	25.0	27.0
18	27.8	25.5	26.6	---	---	---	---	---	---	28.9	25.9	27.4
19	27.1	24.0	25.2	---	---	---	---	---	---	28.1	25.3	26.7
20	26.4	23.9	24.9	31.8	28.4	30.0	---	---	---	26.6	24.2	25.5
21	26.6	22.5	24.9	31.7	28.6	30.1	---	---	---	27.0	23.9	25.3
22	26.8	24.3	25.6	31.2	28.5	29.8	---	---	---	26.0	23.9	25.1
23	27.9	25.1	26.3	31.0	28.5	29.7	---	---	---	25.5	24.0	24.8
24	28.2	25.3	26.6	29.7	27.8	28.7	---	---	---	27.0	24.3	25.4
25	27.8	25.6	26.6	28.7	27.2	27.7	---	---	---	26.4	23.7	25.2
26	27.6	25.1	26.3	29.6	27.0	28.1	---	---	---	26.9	24.1	25.5
27	27.8	25.6	26.5	30.3	26.9	28.4	---	---	---	26.6	23.7	25.1
28	27.8	25.5	26.5	28.6	26.9	27.3	---	---	---	25.6	23.3	24.4
29	27.9	25.2	26.4	27.0	26.1	26.5	---	---	---	25.4	22.5	23.9
30	26.7	23.0	25.7	27.9	26.5	27.0	---	---	---	24.5	---	---
31	---	---	---	29.7	26.0	27.6	---	---	---	---	---	---
MONTH	31.1	22.4	25.9	31.8	20.4	27.9	30.1	26.2	28.0	29.5	22.5	25.8

07164600 JOE CREEK AT 61ST STREET AT TULSA, OK

LOCATION.--Lat 36°04'32", long 95°57'37", in SE ¼ SE ¼ sec.31, T.19 N., R.13 E., Tulsa County, Hydrologic Unit 11110101, at right upstream abutment of 61st Street bridge, .2 mi west of Lewis Avenue, 4 mi north of Jenks and at mile 2.1.

DRAINAGE AREA.--12.2 mi^2.

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

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

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

EXTREMES OUTSIDE PERIOD OF RECORD.--23,000 ft^3/s, May 26, 1984, slope-area measurement at 71st Street, gage height undetermined at 61st Street.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 9	0440	4,880	5.65	May 30	0115	3,540	4.60
Apr 20	2040	3,510	4.57	Jul 2	0620	5,930	6.41
May 13	1620	*7,740	*7.64	Jul 24	0455	3,950	4.93

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	4.4	1.5	2.5	27	3.7	2.3	86	1.9	2.1	3.3	1.3
2	2.2	1.8	1.5	2.2	30	2.2	2.1	4.5	70	722	2.9	1.4
3	26	2.0	8.2	1.8	11	496	2.0	3.2	5.0	10	2.5	1.2
4	2.8	23	0.94	1.7	15	253	1.7	3.2	2.0	4.1	2.3	1.2
5	71	1.8	1.2	e1.5	24	27	1.7	3.1	14	3.0	1.6	1.1
6	3.8	1.1	1.2	e1.5	7.2	11	1.9	3.1	2.5	2.6	1.6	96
7	2.8	1.2	1.6	e1.6	e7.0	6.7	2.4	3.3	22	2.2	1.6	3.1
8	2.6	1.6	1.6	e1.7	e6.5	4.9	1.6	3.6	3.9	1.8	1.7	1.2
9	461	1.3	19	e1.9	23	3.3	15	3.9	110	204	1.6	1.1
10	8.8	1.6	26	1.4	4.8	3.3	38	4.2	31	7.0	1.4	1.1
11	5.3	2.0	2.5	1.3	4.0	2.3	3.6	4.4	4.0	3.1	149	1.0
12	4.0	2.0	6.6	1.2	5.2	2.4	1.8	5.9	3.1	2.3	3.1	0.96
13	19	1.9	32	1.2	12	7.1	1.5	380	7.5	1.8	2.0	0.93
14	17	31	4.0	1.2	3.7	2.6	1.8	12	7.8	1.7	1.8	1.0
15	4.4	2.9	3.4	1.2	3.8	2.6	2.1	4.3	1.8	1.9	1.6	1.3
16	4.0	1.6	1.6	40	2.1	2.0	2.3	3.2	9.7	1.9	1.6	1.0
17	3.1	57	1.7	212	1.9	2.6	2.3	3.3	5.3	1.5	1.6	1.0
18	2.8	155	1.2	15	2.7	2.2	2.5	3.1	1.8	2.7	1.7	1.1
19	2.9	4.8	1.1	8.2	3.0	1.9	2.3	3.2	39	1.5	16	0.97
20	3.2	2.2	1.1	2.9	1.8	1.9	203	3.0	7.7	1.6	7.4	0.90
21	3.1	1.8	1.4	2.4	1.7	2.4	286	3.0	386	1.6	1.7	1.0
22	2.3	1.8	19	2.3	1.8	4.1	177	3.2	174	1.3	0.93	1.0
23	2.0	31	2.2	3.0	2.8	4.0	15	6.0	8.7	155	1.3	1.1
24	1.9	1.6	1.4	2.6	1.8	1.6	33	4.3	2.1	310	1.9	1.1
25	4.0	1.4	1.5	102	2.7	1.5	5.7	3.0	1.4	5.0	2.0	0.97
26	5.1	1.3	1.6	e6.0	4.6	1.7	4.1	3.2	1.2	2.7	1.7	0.99
27	1.8	1.1	103	e5.0	2.0	3.6	3.5	3.1	1.3	2.3	1.6	0.94
28	1.7	1.2	13	e5.0	2.2	280	3.8	3.0	1.6	50	1.3	1.2
29	1.9	1.6	2.5	e3.0	39	8.4	13	2.9	1.7	239	1.3	1.3
30	3.4	1.6	2.2	e4.0	---	3.9	6.0	191	2.4	11	1.2	1.1
31	2.3	---	1.8	e3.0	---	2.8	---	2.6	---	4.6	1.1	---
TOTAL	678.7	344.6	267.54	440.3	254.3	1,152.7	839.0	765.8	930.4	1,761.3	222.33	129.56
MEAN	21.9	11.5	8.63	14.2	8.77	37.2	28.0	24.7	31.0	56.8	7.17	4.32
MAX	461	155	103	212	39	496	286	380	386	722	149	96
MIN	1.7	1.1	0.94	1.2	1.7	1.5	1.5	2.6	1.2	1.3	0.93	0.90
AC-FT	1,350	684	531	873	504	2,290	1,660	1,520	1,850	3,490	441	257

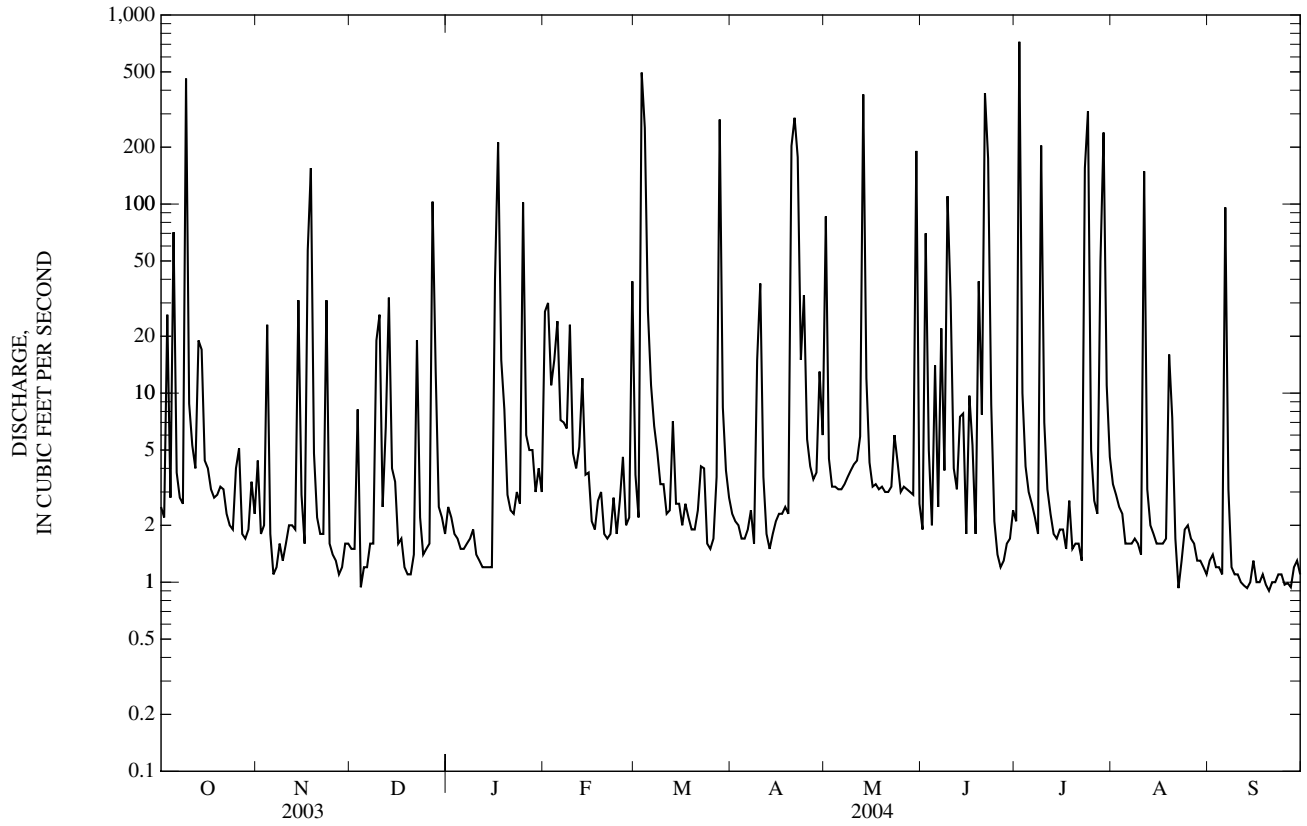
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)

MEAN	17.0	18.6	16.9	12.3	14.6	24.1	29.6	42.7	29.6	17.2	14.4	18.4
MAX	53.4	54.1	45.3	28.1	37.2	65.6	71.3	107	86.9	56.8	57.7	43.5
(WY)	(1999)	(1997)	(1993)	(2001)	(1997)	(1998)	(1999)	(1995)	(1995)	(2004)	(2003)	(1999)
MIN	3.29	2.02	2.36	1.66	2.02	5.42	2.85	12.2	1.87	2.39	1.19	3.59
(WY)	(1998)	(1990)	(1990)	(2003)	(1998)	(1996)	(1989)	(1997)	(1988)	(2001)	(2000)	(2002)

e Estimated

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

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1988 - 2004	
ANNUAL TOTAL	7,541.52		7,786.53			
ANNUAL MEAN	20.7		21.3		21.7	
HIGHEST ANNUAL MEAN					35.2	1995
LOWEST ANNUAL MEAN					9.49	1996
HIGHEST DAILY MEAN	728	Aug 30	722	Jul 2	1,470	May 6, 2000
LOWEST DAILY MEAN	0.53	Jul 17	0.90	Sep 20	0.28	Jul 4, 1996
ANNUAL SEVEN-DAY MINIMUM	0.71	Jul 23	1.00	Sep 16	0.31	Sep 24, 2002
MAXIMUM PEAK FLOW			7,740	May 13	11,600	May 6, 2000
MAXIMUM PEAK STAGE			7.64	May 13	10.00	May 6, 2000
ANNUAL RUNOFF (AC-FT)	14,960		15,440		15,730	
10 PERCENT EXCEEDS	32		31		39	
50 PERCENT EXCEEDS	2.9		2.5		3.0	
90 PERCENT EXCEEDS	1.2		1.2		1.1	



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

LOCATION.--Lat 36°01'01", long 95°50'55", in NW ¼ NW ¼ sec.29, T.18 N., R.14 E., Tulsa County, Hydrologic Unit 11110101, near right downstream abutment of 101st Street South bridge, 1.0 mi downstream from unnamed tributary, 2.0 mi upstream from Little Haikey Creek, and at mile 6.4.

DRAINAGE AREA.--17.8 mi^2.

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

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 9	0930	*2,890	*16.22	Jul 2	1030	2,690	16.10
Mar 4	0130	1,450	14.65	Jul 9	1800	1,670	15.12

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	0.74	0.82	1.8	5.9	4.9	0.79	68	1.4	5.0	5.3	0.50
2	0.83	0.89	0.82	4.2	50	2.9	0.73	9.6	56	724	4.0	0.46
3	10	0.82	11	2.1	7.0	394	0.69	3.7	16	45	4.3	0.36
4	3.2	5.8	2.8	6.3	7.7	701	2.3	2.6	2.7	11	3.5	0.33
5	59	2.5	1.0	3.1	32	120	2.9	1.8	7.4	6.2	2.6	0.37
6	3.9	0.86	0.87	1.3	16	17	2.1	1.3	5.6	4.0	1.5	86
7	1.1	0.70	0.90	0.99	5.6	7.4	2.1	1.2	7.8	3.5	1.1	3.4
8	0.83	0.71	0.80	1.1	4.3	4.3	2.5	1.1	7.8	3.0	0.95	0.95
9	702	0.69	74	1.1	14	2.8	12	1.3	33	419	0.89	0.77
10	31	0.74	41	1.1	6.6	1.4	60	1.3	57	65	0.89	0.71
11	10	0.74	13	0.95	4.6	0.92	5.8	1.1	6.6	14	66	0.68
12	5.9	0.74	5.7	0.93	3.8	0.80	1.3	2.7	3.0	6.8	7.7	0.47
13	4.1	0.73	61	0.90	3.2	1.4	0.86	304	2.3	4.6	3.2	0.41
14	70	27	14	0.90	3.1	1.6	0.70	102	2.5	3.4	2.1	0.43
15	4.1	14	5.8	0.91	2.9	0.74	0.61	11	1.1	2.4	1.0	0.39
16	2.2	1.7	3.8	7.5	2.6	0.77	0.60	6.2	0.86	2.2	0.94	0.25
17	1.5	25	2.4	226	2.5	6.3	0.57	4.1	0.74	1.8	1.1	0.26
18	1.2	116	1.9	43	e2.3	7.5	0.53	3.3	0.60	1.5	0.86	0.25
19	0.97	17	1.4	8.9	e2.2	0.73	0.50	2.4	21	1.3	3.3	0.23
20	0.94	3.2	1.3	6.2	e2.1	0.64	2.1	1.6	8.0	1.0	56	0.18
21	0.86	1.9	1.4	4.6	e1.9	0.53	78	1.2	278	0.93	4.3	0.63
22	0.85	1.3	6.4	3.8	e1.8	0.51	289	0.95	178	0.83	1.9	0.31
23	0.83	33	17	3.2	2.2	0.47	47	0.82	12	43	1.1	0.18
24	0.81	3.4	2.3	3.0	e1.9	0.49	66	0.77	5.4	273	0.88	0.04
25	0.78	1.5	1.4	87	e1.7	0.55	10	0.73	3.1	12	0.75	0.06
26	0.76	1.00	1.0	13	e1.5	0.56	6.0	0.75	1.7	5.5	0.68	0.09
27	0.75	0.96	21	5.7	e1.4	2.6	2.7	0.79	1.3	3.9	0.61	0.05
28	0.76	0.90	62	4.2	e1.3	257	2.0	0.73	0.96	11	0.56	0.00
29	0.77	0.85	4.8	4.1	e2.5	12	6.2	0.71	0.87	158	0.52	0.00
30	0.78	0.84	2.5	3.4	---	2.6	4.2	110	8.1	23	0.48	0.00
31	0.74	---	1.8	3.3	---	1.0	---	3.9	---	9.1	0.37	---
TOTAL	923.56	266.21	365.91	454.58	194.6	1,555.41	610.78	651.65	730.83	1,864.96	179.38	98.76
MEAN	29.8	8.87	11.8	14.7	6.71	50.2	20.4	21.0	24.4	60.2	5.79	3.29
MAX	702	116	74	226	50	701	289	304	278	724	66	86
MIN	0.74	0.69	0.80	0.90	1.3	0.47	0.50	0.71	0.60	0.83	0.37	0.00
AC-FT	1,830	528	726	902	386	3,090	1,210	1,290	1,450	3,700	356	196

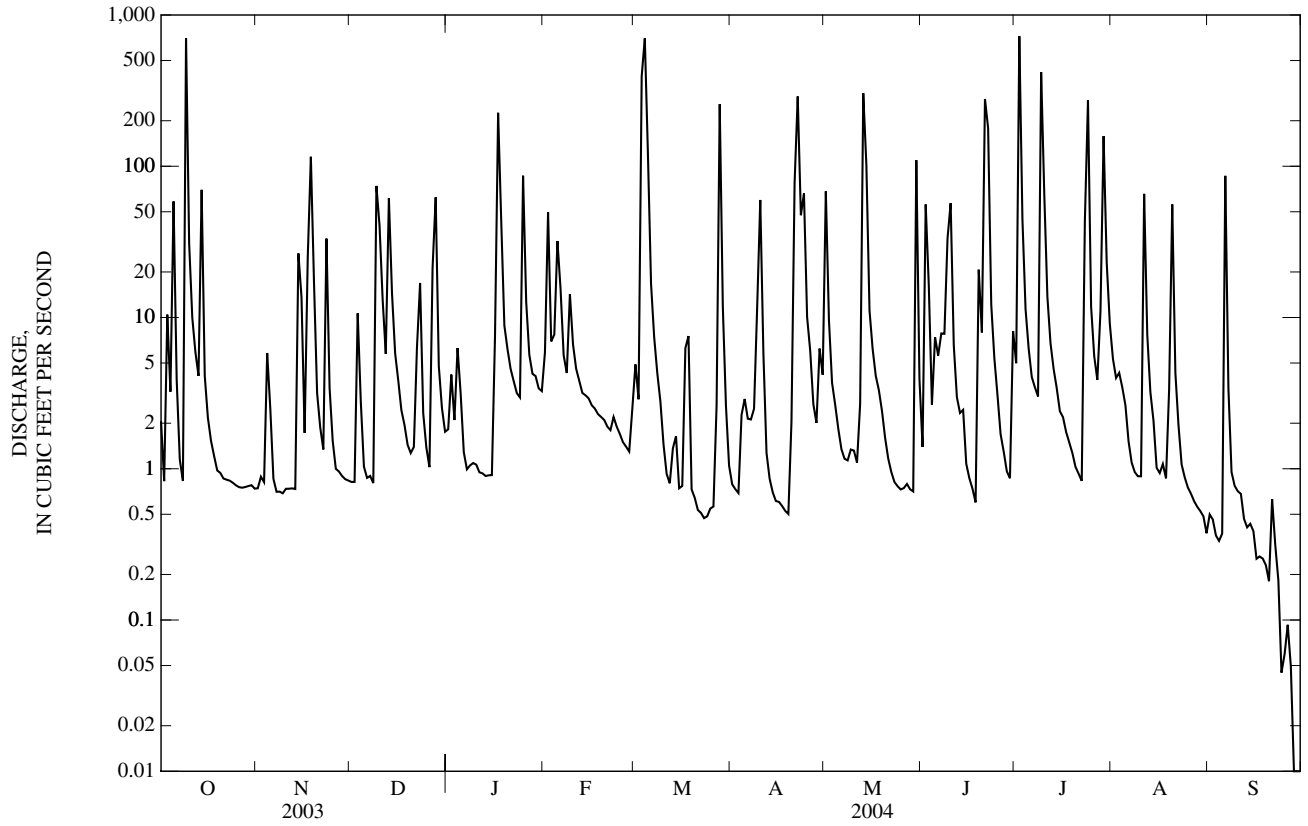
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2004, BY WATER YEAR (WY)

MEAN	18.8	21.9	19.8	13.5	17.3	31.9	30.7	38.6	33.2	19.3	13.2	16.8
MAX	75.9	68.2	62.3	41.9	41.5	120	82.3	125	97.2	72.3	49.6	54.3
(WY)	(1999)	(1995)	(1993)	(1998)	(2001)	(1990)	(1990)	(2000)	(1995)	(1994)	(1989)	(1993)
MIN	0.74	0.39	1.67	1.59	0.65	6.22	5.07	13.5	3.63	0.47	0.36	1.33
(WY)	(1989)	(1996)	(1990)	(1997)	(1996)	(1991)	(1989)	(1996)	(1990)	(1990)	(1991)	(2000)

e Estimated

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

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1989 - 2004	
ANNUAL TOTAL	7,288.37		7,896.63			
ANNUAL MEAN	20.0		21.6		22.9	
HIGHEST ANNUAL MEAN					33.8	1995
LOWEST ANNUAL MEAN					11.0	1991
HIGHEST DAILY MEAN	702	Oct 9	724	Jul 2	2,150	Oct 5, 1998
LOWEST DAILY MEAN	0.00	Aug 22	0.00	Sep 28-30	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 22	0.03	Sep 24	0.00	Oct 12, 1988
MAXIMUM PEAK FLOW			2,890	Oct 9	7,100	May 6, 2000
MAXIMUM PEAK STAGE			16.22	Oct 9	17.56	May 6, 2000
ANNUAL RUNOFF (AC-FT)	14,460		15,660		16,610	
10 PERCENT EXCEEDS	32		44		36	
50 PERCENT EXCEEDS	1.5		2.2		2.3	
90 PERCENT EXCEEDS	0.26		0.59		0.00	



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

LOCATION.--Lat 36°01'03", long 95°51'38", in SE $^1/_4$ SW $^1/_4$ sec.19, T.18 N., R.14 E., Tulsa County, Hydrologic Unit 11110101, near right upstream abutment of 101st Street South bridge, and at mile 2.0.

DRAINAGE AREA.--5.45 mi^2.

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

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

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 9	0700	1,260	15.86	May 13	1815	1,100	15.23
Mar 3	2245	699	13.40	Jul 2	0815	*1,440	*16.21

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	0.48	0.38	0.74	3.2	2.3	3.1	21	0.72	1.2	1.7	0.17
2	2.0	0.63	0.75	1.3	14	0.63	1.4	2.7	14	265	1.3	0.23
3	4.2	0.94	4.6	0.61	1.9	192	1.7	0.90	4.6	15	0.93	0.31
4	1.6	4.8	0.68	1.2	3.0	119	1.7	0.59	1.1	6.3	0.73	0.29
5	17	9.2	0.35	0.92	10	20	1.6	0.44	1.0	3.8	0.67	0.22
6	2.6	3.5	0.95	0.34	4.8	9.4	1.6	0.26	0.90	3.2	0.51	25
7	1.5	0.19	2.1	0.33	1.6	5.1	1.6	0.58	3.8	2.7	0.44	0.91
8	1.1	0.18	0.72	0.41	1.1	3.1	0.75	0.29	2.1	2.3	0.38	0.17
9	214	0.65	11	0.38	5.9	2.3	5.0	0.24	12	57	0.35	0.01
10	8.6	0.80	14	0.43	1.9	2.0	16	0.29	17	11	0.37	0.08
11	3.0	0.43	3.6	0.47	1.1	1.6	3.0	0.33	2.4	3.8	18	0.04
12	1.8	0.76	2.9	0.49	0.92	1.3	1.2	0.56	0.83	2.1	2.4	0.00
13	3.7	0.29	19	0.75	0.63	2.4	0.80	140	1.3	1.6	0.83	0.00
14	20	12	6.5	0.75	0.62	2.5	0.61	16	0.72	1.3	0.48	0.00
15	2.1	6.2	2.9	0.81	0.57	1.6	0.61	4.8	0.29	1.1	0.33	0.00
16	1.2	1.4	2.1	5.2	0.46	1.3	0.53	2.5	0.22	0.95	0.29	0.00
17	1.1	9.5	1.0	60	0.43	2.4	0.52	1.6	0.22	0.91	0.24	0.00
18	0.50	68	0.86	13	0.44	3.4	0.52	1.1	0.14	0.83	0.17	0.00
19	0.46	9.6	0.78	2.8	0.42	0.95	0.47	0.78	10	0.78	2.5	0.00
20	0.33	2.9	0.66	1.2	0.38	0.90	4.7	0.61	3.1	0.66	16	0.00
21	0.29	1.2	0.62	0.76	0.31	2.2	40	0.45	111	0.64	1.6	0.00
22	0.29	1.4	2.4	0.50	e0.28	0.94	51	0.41	57	0.61	0.79	0.00
23	0.29	12	3.1	0.40	e0.25	0.71	8.5	0.38	6.1	46	0.49	0.00
24	0.27	1.6	0.72	0.40	e0.22	0.61	13	0.33	2.0	69	0.31	0.00
25	0.34	0.88	0.52	23	e0.18	0.67	2.7	0.28	1.00	6.8	0.23	0.00
26	0.61	0.66	0.47	4.1	0.14	0.63	1.2	0.34	0.65	2.6	0.32	0.00
27	0.80	0.83	17	1.7	0.12	2.0	0.79	0.37	0.45	1.5	0.24	0.00
28	0.77	0.47	14	0.95	0.14	79	0.59	0.34	0.39	4.8	0.18	0.00
29	0.55	0.43	2.4	0.88	8.6	6.9	1.4	0.26	0.36	47	0.25	0.00
30	0.19	0.42	0.95	0.62	---	2.4	1.1	33	1.4	8.5	0.16	0.00
31	0.34	---	0.56	0.52	---	1.8	---	1.5	---	3.4	0.08	---
TOTAL	296.83	152.34	118.57	125.96	63.61	472.04	167.69	233.23	256.79	572.38	53.27	27.43
MEAN	9.58	5.08	3.82	4.06	2.19	15.2	5.59	7.52	8.56	18.5	1.72	0.91
MAX	214	68	19	60	14	192	51	140	111	265	18	25
MIN	0.19	0.18	0.35	0.33	0.12	0.61	0.47	0.24	0.14	0.61	0.08	0.00
AC-FT	589	302	235	250	126	936	333	463	509	1,140	106	54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)

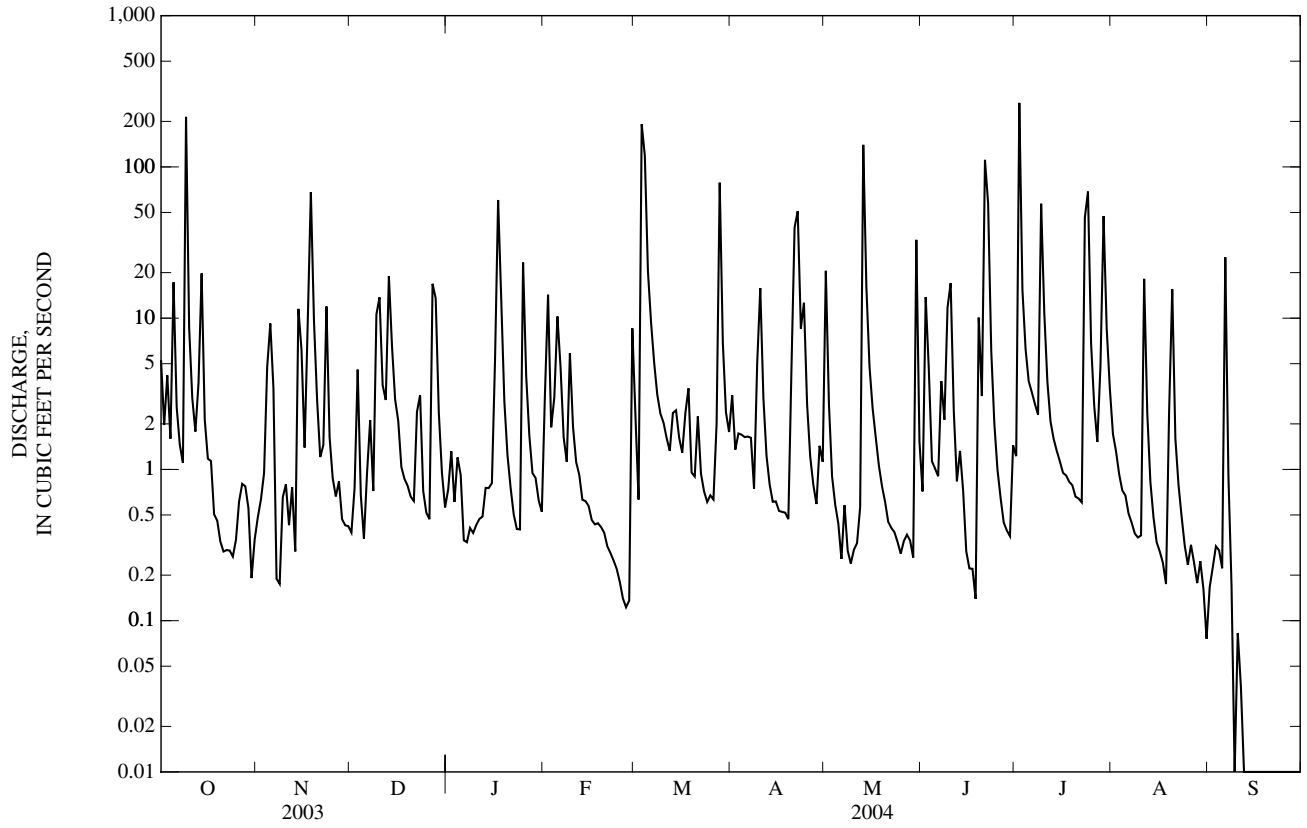
MEAN	5.89	8.00	6.59	4.14	5.16	10.6	9.38	14.4	10.0	5.61	4.82	5.55
MAX	24.0	32.9	19.9	13.1	16.0	28.3	23.1	45.2	42.1	18.5	23.5	15.2
(WY)	(1999)	(1995)	(1993)	(1998)	(2001)	(1990)	(1999)	(1995)	(1995)	(2004)	(2003)	(1993)
MIN	0.12	0.15	0.40	0.27	0.12	1.61	1.44	3.00	0.15	0.04	0.13	0.78
(WY)	(1989)	(1996)	(1990)	(1997)	(1996)	(1991)	(1989)	(1988)	(1988)	(1990)	(2000)	(2000)

e Estimated

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

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1988 - 2004	
ANNUAL TOTAL	2,740.04		2,540.14			
ANNUAL MEAN	7.51		6.94		7.52	
HIGHEST ANNUAL MEAN					15.7	1995
LOWEST ANNUAL MEAN					2.73	1991
HIGHEST DAILY MEAN	361	Aug 30	265	Jul 2	589	May 6, 2000
LOWEST DAILY MEAN	0.00	at times	0.00	at times	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 26	0.00	Sep 12	0.00	Sep 5, 1988
MAXIMUM PEAK FLOW			1,440	Jul 2	4,300	May 6, 2000
MAXIMUM PEAK STAGE			16.21	Jul 2	a19.00	May 6, 2000
ANNUAL RUNOFF (AC-FT)	5,430		5,040		5,450	
10 PERCENT EXCEEDS	12		13		14	
50 PERCENT EXCEEDS	1.2		0.91		0.91	
90 PERCENT EXCEEDS	0.24		0.21		0.00	

a From high-water mark..



07165570 ARKANSAS RIVER NEAR HASKELL, OK

LOCATION.--Lat 35°49'15", long 95°38'19", in SW ¼ NW ¼ sec.32, T.16 N., R.16 E., Wagoner County, Hydrologic Unit 11110101, near left, downstream abutment of old bridge downstream from State Highway 104, 2.0 mi east of Haskell, 23.5 mi upstream from Verdigris River, and at mile 483.7.

DRAINAGE AREA.--75,473 mi^2, of which 12,541 mi^2 probably is noncontributing.

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

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

REMARKS.--Records fair except for estimated periods which are poor. Except for 858 mi^2 intervening area, flow regulated by Keystone Lake (station 07164200) 55.1 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6,180	4,670	4,060	1,370	3,770	3,120	21,800	13,400	4,410	20,300	e17,800	7,330
2	5,290	2,660	2,180	1,480	2,740	3,790	22,800	13,600	6,730	e19,900	19,200	4,520
3	4,240	1,700	1,690	1,280	7,320	6,330	20,100	13,100	8,120	e39,000	23,000	4,560
4	3,820	3,510	2,770	1,910	10,000	27,200	19,200	13,200	3,350	e41,200	23,700	4,410
5	2,560	3,810	3,560	1,140	9,940	26,100	19,100	20,400	3,120	e38,800	23,200	2,960
6	2,030	3,150	4,140	3,280	9,770	22,300	17,000	23,100	2,650	31,200	17,600	1,880
7	5,250	2,240	2,810	e6,630	10,000	50,700	15,500	22,600	e1,360	15,400	14,400	1,790
8	7,510	2,350	2,200	4,860	7,540	70,400	14,700	22,300	2,300	12,500	12,000	2,020
9	13,400	2,090	2,640	3,250	6,940	69,100	14,200	22,900	e3,870	12,700	12,000	3,810
10	25,300	1,340	2,970	2,130	8,690	67,800	10,500	22,900	e6,000	16,100	12,200	3,630
11	26,400	1,500	2,890	2,030	9,890	66,500	7,870	23,300	e7,280	26,600	14,000	4,200
12	32,600	3,500	4,680	1,410	9,840	66,200	3,530	23,100	e5,480	34,200	15,300	2,990
13	40,100	3,190	e5,460	1,270	9,820	65,100	1,900	20,600	5,000	27,000	10,600	2,570
14	41,600	3,430	2,890	2,100	10,200	62,900	7,750	19,700	e6,920	e22,500	14,800	3,240
15	34,700	3,110	2,310	2,950	7,850	60,300	9,650	19,100	e10,300	e22,500	11,300	2,920
16	25,700	2,160	e3,840	4,100	6,240	47,800	9,450	21,800	e10,100	e22,700	12,000	2,200
17	18,600	1,340	2,520	5,240	9,250	37,400	6,170	21,900	e9,970	e21,000	14,400	2,700
18	15,200	2,670	2,310	6,690	10,000	32,000	5,970	32,200	e5,840	e18,900	13,600	3,290
19	11,000	4,580	1,680	3,340	9,420	26,600	6,700	33,900	e3,430	e18,800	6,390	2,540
20	9,210	2,630	1,770	3,620	10,500	23,300	7,010	29,700	3,480	e18,500	4,710	1,260
21	10,500	4,030	1,800	5,020	10,700	22,500	8,140	23,400	e5,640	e18,200	7,140	2,120
22	9,270	3,450	1,210	4,410	5,490	22,000	15,200	18,400	8,150	e17,800	8,250	3,710
23	6,630	2,360	1,110	3,900	4,190	21,800	16,800	12,900	e32,900	e17,800	9,550	3,100
24	9,960	1,580	1,950	3,050	5,260	17,400	9,670	11,100	e33,100	e19,000	9,690	2,790
25	9,800	3,130	1,200	1,910	6,580	15,900	8,390	8,090	e31,000	e17,500	5,760	2,330
26	4,970	4,220	1,560	2,050	6,970	15,700	11,600	5,870	e27,500	e17,300	2,380	1,980
27	5,500	3,360	1,570	3,470	6,830	15,500	15,400	5,460	e26,200	e17,100	3,670	1,870
28	6,010	2,610	1,720	4,290	8,580	17,800	14,400	6,370	e22,300	e17,700	3,760	1,290
29	4,630	1,990	1,480	4,900	3,800	13,800	13,100	6,630	e20,700	e17,800	2,820	2,260
30	4,640	3,640	1,250	4,060	---	13,700	13,300	4,900	e25,700	e17,300	1,680	1,500
31	4,360	---	1,570	4,180	---	19,800	---	4,550	---	e17,200	3,470	---
TOTAL	406,960	86,000	75,790	101,320	228,120	1,030,840	366,900	540,470	342,900	674,500	350,370	87,770
MEAN	13,130	2,867	2,445	3,268	7,866	33,250	12,230	17,430	11,430	21,760	11,300	2,926
MAX	41,600	4,670	5,460	6,690	10,700	70,400	22,800	33,900	33,100	41,200	23,700	7,330
MIN	2,030	1,340	1,110	1,140	2,740	3,120	1,900	4,550	1,360	12,500	1,680	1,260
AC-FT	807,200	170,600	150,300	201,000	452,500	2,045,000	727,700	1,072,000	680,100	1,338,000	695,000	174,100

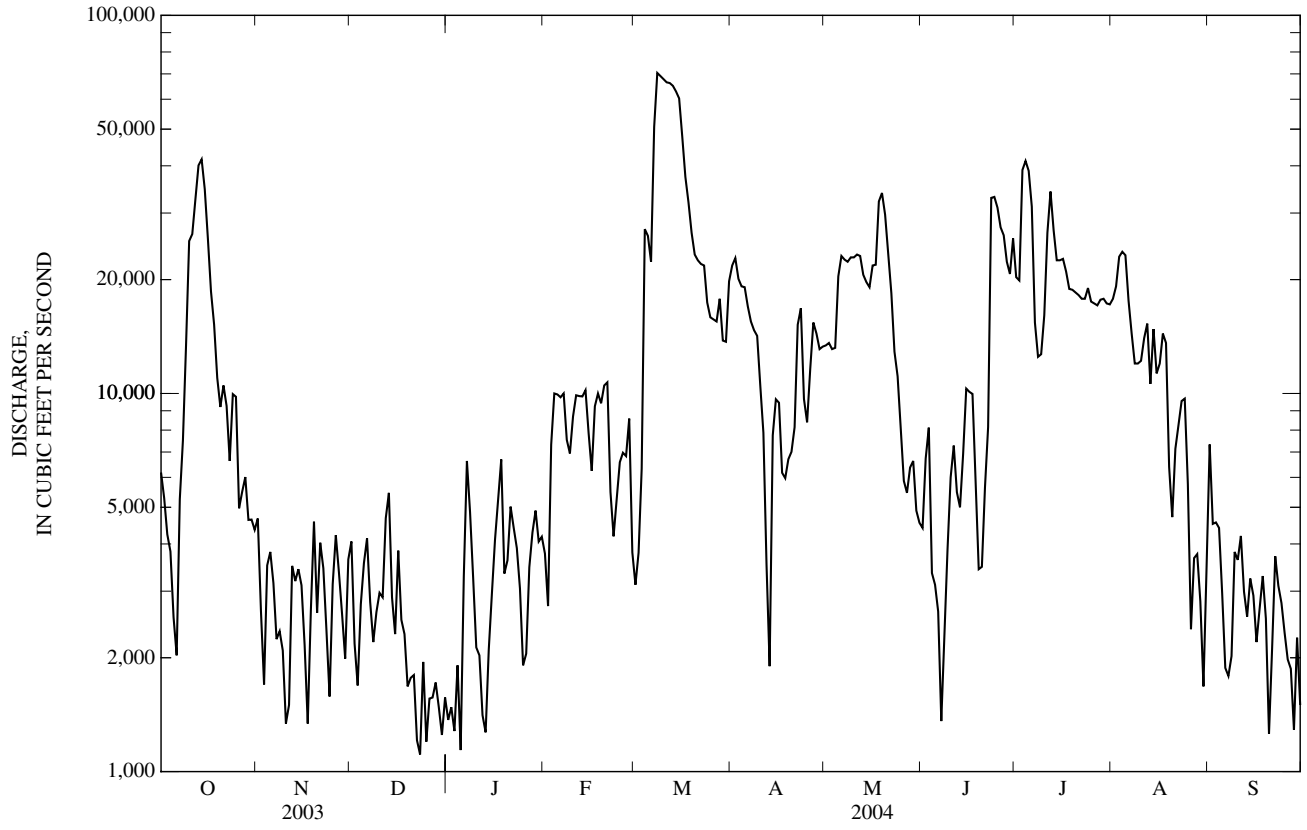
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2004, BY WATER YEAR (WY)

MEAN	9,320	9,017	6,128	6,354	7,595	15,600	15,080	17,530	18,010	11,460	6,802	5,591
MAX	75,500	58,300	19,930	23,470	25,540	50,990	46,910	85,550	78,480	44,980	32,540	23,690
(WY)	(1987)	(1999)	(1993)	(1998)	(1993)	(1987)	(1973)	(1993)	(1995)	(1999)	(1995)	(1989)
MIN	576	646	802	567	549	722	638	2,472	5,074	1,671	1,171	870
(WY)	(1979)	(1981)	(1981)	(1981)	(1977)	(1977)	(1977)	(1981)	(1988)	(1991)	(1984)	(1998)

e Estimated

07165570 ARKANSAS RIVER NEAR HASKELL, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1973 - 2004	
ANNUAL TOTAL	3,134,245		4,291,940			
ANNUAL MEAN	8,587		11,730		10,720	
HIGHEST ANNUAL MEAN					25,680	1999
LOWEST ANNUAL MEAN					2,097	1981
HIGHEST DAILY MEAN	46,600	Mar 28	70,400	Mar 8	243,000	Oct 5, 1986
LOWEST DAILY MEAN	825	Feb 11	1,110	Dec 23	87	Sep 13, 1988
ANNUAL SEVEN-DAY MINIMUM	1,470	Dec 22	1,430	Dec 30	369	Feb 25, 1977
MAXIMUM PEAK FLOW			72,500	Mar 8	259,000	Oct 5, 1986
MAXIMUM PEAK STAGE			14.27	Mar 8	22.82	Oct 5, 1986
ANNUAL RUNOFF (AC-FT)	6,217,000		8,513,000		7,764,000	
10 PERCENT EXCEEDS	18,700		25,700		26,600	
50 PERCENT EXCEEDS	5,890		6,930		5,900	
90 PERCENT EXCEEDS	2,160		1,970		922	



07171000 VERDIGRIS RIVER NEAR LENAPAH, OK

LOCATION.--Lat 36°51'04", long 95°35'09", NE ¼, SW ¼, sec.3, T.27 N., R.16 E., Nowata County, Hydrologic Unit 11070103, on right bank on downstream side of county road bridge, 2.8 mi east of Lenapah, 5.5(revised) mi upstream from Cedar Creek, and at mile 144.6.

DRAINAGE AREA.--3,639 mi^2.

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

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

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

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	647	153	127	651	2,100	973	4,360	11,300	3,120	1,630	716	63
2	671	128	109	553	1,960	933	4,790	10,100	2,970	4,910	380	77
3	674	86	237	494	2,800	1,270	4,110	8,480	2,810	4,110	235	71
4	547	66	801	442	2,870	15,900	3,710	7,690	2,130	6,920	192	63
5	310	64	642	381	2,370	36,200	3,580	5,500	1,470	8,580	178	55
6	182	61	374	345	2,310	32,500	3,480	4,370	1,470	6,380	163	55
7	135	59	269	621	2,200	23,900	3,110	4,230	1,350	6,050	144	59
8	110	56	220	1,110	2,210	11,600	2,330	4,500	1,300	6,120	135	53
9	4,960	63	486	1,390	2,260	9,120	1,420	4,660	1,280	6,360	126	49
10	2,940	58	3,130	1,370	2,820	11,700	1,240	4,560	1,120	9,830	117	48
11	2,090	55	1,670	1,350	2,700	13,200	1,340	4,490	979	13,000	103	45
12	2,000	60	1,070	1,350	2,500	13,300	1,230	4,480	1,210	12,800	83	42
13	2,050	53	819	1,360	2,110	13,000	1,090	8,210	1,890	10,000	70	41
14	3,340	46	906	1,350	1,940	12,800	959	22,900	14,500	6,950	65	40
15	2,980	45	2,290	1,330	1,870	12,600	856	20,700	9,070	6,250	59	40
16	2,270	46	6,520	1,350	1,810	12,400	751	11,700	3,180	6,150	57	39
17	2,040	49	e4,220	5,850	1,780	10,400	742	4,450	4,250	6,140	57	38
18	1,850	2,820	e1,940	13,000	1,750	7,270	746	5,070	3,950	6,080	54	36
19	1,580	1,730	e1,660	8,650	2,200	6,190	701	6,340	2,610	5,940	51	35
20	1,410	819	1,520	3,980	2,680	6,030	839	10,600	1,650	5,790	70	32
21	1,370	636	1,420	2,590	2,490	5,890	2,490	7,570	1,480	5,510	80	28
22	1,340	507	1,510	2,810	2,470	5,710	6,270	6,400	2,650	5,670	69	27
23	1,320	507	6,020	3,160	2,420	5,610	3,230	6,600	2,250	5,510	73	26
24	1,320	619	3,020	2,970	2,380	5,520	19,400	6,560	1,660	4,490	68	28
25	1,180	690	1,490	2,910	2,340	4,560	28,300	6,410	1,470	3,870	63	28
26	795	649	1,030	3,940	2,120	3,210	19,300	6,110	1,350	3,640	65	29
27	680	568	866	4,350	1,720	2,340	4,690	5,680	1,030	3,470	66	34
28	571	326	3,640	3,310	1,420	11,800	6,330	5,130	1,390	3,330	67	39
29	252	214	1,980	2,910	1,250	16,200	8,270	3,610	3,060	2,230	67	37
30	171	150	1,180	2,720	---	7,770	7,990	3,230	1,770	1,360	59	49
31	163	---	833	2,590	---	3,730	---	3,190	---	990	59	---
TOTAL	41,948	11,383	51,999	81,187	63,850	323,626	147,654	224,820	80,419	180,060	3,791	1,306
MEAN	1,353	379	1,677	2,619	2,202	10,440	4,922	7,252	2,681	5,808	122	43.5
MAX	4,960	2,820	6,520	13,000	2,870	36,200	28,300	22,900	14,500	13,000	716	77
MIN	110	45	109	345	1,250	933	701	3,190	979	990	51	26
AC-FT	83,200	22,580	103,100	161,000	126,600	641,900	292,900	445,900	159,500	357,100	7,520	2,590

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2004, BY WATER YEAR (WY)

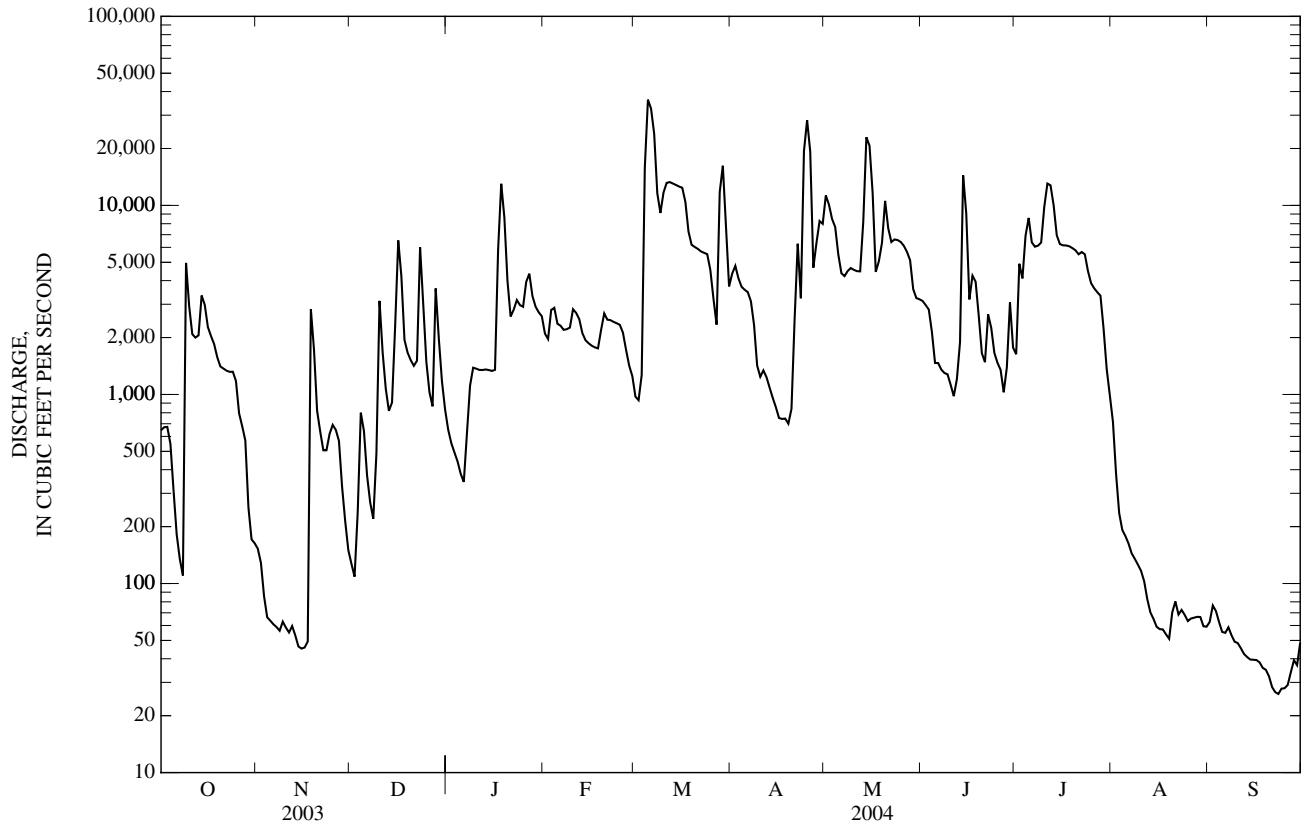
MEAN	2,203	2,784	1,966	1,628	2,203	4,464	4,027	4,460	4,949	2,292	793	1,032
MAX	27,970	15,440	11,000	7,998	8,983	17,130	16,300	12,540	19,160	13,920	5,364	5,614
(WY)	(1987)	(1975)	(1993)	(1973)	(1985)	(1973)	(1988)	(1994)	(1995)	(1976)	(1985)	(1989)
MIN	15.5	20.0	29.2	17.6	20.0	19.7	30.2	366	84.3	17.9	16.1	9.99
(WY)	(1981)	(1981)	(1967)	(1981)	(1981)	(1981)	(1981)	(1992)	(1972)	(1980)	(1983)	(1980)

e Estimated

07171000 VERDIGRIS RIVER NEAR LENAPAH, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1967 - 2004	
ANNUAL TOTAL	731,024.4		1,212,043			
ANNUAL MEAN	2,003		3,312		a2,732	
HIGHEST ANNUAL MEAN					6,227	1999
LOWEST ANNUAL MEAN					301	1996
HIGHEST DAILY MEAN	23,800	May 17	36,200	Mar 5	76,200	Oct 5, 1986
LOWEST DAILY MEAN	6.8	Aug 27	26	Sep 23	b5.5	Sep 30, 1980
ANNUAL SEVEN-DAY MINIMUM	13	Aug 22	28	Sep 20	5.7	Sep 26, 1980
MAXIMUM PEAK FLOW			37,000	Mar 5	c81,500	Oct 5, 1986
MAXIMUM PEAK STAGE			32.10	Mar 5	d38.60	Jul 4, 1976
ANNUAL RUNOFF (AC-FT)	1,450,000		2,404,000		1,979,000	
10 PERCENT EXCEEDS	6,260		8,230		8,570	
50 PERCENT EXCEEDS	649		1,700		627	
90 PERCENT EXCEEDS	99		58		39	

a Prior to regulation, water years 1939-59, 2,084 ft^3/s.
b Minimum daily discharge for period of record, no flow at times in 1939, 1940, and 1956.
c Maximum discharge for period of record, 137,000 ft^3/s, May 20, 1943.
d Maximum gage height for period of record, 40.44 ft, May 20, 1943 (from floodmark).



07174400 CANEY RIVER ABOVE COON CREEK AT BARTLESVILLE, OK

LOCATION.--Lat 36°45'20", long 95°58'19", in NE $^1/_4$ NE $^1/_4$ sec.12, T.26 N, R.12 E, Washington County, Hydrologic Unit 11070106, at right bank in city of Bartlesville water intake tower, 0.2 mi upstream from State Highway 123 bridge and low-water dam, 0.5 mi downstream from Atchison, Topeka, and Santa Fe railroad bridge, 1.0 mi upstream from confluence with Coon Creek, 2.7 mi downstream from confluence with Butler Creek, 5.0 mi upstream from confluence with Sand Creek, and at mile 68.7.

DRAINAGE AREA.--1,392 mi^2.

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

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

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	29	51	632	752	399	e3,480	5,830	105	1,440	198	31
2	14	31	25	257	1,260	392	e3,800	5,640	110	2,230	196	23
3	20	33	48	248	2,230	408	e3,680	5,510	115	1,140	191	23
4	17	34	46	245	2,270	6,260	e3,400	5,430	110	1,930	79	23
5	18	31	42	368	2,260	13,200	e2,890	5,320	116	2,050	36	24
6	15	30	37	e764	2,280	2,430	e2,320	4,600	116	1,810	29	31
7	15	33	33	677	1,790	3,500	882	4,340	115	1,820	28	25
8	15	56	31	132	1,690	4,840	98	4,240	77	2,680	27	26
9	815	47	100	65	1,710	5,580	73	3,410	52	3,280	27	25
10	1,450	45	123	112	1,860	5,930	727	2,940	52	3,230	27	25
11	1,930	46	238	135	1,740	5,760	893	589	39	2,930	41	26
12	1,920	47	e1,590	136	1,680	5,720	771	278	34	e2,760	30	28
13	1,920	46	435	135	1,310	5,670	738	292	110	e2,630	29	28
14	2,310	48	101	132	1,270	5,590	463	589	73	e2,540	29	29
15	3,690	52	210	131	1,250	5,530	370	3,610	336	e2,460	30	30
16	e3,770	52	508	135	1,240	5,460	360	3,970	e1,210	2,130	30	30
17	2,400	78	1,240	932	1,190	5,390	278	e3,930	e1,250	1,310	33	29
18	295	280	1,930	1,150	501	5,310	236	e3,810	696	1,220	32	28
19	31	1,100	1,880	397	397	5,230	246	e3,750	92	1,210	76	22
20	20	1,630	999	353	408	5,160	479	e3,700	35	e1,030	196	20
21	20	1,120	920	2,840	411	5,100	1,030	e3,620	48	e1,000	57	19
22	22	215	1,010	3,420	409	5,020	1,330	e3,570	505	e945	37	17
23	26	107	2,320	3,400	415	4,200	1,680	e3,530	1,400	274	35	9.8
24	25	97	612	3,350	405	3,650	1,620	e3,440	1,340	68	35	8.4
25	25	97	287	3,710	399	3,440	5,150	3,360	1,260	46	34	7.7
26	25	105	267	3,840	394	1,740	5,180	2,000	808	44	33	9.0
27	27	104	268	3,480	393	1,180	5,660	1,150	768	43	33	9.7
28	30	102	478	3,340	375	3,490	5,710	323	789	257	34	8.0
29	29	99	642	3,210	383	2,030	5,640	134	635	447	35	7.5
30	30	98	2,550	1,810	---	2,520	5,590	107	919	406	35	7.7
31	29	---	2,460	850	---	e3,050	---	104	---	244	33	---
TOTAL	20,967	5,892	21,481	40,386	32,672	133,179	64,774	93,116	13,315	45,604	1,765	629.8
MEAN	676	196	693	1,303	1,127	4,296	2,159	3,004	444	1,471	56.9	21.0
MAX	3,770	1,630	2,550	3,840	2,280	13,200	5,710	5,830	1,400	3,280	198	31
MIN	14	29	25	65	375	392	73	104	34	43	27	7.5
AC-FT	41,590	11,690	42,610	80,110	64,800	264,200	128,500	184,700	26,410	90,460	3,500	1,250

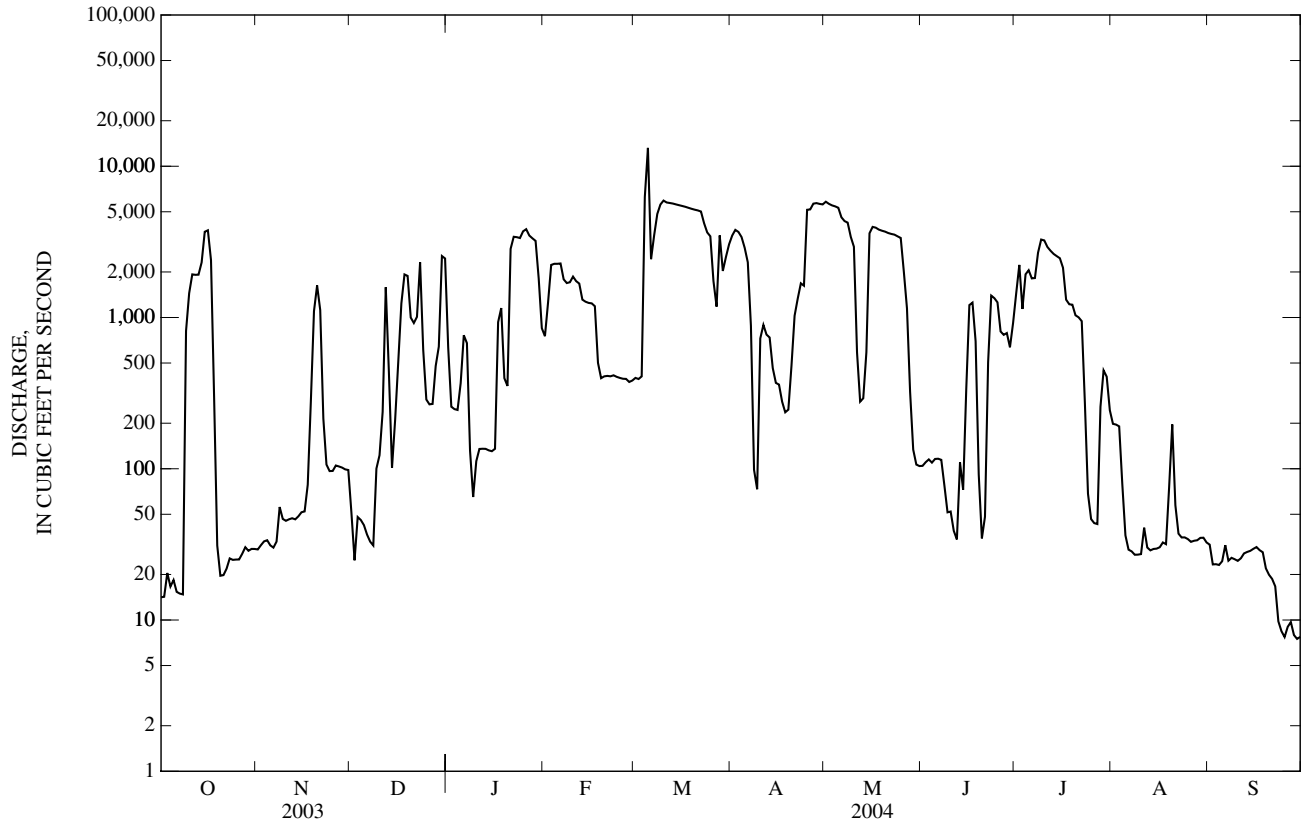
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2004, BY WATER YEAR (WY)

MEAN	1,266	905	820	779	772	2,047	1,633	2,078	2,149	1,216	176	329
MAX	14,800	3,512	2,663	4,075	2,721	4,606	5,185	5,054	5,315	6,486	1,448	2,635
(WY)	(1987)	(1999)	(1987)	(1993)	(1987)	(1990)	(1988)	(1993)	(1999)	(1995)	(1995)	(1989)
MIN	13.2	22.5	2.76	4.16	2.87	5.06	11.5	31.1	46.5	29.4	22.5	12.8
(WY)	(1988)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(1996)	(1996)	(1988)	(1988)	(1987)

e Estimated

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

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1986 - 2004	
ANNUAL TOTAL	415,103.6		473,780.8			
ANNUAL MEAN	1,137		1,294		1,183	
HIGHEST ANNUAL MEAN					2,888	1987
LOWEST ANNUAL MEAN					43.7	1996
HIGHEST DAILY MEAN	7,010	May 20	13,200	Mar 5	64,900	Oct 5, 1986
LOWEST DAILY MEAN	6.6	Aug 28	7.5	Sep 29	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	10	Aug 22	8.3	Sep 24	0.00	Dec 30, 2001
MAXIMUM PEAK FLOW			16,000	Mar 5	94,500	Oct 4, 1986
MAXIMUM PEAK STAGE			16.19	Mar 5	27.70	Oct 4, 1986
ANNUAL RUNOFF (AC-FT)	823,400		939,700		857,200	
10 PERCENT EXCEEDS	4,960		3,800		4,190	
50 PERCENT EXCEEDS	146		396		126	
90 PERCENT EXCEEDS	18		26		24	



07175500 CANEY RIVER NEAR RAMONA, OK

LOCATION.--Lat 36°30'32", long 95°50'30", in NE ¼ NW ¼ sec.5, T.23 N., R.14 E., Washington County, Hydrologic Unit 11070106, on left bank near downstream abutment of county road bridge, 1 mi upstream from Buck Creek, 2.2 mi downstream from Double Creek, 4.5 mi southeast of Ramona, and at mile 32.0.

DRAINAGE AREA.--1,955 mi^2.

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

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

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

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	67	135	2,170	919	668	3,430	7,340	301	1,140	384	49
2	65	65	113	541	2,050	695	3,770	7,490	311	3,490	307	49
3	71	64	91	412	3,470	1,300	3,990	6,300	316	4,330	276	50
4	87	64	143	380	2,980	7,530	3,780	5,860	312	1,740	255	47
5	100	63	164	355	2,810	17,300	3,240	5,630	306	2,430	174	45
6	99	61	138	544	3,160	20,700	2,530	5,260	313	1,980	103	58
7	93	59	121	802	2,810	13,400	1,920	4,400	304	1,730	79	75
8	90	59	107	536	2,140	7,040	700	4,220	306	2,010	68	52
9	1,940	64	105	238	2,070	5,740	374	3,860	285	3,860	65	43
10	3,750	75	308	187	2,510	6,310	474	3,200	284	7,730	61	43
11	2,180	74	380	211	2,490	6,300	1,400	2,140	273	3,790	112	42
12	1,990	73	969	227	2,170	5,990	1,280	588	245	2,900	252	42
13	1,860	69	1,730	222	1,850	5,840	945	1,420	500	2,650	129	41
14	1,830	66	501	217	1,500	5,760	813	5,510	806	2,540	96	40
15	2,770	67	697	222	1,440	5,670	582	2,940	432	2,490	75	40
16	3,890	67	2,450	231	1,400	5,590	540	4,120	722	e2,310	65	42
17	3,570	70	1,850	3,740	1,360	5,500	542	4,020	1,330	e1,520	62	42
18	1,750	371	1,910	7,690	1,100	5,390	488	3,920	1,250	e1,300	58	41
19	286	1,250	2,380	3,240	587	5,280	473	3,840	706	e1,230	57	39
20	141	1,590	1,770	1,170	541	5,170	511	3,780	377	1,060	1,310	38
21	113	1,720	1,070	1,690	535	5,040	2,250	3,730	264	1,040	507	36
22	102	848	1,040	3,570	527	4,940	3,800	3,690	289	987	230	35
23	90	307	3,030	3,620	558	e4,700	3,800	3,620	1,130	821	158	34
24	89	281	2,970	3,530	795	e4,010	3,110	3,560	1,490	521	117	32
25	84	221	791	4,020	647	e3,670	4,350	3,500	1,350	321	95	27
26	80	189	511	6,210	611	e2,530	5,870	2,670	1,140	194	81	23
27	74	177	483	4,400	573	e2,020	5,840	1,710	871	134	70	21
28	73	161	2,270	3,720	554	e6,310	6,230	952	857	114	62	20
29	68	149	1,730	3,560	540	e9,100	6,030	505	837	411	56	20
30	68	142	1,820	3,000	---	e3,900	5,930	353	775	1,420	52	19
31	69	---	3,040	1,630	---	e3,080	---	310	---	666	50	---
TOTAL	27,537	8,533	34,817	62,285	44,697	186,473	78,992	110,438	18,682	58,859	5,466	1,185
MEAN	888	284	1,123	2,009	1,541	6,015	2,633	3,563	623	1,899	176	39.5
MAX	3,890	1,720	3,040	7,690	3,470	20,700	6,230	7,490	1,490	7,730	1,310	75
MIN	65	59	91	187	527	668	374	310	245	114	50	19
AC-FT	54,620	16,930	69,060	123,500	88,660	369,900	156,700	219,100	37,060	116,700	10,840	2,350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2004, BY WATER YEAR (WY)

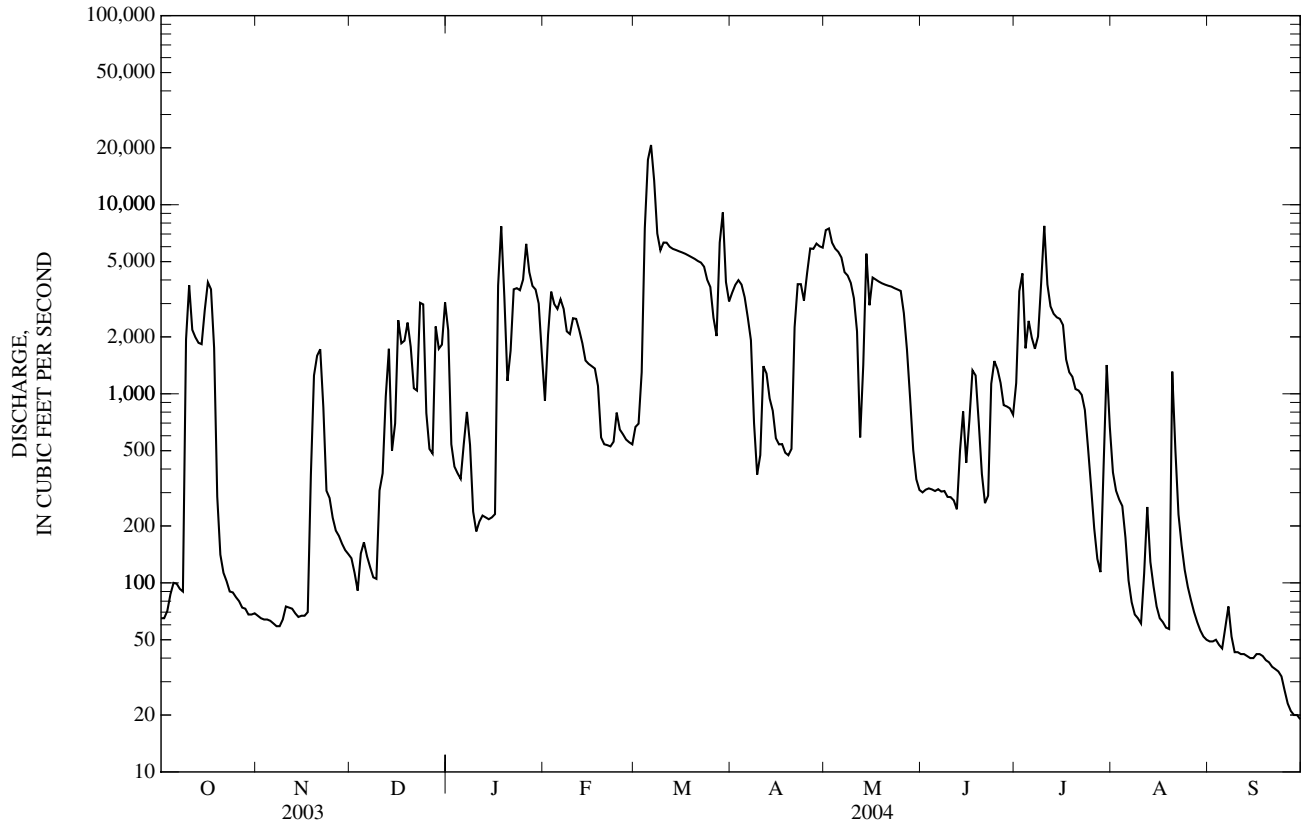
MEAN	1,573	1,267	1,184	1,053	1,225	3,067	2,640	2,934	2,844	1,422	264	524
MAX	19,540	4,390	3,596	5,204	4,208	7,228	6,989	8,547	9,766	8,233	2,021	3,178
(WY)	(1987)	(1987)	(1993)	(1993)	(1987)	(1990)	(1988)	(1993)	(1995)	(1995)	(1995)	(1989)
MIN	35.4	47.9	17.9	48.2	43.9	41.4	114	62.7	70.1	30.2	34.9	32.7
(WY)	(1993)	(2002)	(2002)	(1996)	(1996)	(1996)	(1996)	(1996)	(1988)	(1984)	(1984)	(2000)

e Estimated

07175500 CANEY RIVER NEAR RAMONA, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1984 - 2004	
ANNUAL TOTAL	525,382		637,964			
ANNUAL MEAN	1,439		1,743		a1,668	
HIGHEST ANNUAL MEAN					3,887	1987
LOWEST ANNUAL MEAN					107	1996
HIGHEST DAILY MEAN	11,500	May 17	20,700	Mar 6	71,700	Oct 5, 1986
LOWEST DAILY MEAN	21	Feb 4,5	19	Sep 30	b9.6	Jan 15,22, 2002
ANNUAL SEVEN-DAY MINIMUM	22	Jan 30	23	Sep 24	10	Jan 1, 2002
MAXIMUM PEAK FLOW			22,500	Mar 6	85,600	Oct 5, 1986
MAXIMUM PEAK STAGE			28.29	Mar 6	31.16	Oct 5, 1986
ANNUAL RUNOFF (AC-FT)	1,042,000		1,265,000		1,208,000	
10 PERCENT EXCEEDS	5,660		4,770		5,350	
50 PERCENT EXCEEDS	215		696		295	
90 PERCENT EXCEEDS	54		60		43	

a Average discharge since regulation by Hulah Lake and before regulation by Copan Lake, 32 years (water years 1951-82), 925 ft^3/s.
b No flow Sept. 11-Nov. 3, 1956.



07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK

LOCATION.--Lat 36°18'26", long 95°41'52", NE $^1/_4$ NW $^1/_4$ sec.15, T.21 N., R.15 E., Rogers County, Hydrologic Unit 11070105, on left bank on downstream side of bridge on State Highway 20, 2.3 mi downstream from Caney River, 4.5 mi west of Claremore, 12.4 mi upstream from Bird Creek, and at mile 76.0.

DRAINAGE AREA.--6,534 mi^2.

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

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 538.62 ft above sea level. Prior to Feb. 24, 1939, and May 17 to Aug. 24, 1967, non- recording gage at same site and datum.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	144	235	3,070	10,700	2,150	13,900	12,800	13,600	962	4,960	e75
2	144	142	235	1,590	10,900	2,270	14,300	14,100	13,600	4,880	3,140	e75
3	158	138	219	884	11,100	2,670	14,600	12,500	13,600	6,050	695	e76
4	712	132	198	785	8,820	9,210	14,500	11,600	11,100	2,780	1,510	e72
5	774	4,040	177	1,390	8,520	15,500	14,100	13,300	6,820	2,350	5,200	e69
6	1,380	13,500	172	3,050	8,910	16,700	13,300	16,300	6,820	3,110	5,130	e91
7	1,980	13,500	165	3,430	8,810	19,900	12,900	15,500	6,000	4,550	5,060	e121
8	225	9,440	151	2,540	7,970	17,300	11,700	15,000	3,620	6,850	5,030	e85
9	962	641	177	661	7,650	18,200	10,900	14,800	1,570	7,310	5,010	e69
10	4,460	484	300	405	7,890	22,000	10,800	14,100	399	7,760	5,010	e69
11	2,550	426	585	309	8,170	22,300	11,400	14,600	355	5,370	5,090	e69
12	2,020	302	785	303	7,840	22,100	9,620	14,600	295	5,100	5,210	e71
13	1,800	193	2,120	330	6,380	21,900	6,240	14,300	252	8,750	5,200	e71
14	1,820	172	1,430	328	4,460	21,800	6,040	15,600	2,630	10,000	5,050	e71
15	1,970	156	854	319	4,320	21,700	4,030	7,700	5,780	9,970	4,980	e71
16	3,280	141	1,590	323	4,260	21,700	1,080	7,750	5,590	9,910	2,860	e73
17	3,670	140	3,270	2,880	4,230	19,600	912	10,200	6,300	9,440	394	e75
18	2,640	368	5,080	9,050	4,180	16,200	863	14,800	6,740	8,860	247	e73
19	962	1,070	5,430	5,790	2,950	16,100	784	14,700	6,420	9,160	110	e71
20	577	1,140	5,430	3,120	1,560	16,000	779	14,600	5,930	8,510	272	e71
21	448	1,370	4,660	6,610	1,530	15,800	1,290	14,500	6,970	8,490	1,120	e66
22	377	1,070	4,560	10,000	1,520	15,600	5,490	14,500	6,650	8,800	371	e65
23	324	540	5,800	13,000	2,930	15,500	4,760	14,400	6,250	8,480	203	e65
24	268	383	6,920	14,600	5,600	14,600	3,750	14,300	5,630	9,220	e166	e61
25	232	332	5,070	17,400	5,650	13,800	3,790	14,200	3,830	3,310	e130	e52
26	206	307	4,140	15,100	4,240	13,600	6,640	13,900	3,680	6,410	e110	e45
27	179	284	4,010	15,600	2,170	12,300	11,300	12,700	3,390	7,430	e100	e40
28	168	258	5,570	16,500	2,120	14,900	11,600	13,100	3,280	6,380	e82	e39
29	161	247	7,030	15,900	2,110	11,500	11,700	14,200	2,210	3,570	e73	e39
30	154	255	7,250	13,000	---	9,070	11,500	13,900	913	3,630	e68	e37
31	150	---	6,390	11,800	---	10,700	---	13,700	---	5,680	e66	---
TOTAL	34,935	51,315	90,003	190,067	167,490	472,670	244,568	422,250	160,224	203,072	72,647	2,027
MEAN	1,127	1,710	2,903	6,131	5,776	15,250	8,152	13,620	5,341	6,551	2,343	67.6
MAX	4,460	13,500	7,250	17,400	11,100	22,300	14,600	16,300	13,600	10,000	5,210	121
MIN	144	132	151	303	1,520	2,150	779	7,700	252	962	66	37
AC-FT	69,290	101,800	178,500	377,000	332,200	937,500	485,100	837,500	317,800	402,800	144,100	4,020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2004, BY WATER YEAR (WY)

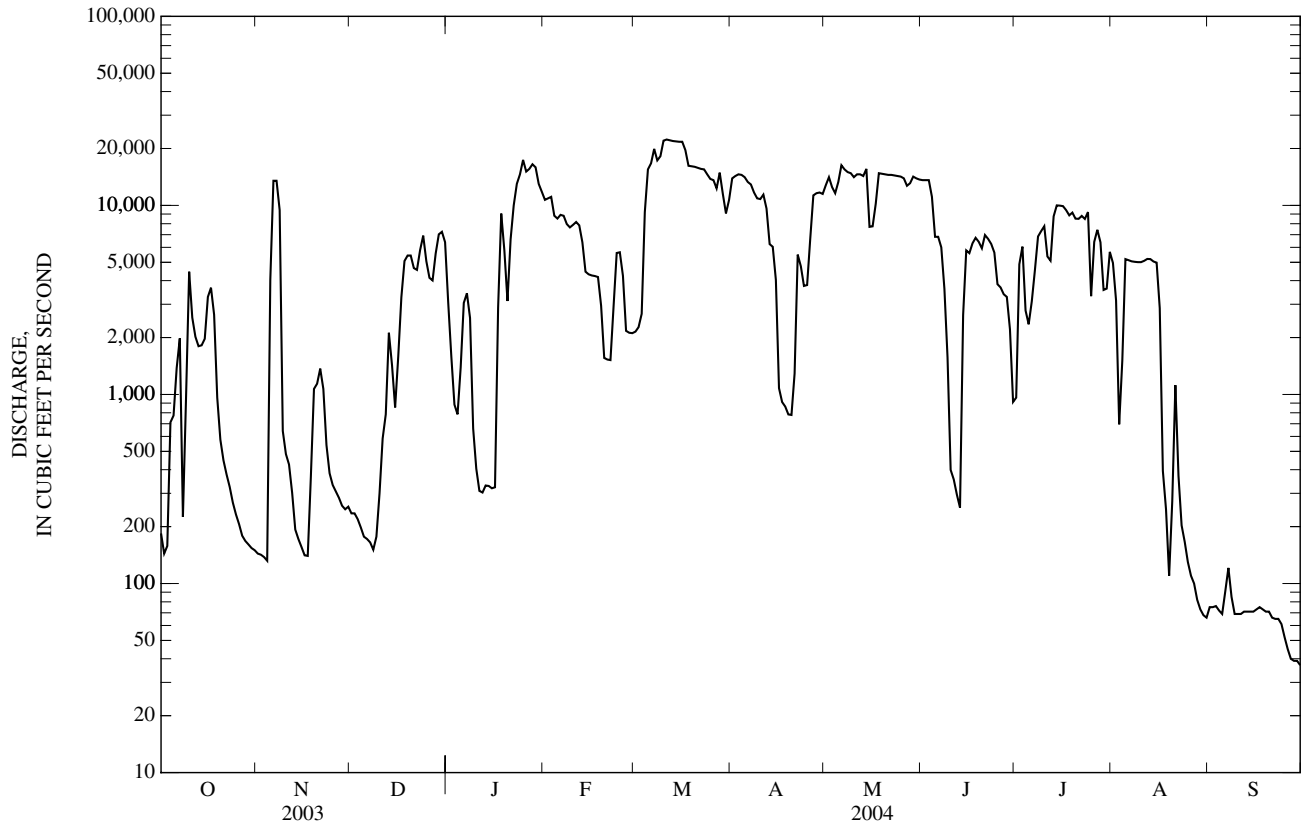
MEAN	3,113	4,232	3,602	3,263	3,381	7,020	7,584	7,487	7,889	4,505	1,190	1,329
MAX	47,570	23,150	16,250	15,850	11,470	23,920	25,200	23,480	25,370	22,340	7,284	7,538
(WY)	(1987)	(1975)	(1993)	(1993)	(1975)	(1985)	(1988)	(1973)	(1995)	(1995)	(1995)	(1989)
MIN	24.1	18.0	47.4	37.9	31.3	23.2	107	87.2	84.0	42.5	52.7	53.3
(WY)	(1967)	(1967)	(1979)	(1981)	(1967)	(1967)	(1971)	(1971)	(1972)	(1966)	(1965)	(2000)

e Estimated

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1965 - 2004	
ANNUAL TOTAL	1,326,580		2,111,268			
ANNUAL MEAN	3,634		5,768		a4,551	
HIGHEST ANNUAL MEAN					10,940	1999
LOWEST ANNUAL MEAN					234	1996
HIGHEST DAILY MEAN	15,100	Apr 8	22,300	Mar 11	77,700	Oct 13, 1986
LOWEST DAILY MEAN	22	Aug 28	37	Sep 30	b3.4	Aug 9, 1997
ANNUAL SEVEN-DAY MINIMUM	26	Aug 22	45	Sep 24	8.6	Jul 12, 1966
MAXIMUM PEAK FLOW			22,600	Mar 11	c78,400	Oct 12, 1986
MAXIMUM PEAK STAGE			18.60	Mar 11	d44.99	Oct 12, 1986
ANNUAL RUNOFF (AC-FT)	2,631,000		4,188,000		3,297,000	
10 PERCENT EXCEEDS	11,900		14,600		14,000	
50 PERCENT EXCEEDS	884		4,160		1,030	
90 PERCENT EXCEEDS	62		118		63	

a Prior to regulation by Oologah Lake, water years 1936-62, 3,723 ft^3/s.
b No flow at times in 1936, 1939, 1940, 1956.
c Maximum discharge for period of record, 182,000 ft^3/s, May 21, 1943.
d Maximum gage height for period of record, 55.05 ft, May 21, 1943.



07176500 BIRD CREEK AT AVANT, OK

LOCATION.--Lat 36°29'12", long 96°03'50", in SW ¼ NW ¼ sec.7, T.23 N., R.12 E., Osage County, Hydrologic Unit 11070107, 150 ft upstream from county road bridge at Avant, 2.4 mi upstream from Candy Creek, and at mile 54.2.

DRAINAGE AREA.--364 mi^2.

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

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

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	24	27	105	224	117	353	535	42	229	410	29
2	32	24	25	84	1,480	192	226	542	41	1,780	372	29
3	35	24	26	75	759	420	189	283	42	902	309	29
4	36	26	28	65	460	12,800	165	209	39	629	65	28
5	45	26	38	58	406	14,600	150	177	39	517	40	28
6	45	24	39	48	504	4,190	139	154	42	494	39	40
7	44	18	37	40	346	3,010	128	138	44	440	43	34
8	42	16	33	35	225	2,260	82	129	47	121	39	28
9	1,410	16	38	31	266	1,510	82	122	52	152	35	26
10	661	16	141	30	451	963	181	117	90	1,110	33	25
11	219	17	129	30	355	820	485	116	153	280	351	24
12	140	18	106	29	252	778	259	112	122	150	508	24
13	101	18	107	28	191	762	165	2,250	265	104	210	24
14	78	18	159	28	162	750	124	1,490	175	81	282	23
15	138	18	601	27	154	736	104	363	85	66	256	23
16	88	18	1,450	28	144	634	91	179	66	56	223	23
17	60	20	444	2,130	129	224	80	119	54	50	76	21
18	48	895	247	2,160	120	226	73	208	47	45	52	20
19	40	405	186	596	119	210	67	212	42	41	91	18
20	36	168	142	290	113	201	77	199	40	39	154	16
21	33	111	111	211	73	195	1,400	194	46	36	136	15
22	30	78	94	265	66	169	1,980	185	195	33	59	15
23	29	70	110	221	111	48	1,340	179	520	35	43	14
24	28	60	263	196	129	38	994	173	187	103	37	15
25	27	47	139	2,850	141	36	780	171	101	85	36	14
26	26	38	100	1,200	108	36	393	170	73	47	35	14
27	25	34	90	570	88	37	263	178	128	39	33	14
28	25	31	1,040	383	78	4,740	233	104	72	36	33	13
29	24	29	397	330	84	1,590	196	82	196	1,590	32	13
30	24	28	208	279	---	735	181	56	97	834	30	14
31	24	---	142	233	---	486	---	47	---	509	29	---
TOTAL	3,626	2,335	6,697	12,655	7,738	53,513	10,980	9,193	3,142	10,633	4,091	653
MEAN	117	77.8	216	408	267	1,726	366	297	105	343	132	21.8
MAX	1,410	895	1,450	2,850	1,480	14,600	1,980	2,250	520	1,780	508	40
MIN	24	16	25	27	66	36	67	47	39	33	29	13
AC-FT	7,190	4,630	13,280	25,100	15,350	106,100	21,780	18,230	6,230	21,090	8,110	1,300

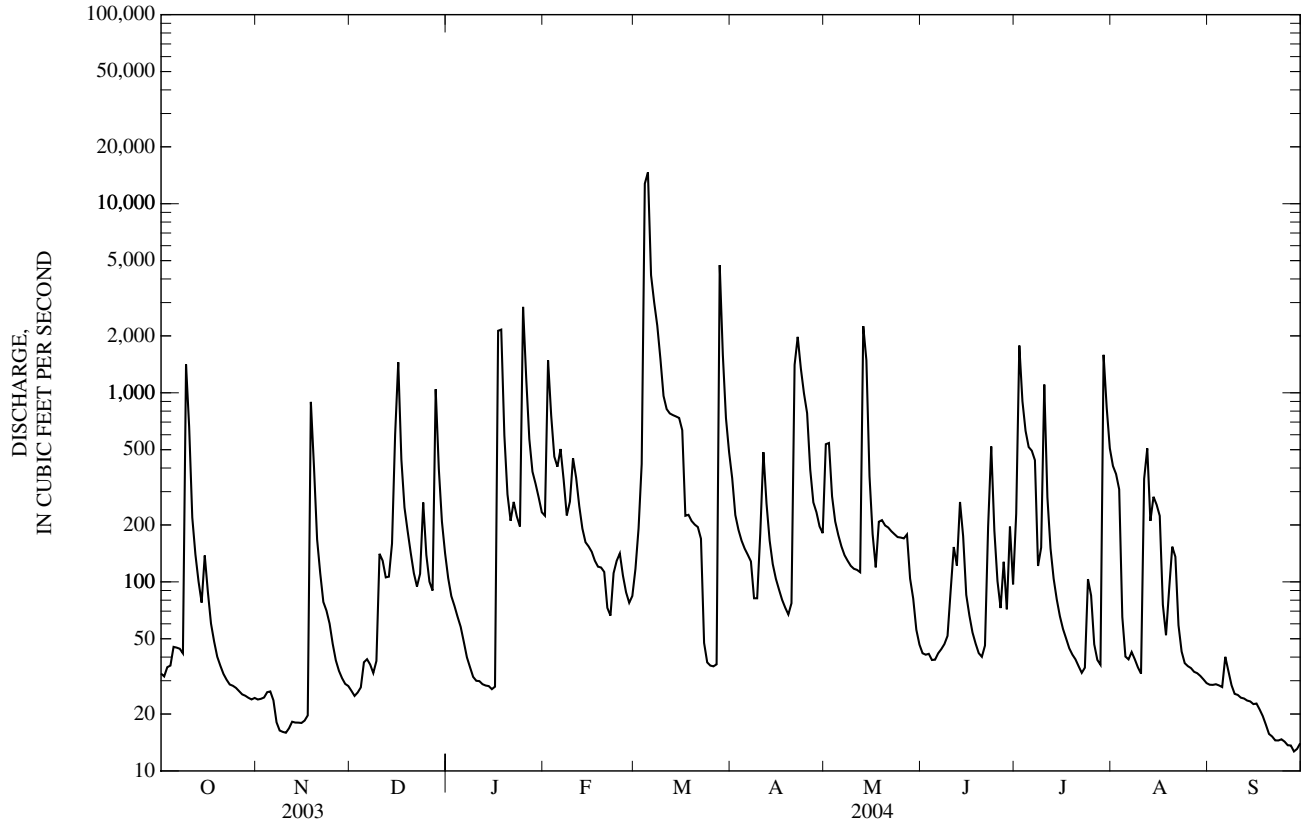
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2004, BY WATER YEAR (WY)

MEAN	162	241	193	163	312	597	513	642	553	172	68.7	147
MAX	1,940	1,319	753	749	1,376	2,264	1,214	2,177	2,642	1,174	400	1,059
(WY)	(1987)	(1986)	(1993)	(1993)	(1985)	(1990)	(1988)	(1993)	(1995)	(1995)	(1989)	(1986)
MIN	3.94	4.19	5.63	3.61	4.87	12.5	6.95	12.4	22.0	10.3	6.07	5.20
(WY)	(1980)	(1981)	(1979)	(1981)	(1981)	(1996)	(1981)	(1996)	(1988)	(1984)	(1985)	(1982)

07176500 BIRD CREEK AT AVANT, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1978 - 2004	
ANNUAL TOTAL	58,519		125,256			
ANNUAL MEAN	160		342		a313	
HIGHEST ANNUAL MEAN					673	1995
LOWEST ANNUAL MEAN					43.9	1981
HIGHEST DAILY MEAN	10,600	Mar 19	14,600	Mar 5	25,900	May 9, 1993
LOWEST DAILY MEAN	12	Jan 24	13	Sep 28,29	b0.05	Aug 8, 1984
ANNUAL SEVEN-DAY MINIMUM	12	Jan 24	14	Sep 23	0.29	Aug 3, 1984
MAXIMUM PEAK FLOW			23,400	Mar 4	c27,900	Jun 10, 1985
MAXIMUM PEAK STAGE			e22.63	Mar 4	d30.70	Jun 10, 1985
ANNUAL RUNOFF (AC-FT)	116,100		248,400		226,900	
10 PERCENT EXCEEDS	246		735		699	
50 PERCENT EXCEEDS	41		101		45	
90 PERCENT EXCEEDS	16		24		8.0	

a Prior to regulation, water years 1946-76, 200 ft^3/s.
b No flow at times most years 1946-76.
c Maximum discharge for period of record, 32,400 ft^3/s, gage height 31.40 ft, Oct. 2, 1959.
d Maximum gage height for period of record, 32.03 ft, Mar. 11, 1974.
e From high-water mark.



07176950 HOMINY CREEK NEAR HOMINY, OK

LOCATION.--Lat 36°28'25", long 96°22'43", in SW ¼ NE ¼ sec.18, T.23 N., R.9 E., Osage County, Hydrologic Unit 11070107, near the downstream right abutment of U.S. Highway 99 bridge, 4.0 miles north of Hominy, Oklahoma.

DRAINAGE AREA.--116 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 2003 to current year.

GAGE.--Water-stage recorder. Datum of gage is 727.60 ft above sea level.

REMARKS.--Records good except for estimated periods which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	1.5	3.3	23	44	88	40	124	6.3	101	23	3.9
2	3.6	1.4	3.3	21	376	46	36	48	6.2	970	19	3.7
3	6.1	1.3	4.0	21	143	70	33	30	7.7	149	16	3.5
4	7.3	1.5	4.5	19	e88	7,990	30	23	7.2	51	16	3.3
5	20	1.3	4.7	16	73	4,080	28	20	7.7	32	24	3.1
6	14	0.97	4.7	15	151	219	26	17	14	27	26	11
7	8.7	0.81	5.2	e14	88	128	26	15	12	25	19	8.4
8	6.4	0.76	5.6	e14	e86	85	25	14	8.3	20	16	5.8
9	622	0.81	7.5	13	e84	66	25	13	9.2	2,240	14	4.9
10	102	0.75	16	13	82	53	57	12	71	512	13	4.6
11	34	0.65	17	13	58	45	80	11	72	87	889	4.5
12	21	0.72	19	13	44	38	41	11	47	53	124	4.4
13	15	1.1	23	12	38	35	32	492	36	40	32	4.3
14	18	0.41	33	12	35	36	28	329	32	34	19	4.2
15	14	0.40	359	11	34	32	25	55	30	30	14	4.3
16	9.3	0.48	435	12	32	29	24	34	30	27	12	7.4
17	7.6	151	82	798	30	28	22	26	29	24	10	8.8
18	6.2	403	46	552	28	25	20	22	29	22	9.1	6.4
19	5.5	81	35	126	27	23	19	18	27	21	8.2	5.6
20	4.6	20	29	68	27	23	94	16	28	20	23	5.2
21	e5.8	10	25	53	25	20	192	13	36	18	12	5.3
22	3.6	6.9	22	45	23	17	390	11	1,020	16	8.5	5.3
23	2.9	6.8	22	40	32	17	189	9.5	126	16	7.0	5.5
24	2.6	5.1	21	37	64	16	99	8.5	47	20	6.3	6.1
25	2.2	4.4	19	531	40	17	66	7.8	31	19	5.8	6.1
26	2.0	4.2	16	184	31	17	42	7.7	23	17	5.3	6.2
27	2.1	4.0	92	e100	27	17	33	15	19	16	4.9	6.4
28	1.9	3.4	385	58	25	792	28	28	383	16	4.6	6.8
29	e3.2	3.2	68	49	29	135	25	15	57	57	4.3	6.9
30	e3.0	3.3	35	43	---	64	24	10	69	46	4.3	6.9
31	e3.0	---	27	38	---	47	---	7.7	---	30	4.0	---
TOTAL	961.2	721.16	1,868.8	2,964	1,864	14,298	1,799	1,463.2	2,320.6	4,756	1,393.3	168.8
MEAN	31.0	24.0	60.3	95.6	64.3	461	60.0	47.2	77.4	153	44.9	5.63
MAX	622	403	435	798	376	7,990	390	492	1,020	2,240	889	11
MIN	1.9	0.40	3.3	11	23	16	19	7.7	6.2	16	4.0	3.1
AC-FT	1,910	1,430	3,710	5,880	3,700	28,360	3,570	2,900	4,600	9,430	2,760	335

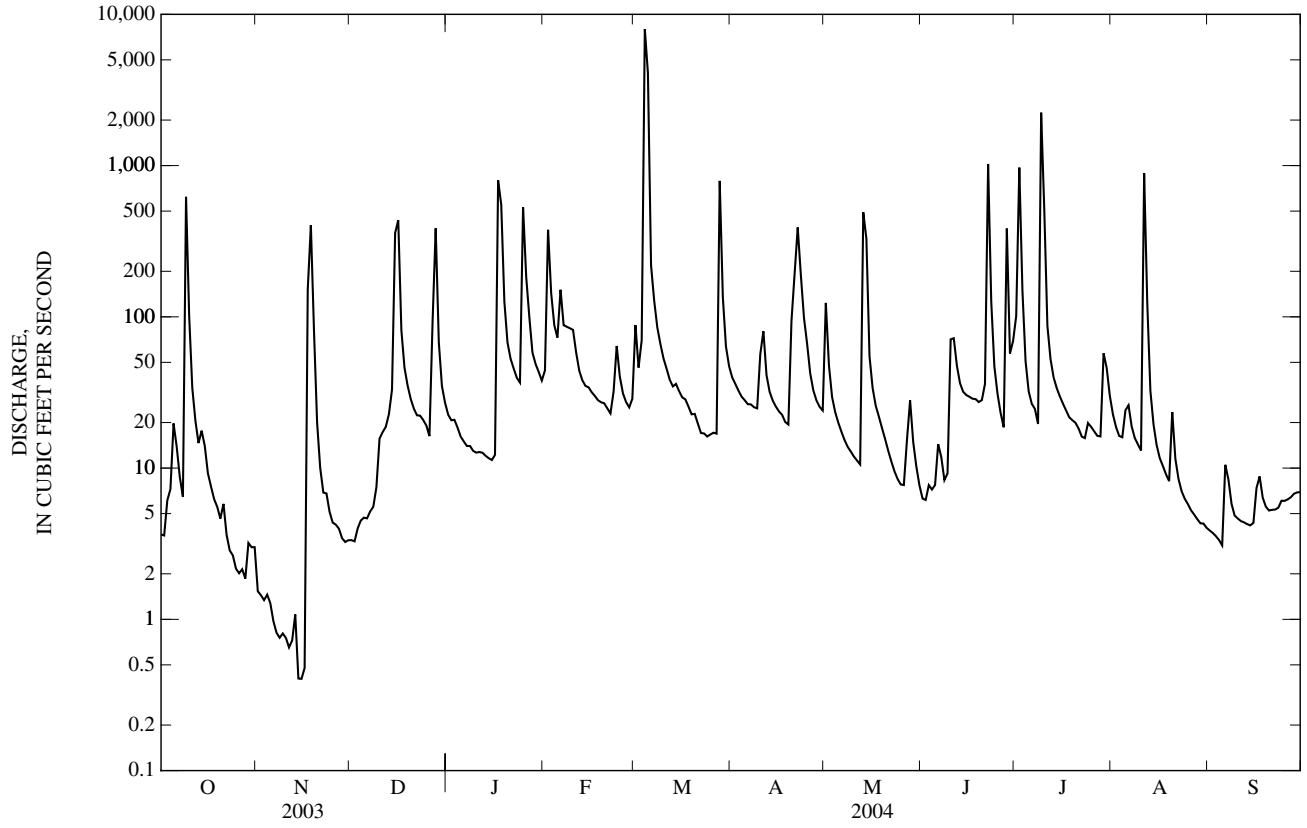
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)

MEAN	31.0	24.0	60.3	95.6	64.3	461	60.0	47.2	77.4	153	44.9	5.63
MAX	31.0	24.0	60.3	95.6	64.3	461	60.0	47.2	77.4	153	44.9	5.63
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)
MIN	31.0	24.0	60.3	95.6	64.3	461	60.0	47.2	77.4	153	44.9	5.63
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)

e Estimated

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

SUMMARY STATISTICS	FOR 2004 WATER YEAR		WATER YEARS 2003 - 2004	
ANNUAL TOTAL	34,578.06			
ANNUAL MEAN	94.5		94.5	
HIGHEST ANNUAL MEAN			94.5	2004
LOWEST ANNUAL MEAN			94.5	2004
HIGHEST DAILY MEAN	7,990	Mar 4	7,990	Mar 4, 2004
LOWEST DAILY MEAN	0.40	Nov 15	0.40	Nov 15, 2003
ANNUAL SEVEN-DAY MINIMUM	0.64	Nov 10	0.64	Nov 10, 2003
MAXIMUM PEAK FLOW	20,500	Mar 4	20,500	Mar 4, 2004
MAXIMUM PEAK STAGE	36.58	Mar 4	36.58	Mar 4, 2004
ANNUAL RUNOFF (AC-FT)	68,590		68,440	
10 PERCENT EXCEEDS	101		101	
50 PERCENT EXCEEDS	20		20	
90 PERCENT EXCEEDS	3.7		3.7	



07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--May 1949 to February 1953, November 1955, February 1999, September 2003 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 2004 to current year.
pH: April 2004 to current year.
WATER TEMPERATURE: April 2004 to current year.
DISSOLVED OXYGEN: April 2004 to current year.
TURBIDITY: April 2004 to current year.

INSTRUMENTATION.--Water-quality monitor since April 2004.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument or sensors. Samples were collected periodically and specific conductance, pH, water temperature, alkalinity, dissolved oxygen, and turbidity were determined in the field.

EXTREMES FOR CURRENT PERIOD.--
SPECIFIC CONDUCTANCE: Maximum, 1,510 microsiemens, Sept. 18, 19; minimum, 111 microsiemens, July 9.
pH: Maximum, 8.6 standard units, Aug. 30; minimum, 7.3 standard units, Sept. 25.
WATER TEMPERATURE: Maximum, 33.9°C, July 15; minimum, 14.5°C, May 3.
DISSOLVED OXYGEN: Maximum, 12.9 mg/l, Sept. 2; minimum, 2.8 mg/l, June 17.
TURBIDITY: Maximum, 1,000 NTU, July 2,9; minimum, 0.9 NTU, Aug. 31.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
MAR											
05...	1015	1028	1028	13.45	960	739	9.5	7.6	149	9.8	62.0
05...	1016	1028	1028	13.45	960	739	9.5	7.6	149	9.8	57.0
05...	1017	1028	1028	13.45	960	739	9.5	7.6	149	9.8	52.0
05...	1020	1028	1028	13.45	960	739	9.5	7.5	148	9.8	47.0
05...	1022	1028	1028	13.45	960	739	9.7	7.5	147	9.8	42.0
05...	1024	1028	1028	13.45	960	739	9.7	7.5	150	9.8	13.4
05...	1025	1028	1028	13.45	960	739	9.7	7.5	150	9.8	32.0
05...	1027	1028	1028	13.45	960	739	9.8	7.5	150	9.8	22.0
05...	1028	1028	1028	13.45	960	739	9.7	7.5	150	9.8	17.0
05...	1029	1028	1028	13.45	960	739	9.6	7.5	148	9.8	12.0
05...	1031	1028	1028	13.45	960	739	9.6	7.5	148	9.8	7.00
05...	1033	1028	1028	13.45	960	739	9.6	7.5	147	9.8	2.00
26...	0956	1028	1028	7.72	16	745	7.9	8.0	977	16.7	1.00
26...	0957	1028	1028	7.72	16	745	7.7	8.0	977	16.7	3.00
26...	0958	1028	1028	7.72	16	745	7.8	8.1	977	16.7	5.00
26...	0959	1028	1028	7.72	16	745	8.6	8.1	977	16.7	7.00
26...	1000	1028	1028	7.72	16	745	8.7	8.1	975	16.7	9.00
26...	1001	1028	1028	7.72	16	745	8.9	8.1	974	16.7	11.0
26...	1002	1028	1028	7.72	16	745	9.4	8.1	974	16.8	13.0
26...	1003	1028	1028	7.72	16	745	9.8	8.1	975	16.8	15.0
26...	1004	1028	1028	7.72	16	745	10.2	8.1	973	16.8	17.0
APR											
30...	0957	1028	1028	7.65	24	740	9.0	7.9	696	19.6	38.0
30...	0959	1028	1028	7.65	24	740	8.6	7.9	697	19.6	34.0
30...	1000	1028	1028	7.65	24	740	8.5	7.9	697	19.5	30.0
30...	1002	1028	1028	7.65	24	740	8.5	7.9	697	19.5	26.0
30...	1003	1028	1028	7.65	24	740	8.4	7.9	698	19.5	22.0
30...	1004	1028	1028	7.65	24	740	8.4	7.9	698	19.6	18.0
30...	1005	1028	1028	7.65	24	740	8.4	7.9	698	19.6	14.0
30...	1006	1028	1028	7.65	24	740	8.5	7.9	697	19.6	10.0
30...	1007	1028	1028	7.65	24	740	8.6	8.0	696	19.6	6.00
JUN											
22...	0949	1028	1028	17.26	2,420	760	7.0	7.4	335	21.8	1.00
22...	0950	1028	1028	17.26	2,420	760	7.1	7.4	335	21.8	11.0
22...	0951	1028	1028	17.26	2,420	760	7.2	7.5	335	21.8	17.0
22...	0952	1028	1028	17.26	2,420	760	7.5	7.5	335	21.8	31.0
22...	0953	1028	1028	17.26	2,420	760	7.6	7.5	335	21.8	41.0
22...	0954	1028	1028	17.26	2,420	760	7.3	7.5	331	21.8	51.0
22...	0955	1028	1028	17.26	2,420	760	7.1	7.5	332	21.7	61.0
22...	0956	1028	1028	17.26	2,420	760	7.3	7.5	333	21.7	71.0
22...	1000	1028	1028	17.26	2,420	760	6.9	7.5	331	21.7	81.0
30...	1000	1028	1028	7.62	30	743	7.5	7.2	345	24.4	38.0
30...	1001	1028	1028	7.62	30	743	7.5	7.2	346	24.3	34.0
30...	1002	1028	1028	7.62	30	743	7.5	7.2	345	24.3	30.0
30...	1003	1028	1028	7.62	30	743	7.5	7.2	349	24.3	26.0
30...	1004	1028	1028	7.62	30	743	7.5	7.2	348	24.3	22.0
30...	1005	1028	1028	7.62	30	743	7.5	7.2	351	24.3	18.0
30...	1006	1028	1028	7.62	30	743	7.5	7.3	352	24.3	14.0
30...	1007	1028	1028	7.62	30	743	7.5	7.3	352	24.3	10.0
30...	1008	1028	1028	7.62	30	743	7.5	7.3	352	24.6	6.00
30...	1009	1028	1028	7.62	30	743	7.4	7.3	353	24.4	2.00

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
JUL											
02...	1056	1028	1028	16.82	2,250	768	7.7	7.5	211	22.4	5.00
02...	1058	1028	1028	16.82	2,250	768	7.7	7.5	209	22.4	15.0
02...	1059	1028	1028	16.82	2,250	768	7.6	7.5	208	22.4	25.0
02...	1100	1028	1028	16.82	2,250	768	7.5	7.5	207	22.4	35.0
02...	1102	1028	1028	16.82	2,250	768	7.6	7.5	209	22.4	45.0
02...	1103	1028	1028	16.82	2,250	768	7.6	7.5	209	22.4	55.0
02...	1104	1028	1028	16.82	2,250	768	6.5	7.5	209	22.4	65.0
02...	1106	1028	1028	16.82	2,250	768	6.5	7.5	209	22.4	75.0
AUG											
18...	1400	1028	1028	7.19	8.9	750	9.8	8.0	565	28.5	30.0
18...	1402	1028	1028	7.19	8.9	750	9.2	8.0	566	28.5	27.0
18...	1404	1028	1028	7.19	8.9	750	8.9	8.0	566	28.2	24.0
18...	1406	1028	1028	7.19	8.9	750	8.7	8.0	567	28.3	21.0
18...	1408	1028	1028	7.19	8.9	750	8.4	8.0	566	28.3	18.0
18...	1410	1028	1028	7.19	8.9	750	8.4	8.0	567	28.4	15.0
18...	1412	1028	1028	7.19	8.9	750	8.5	8.0	570	28.6	12.0
18...	1414	1028	1028	7.19	8.9	750	8.7	8.0	567	26.5	9.00
18...	1416	1028	1028	7.19	8.9	750	8.2	8.1	565	28.9	6.00
18...	1418	1028	1028	7.19	8.9	750	8.8	8.1	568	26.7	4.00

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
MAR													
05...	1115	1028	80020	960	980	739	9.6	87	7.5	6.8	166	149	--
26...	1025	1028	80020	16	9.3	745	8.8	93	8.1	8.0	927	975	24.8
APR													
30...	1015	1028	80020	24	27	740	8.6	96	7.9	E7.7	650	697	17.8
MAY													
13...	1925	1028	80020	1,300	1,000	750	8.3	91	7.7	E7.6	455	404	17.4
20...	0920	1028	80020	16	18	744	7.0	85	7.8	7.6	583	630	25.6
JUN													
10...	1315	1028	80020	103	68	740	7.6	93	7.9	7.9	885	917	25.7
22...	1025	1028	80020	2,420	550	760	7.2	82	7.5	7.7	264	334	20.4
30...	1027	1028	80020	30	72	743	7.5	92	7.2	8.0	329	349	26.4
JUL													
02...	1110	1028	80020	2,250	990	768	7.6	87	7.5	7.6	197	209	29.0
28...	1140	1028	80020	16	.0	741	9.1	113	8.1	8.1	814	871	--
AUG													
18...	1415	1028	80020	8.9	16	750	8.7	114	8.0	7.8	542	566	38.5

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Temperature, water, deg C (00010)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Bromide water, fltrd, mg/L (71870)
MAR													
05...	9.8	12	59	18.1	3.38	2.15	.5	8.68	23	47	E58	E.0	<.02
26...	16.7	140	340	99.6	22.3	2.63	2	76.4	33	205	247	2	.47
APR													
30...	19.6	63	230	68.5	15.0	2.46	1	51.9	32	170	206	.0	.16
MAY													
13...	18.7	43	160	46.1	10.3	2.57	1	31.4	30	115	139	.0	.07
20...	23.7	49	210	61.1	13.4	2.99	1	42.4	30	159	191	1	.14
JUN													
10...	23.7	92	240	68.4	16.9	2.61	2	75.6	40	149	180	.0	.53
22...	21.8	9	90	27.8	4.98	2.91	.8	17.2	29	81	98	.0	.03
30...	24.3	15	120	37.6	6.32	3.19	.8	19.7	26	104	127	.0	.02
JUL													
02...	22.4	10	73	22.6	4.11	3.04	.5	10.4	23	64	77	.0	<.02
28...	24.8	98	270	78.9	17.2	3.47	2	65.1	34	170	204	2	.39
AUG													
18...	28.4	47	180	52.9	11.4	3.40	1	38.1	31	133	160	.0	.15

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Residue on evap. at 180degC wat flt mg/L (70300)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7u MF col/100 mL (31625)	Aluminum, water, fltrd, ug/L (01106)	Antimony, water, fltrd, ug/L (01095)	Arsenic water, fltrd, ug/L (01000)
MAR													
05...	13.4	<.2	5.88	6.4	87	.14	275	106	E3,600	E3,800	5	<.20	<2
26...	158	.2	6.84	42.6	532	.75	23.9	554	E110	E180	E1	<.20	E2
APR													
30...	101	.2	8.86	28.2	378	.56	26.7	415	>1,600	>1,200	2	<.20	<2
MAY													
13...	60.1	.2	6.09	24.5	250	.37	959	273	110,000	54,000	3	<.20	E1
20...	90.5	.2	8.32	21.9	336	.49	15.1	362	E100	200	2	E.11	<2
JUN													
10...	172	.2	6.89	21.2	454	.71	145	522	490	460	7	E.11	E1
22...	25.2	.2	6.90	11.3	145	.21	1,010	155	22,000	13,000	3	E.14	<2
30...	33.5	<.2	8.77	13.2	185	.27	16.2	200	400	490	3	E.11	E1
JUL													
02...	14.7	<.2	8.46	7.6	109	.18	796	131	8,800	11,000	4	<.20	M
28...	150	.2	9.60	25.7	453	.70	22.4	518	E78	54	2	E.12	<2
AUG													
18...	80.7	.2	8.63	20.5	296	.43	7.58	314	35	62	2	E.11	<2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Barium, water, fltrd, ug/L (01005)	Beryllium, water, fltrd, ug/L (01010)	Cadmium water, fltrd, ug/L (01025)	Chromium, water, fltrd, ug/L (01030)	Cobalt water, fltrd, ug/L (01035)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Manganese, water, fltrd, ug/L (01056)	Molybdenum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selenium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)
MAR													
05...	27	<.06	<.04	<.8	.234	.8	39	E.05	27.8	E.4	1.15	<3	<.2
26...	148	<.06	<.04	<.8	.626	1.1	7	<.08	232	.6	2.65	<3	<.2
APR													
30...	93	<.06	<.04	<.8	.543	1.3	11	<.08	113	.6	2.69	<3	<.2
MAY													
13...	66	<.06	<.04	<.8	.694	1.3	26	E.06	152	.6	3.83	<3	<.2
20...	86	<.06	E.03	<.8	.449	1.5	13	E.05	69.8	.7	2.34	<3	<.2
JUN													
10...	131	<.06	<.04	<.8	.425	1.1	E6	<.08	82.0	.9	2.16	<3	<.2
22...	53	<.06	<.04	<.8	.360	.7	23	E.05	22.7	.6	1.54	<3	<.2
30...	54	<.06	<.04	<.8	.251	1.5	15	<.08	31.0	.7	1.63	<3	<.2
JUL													
02...	34	<.06	<.04	<.8	.281	1.3	42	E.06	9.8	.4	1.22	<3	<.2
28...	128	<.06	<.04	<.8	.456	1.8	E5	<.08	119	1.0	2.79	<3	<.2
AUG													
18...	89	<.06	<.04	<.8	.292	1.6	8	<.08	60.1	.9	1.60	<3	<.2

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Zinc, water, fltrd, ug/L (01090)	1,2-Diphenylhydrazine, water, unfltrd ug/L (82626)	246-Tribromophenol, sur Sch 1383/85 wat unf pct rcv (90652)	2,4,6-Trichlorophenol, water, unfltrd ug/L (34621)	2,4-Dichlorophenol, water, unfltrd ug/L (34601)	2,4-Dimethylphenol, water, unfltrd ug/L (34606)	2,4-Dinitrophenol, water, unfltrd ug/L (34616)	2,4-Dinitrotoluene water unfltrd ug/L (34611)	2,6-Dinitrotoluene water unfltrd ug/L (34626)	2-Chloronaphthalene, water, unfltrd ug/L (34581)	2-chlorophenol, water, unfltrd ug/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf ug/L (34657)	2-nitrophenol, water unfltrd ug/L (34591)
MAR													
05...	E.4	<2	92.6	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
26...	1.0	<2	91.9	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
APR													
30...	E.5	<2	74.6	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
MAY													
13...	1.5	<2	84.0	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
20...	.8	<2	73.7	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
JUN													
10...	1.3	<2	81.5	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
22...	E.4	<2	76.0	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
30...	.7	<2	90.6	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
JUL													
02...	.6	<2	83.0	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
28...	.8	<2	99.4	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
AUG													
18...	1.7	<2	102	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	3,3-Di'chlorobenzidine, water, unfltrd ug/L (34631)	4-Bromophenyl phenyl ether, wat unf ug/L (34636)	4-Chloro-3-methylphenol, wat unf ug/L (34452)	4-Chlorophenyl phenyl ether, wat unf ug/L (34641)	4-Nitrophenol, water, unfltrd ug/L (34646)	9H-Fluorene, water, unfltrd ug/L (34381)	Acenaphthene, water, unfltrd ug/L (34205)	Acenaphthylene, water, unfltrd ug/L (34200)	Anthracene, water, unfltrd ug/L (34220)	Benzidine, water, unfltrd ug/L (39120)	Benzo[a]anthracene, water, unfltrd ug/L (34526)	Benzo[a]pyrene, water, unfltrd ug/L (34247)	Benzo[b]fluoranthene water unfltrd ug/L (34230)
MAR													
05...	<.9	<2	<2	<1	<2	M	<2	<2	<2	<1,000	<2	<1	<2
26...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
APR													
30...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
MAY													
13...	<.9	<2	<2	<1	M	<1	<2	<2	<2	<1,000	<2	<1	<2
20...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
JUN													
10...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
22...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
30...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
JUL													
02...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
28...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
AUG													
18...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	--	<2	<1	<2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Benzo[g,h,i]-perylene, water, unfltrd ug/L (34521)	Benzo[k]-fluoranthene water unfltrd ug/L (34242)	Benzyl n-butyl phthalate, water, unfltrd ug/L (34292)	Bis(2-chloroethoxy) methane water unfltrd ug/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd ug/L (34273)	Bis(2-chloroisopropyl) ether, wat unf ug/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf ug/L (39100)	Chrysene, water, unfltrd ug/L (34320)	Dibenzo[a,h]-anthracene, wat unf ug/L (34556)	Diethyl phthalate, water, unfltrd ug/L (34336)	Dimethyl phthalate, water, unfltrd ug/L (34341)	Di-n-butyl phthalate, water, unfltrd ug/L (39110)	Di-n-octyl phthalate, water, unfltrd ug/L (34596)
MAR													
05...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	M	<2	<2
26...	<2	<1	<2	<1	<1	<1	E2	<1	<2	<2	<1	<2	<2
APR													
30...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
MAY													
13...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
20...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
JUN													
10...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
22...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
30...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
JUL													
02...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
28...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
AUG													
18...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Fluoranthene water unfltrd ug/L (34376)	Hexachlorobenzene water unfltrd ug/L (39700)	Hexachlorocyclopentadiene, wat unf ug/L (34386)	Indeno[1,2,3-cd]pyrene, water, unfltrd ug/L (34403)	Isophorone water unfltrd ug/L (34408)	Nitrobenzene water unfltrd ug/L (34447)	N-NItroso-dimethylamine, wat unf ug/L (34438)	N-NItroso-di-n-propylamine, wat unf ug/L (34428)	N-NItroso-diphenylamine, wat unf ug/L (34433)	Pentachlorophenol, water, unfltrd ug/L (39032)	Petroleum hydrocarbons wat unf frn ext mg/L (45501)	Phenanthrene, water, unfltrd ug/L (34461)	Phenol, water, unfltrd ug/L (34694)
MAR													
05...	<1	<1	<1	<2	M	<1	<2	<2	<2	<2	<2	M	E.4
26...	<1	<1	<1	<2	M	<1	<2	<2	<2	<2	5	<1	E.7
APR													
30...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	3	<1	<1.6
MAY													
13...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	<2	<1	<1.6
20...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	<2	<1	<1.6
JUN													
10...	M	<1	<1	<2	<2	<1	<2	<2	<2	<2	<2	<1	<1.6
22...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	<2	<1	<1.6
30...	M	<1	<1	<2	<2	<1	<2	<2	<2	<2	E5	<1	<1.6
JUL													
02...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	E3	<1	<1.6
28...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	E5	<1	E.5
AUG													
18...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	<2	<1	<1.6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Phenol-d5, surrog, Sched. 1383/85 wat unf pct rcv (90630)	Pyrene, water, unfltrd ug/L (34469)	1,1,1-Trichloroethane, water, unfltrd ug/L (34506)	CFC-113 water unfltrd ug/L (77652)	1,1-Dichloroethane, water unfltrd ug/L (34496)	1,1-Dichloroethene, water, unfltrd ug/L (34501)	1,2,4-Trichlorobenzene water unfltrd ug/L (34551)	1,2-Dichlorobenzene water unfltrd ug/L (34536)	1,2-Dichloroethane, water, unfltrd ug/L (32103)	1,2-Dichloroethane-d4, sur Sch2090 wat unf pct rcv (99832)	1,2-Dichloropropane water unfltrd ug/L (34541)	1,3-Dichlorobenzene water unfltrd ug/L (34566)	1,4-Dichlorobenzene water unfltrd ug/L (34571)
MAR													
05...	75.2	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	116	<.1	<.1	<.1
26...	76.2	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	115	<.1	<.1	<.1
APR													
30...	57.4	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	108	<.1	<.1	<.1
MAY													
13...	64.0	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	109	<.1	<.1	<.1
20...	58.8	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	110	<.1	<.1	<.1
JUN													
10...	61.9	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	98.5	<.1	<.1	<.1
22...	64.3	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	110	<.1	<.1	<.1
30...	72.6	M	<.1	<.1	<.1	<.1	<1	<.1	<.2	117	<.1	<.1	<.1
JUL													
02...	71.3	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	120	<.1	<.1	<.1
28...	91.5	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	107	<.1	<.1	<.1
AUG													
18...	86.1	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	119	<.1	<.1	<.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	14Bromofluorobenzene surrog. VOC Sch wat unf pct rcv (99834)	Benzene water unfltrd ug/L (34030)	Bromodichloromethane water unfltrd ug/L (32101)	Chlorobenzene water unfltrd ug/L (34301)	cis-1,2-Dichloroethene, water, unfltrd ug/L (77093)	Dibromochloromethane water unfltrd ug/L (32105)	Dichlorodifluoromethane wat unf ug/L (34668)	Dichloromethane water unfltrd ug/L (34423)	Diethyl ether, water, unfltrd ug/L (81576)	Diisopropyl ether, water, unfltrd ug/L (81577)	Ethylbenzene water unfltrd ug/L (34371)	Hexachlorobutadiene, water, unfltrd ug/L (39702)	Hexachloroethane, water, unfltrd ug/L (34396)
MAR													
05...	88.4	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2
26...	86.8	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2
APR													
30...	94.1	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2
MAY													
13...	91.8	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2
20...	91.0	<.1	.2	<.1	<.1	.2	<.2	<.2	<.2	<.2	<.1	<1	<2
JUN													
10...	90.1	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2
22...	114	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2
30...	94.7	<.1	.2	<.1	<.1	.2	<.2	<.2	<.2	<.2	<.1	<1	<2
JUL													
02...	92.2	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2
28...	90.5	<.1	.3	<.1	<.1	.2	<.2	<.2	<.2	<.2	<.1	<1	<2
AUG													
18...	98.4	<.1	.5	<.1	<.1	.6	<.2	<.2	<.2	<.2	<.1	<1	<2

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Methyl tert-pentyl ether, water, unfltrd ug/L (50005)	meta- + para-Xylene, water, unfltrd ug/L (85795)	Naphth-alene, water, unfltrd ug/L (34696)	o-Xylene, water, unfltrd ug/L (77135)	Styrene water unfltrd ug/L (77128)	t-Butyl ethyl ether, water, unfltrd ug/L (50004)	Methyl t-butyl ether, water, unfltrd ug/L (78032)	Tetra-chloro-ethene, water, unfltrd ug/L (34475)	Tetra-chloro-methane water unfltrd ug/L (32102)	Toluene water unfltrd ug/L (34010)	Toluene -d8, surrog, Sch2090 wat unf percent recovry (99833)	trans-1,2-Di-chloro-ethene, water, unfltrd ug/L (34546)	Tri-bromo-methane water unfltrd ug/L (32104)
MAR													
05...	<.2	<.2	M	<.1	<.1	<.1	<.2	<.1	<.2	<.1	93.5	<.1	<.2
26...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	105	<.1	<.2
APR													
30...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	100	<.1	<.2
MAY													
13...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	.2	100	<.1	<.2
20...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	98.0	<.1	<.2
JUN													
10...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	93.7	<.1	<.2
22...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	.3	106	<.1	<.2
30...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	94.9	<.1	<.2
JUL													
02...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	94.1	<.1	<.2
28...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	103	<.1	<.2
AUG													
18...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	99.6	<.1	.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Tri-chloro-ethene, water, unfltrd ug/L (39180)	Tri-chloro-fluoro-methane water unfltrd ug/L (34488)	Tri-chloro-methane water unfltrd ug/L (32106)	Vinyl chlor-ide, water, unfltrd ug/L (39175)	2Fluoro -bi-phenyl, surrog, bed sed <2 mm, pct rcv (49279)	Nitro-benzene -d5, surrog, bed sed <2 mm, pct rcv (49280)	Ter-phenyl-d14, surrog, bed sed <2 mm, pct rcv (49278)	Uranium natural water, fltrd, ug/L (22703)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
MAR											
05...	<.1	<.2	<.1	<.2	85	97	20	.17	--	--	--
26...	<.1	<.2	<.1	<.2	78	87	38	1.84	92	88	3.8
APR											
30...	<.1	<.2	<.1	<.2	82	81	23	1.10	83	98	6.3
MAY											
13...	<.1	<.2	<.1	<.2	75	82	19	.78	78	2,480	8,710
20...	<.1	<.2	.3	<.2	70	71	25	.81	92	86	3.6
JUN											
10...	<.1	<.2	<.1	<.2	80	84	26	1.04	96	223	62
22...	<.1	<.2	<.1	<.2	68	81	13	.54	80	3,570	23,300
30...	<.1	<.2	.2	<.2	92	93	51	.57	94	103	8.3
JUL											
02...	<.1	<.2	<.1	<.2	67	74	43	.23	79	1,510	9,200
28...	<.1	<.2	.7	<.2	95	95	52	1.36	92	91	3.9
AUG											
18...	<.1	<.2	.5	<.2	96	110	45	.96	92	60	1.4

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	712	520	629
2	---	---	---	---	---	---	---	---	---	594	502	535
3	---	---	---	---	---	---	---	---	---	529	499	511
4	---	---	---	---	---	---	---	---	---	568	529	548
5	---	---	---	---	---	---	---	---	---	627	568	598
6	---	---	---	---	---	---	---	---	---	679	627	652
7	---	---	---	---	---	---	---	---	---	725	679	698
8	---	---	---	---	---	---	---	---	---	768	725	744
9	---	---	---	---	---	---	---	---	---	794	768	779
10	---	---	---	---	---	---	---	---	---	824	794	806
11	---	---	---	---	---	---	---	---	---	849	824	838
12	---	---	---	---	---	---	---	---	---	878	841	855
13	---	---	---	---	---	---	---	---	---	878	126	700
14	---	---	---	---	---	---	---	---	---	345	282	295
15	---	---	---	---	---	---	---	---	---	385	306	344
16	---	---	---	---	---	---	---	---	---	452	385	420
17	---	---	---	---	---	---	---	---	---	522	452	489
18	---	---	---	---	---	---	---	---	---	585	522	552
19	---	---	---	---	---	---	---	---	---	624	581	602
20	---	---	---	---	---	---	---	---	---	669	623	641
21	---	---	---	---	---	---	---	---	---	705	669	683
22	---	---	---	---	---	---	---	---	---	733	705	718
23	---	---	---	---	---	---	---	---	---	757	733	742
24	---	---	---	---	---	---	---	---	---	786	757	770
25	---	---	---	---	---	---	---	---	---	812	786	796
26	---	---	---	---	---	---	---	---	---	832	802	819
27	---	---	---	---	---	---	---	---	---	833	775	807
28	---	---	---	---	---	---	---	---	---	1,010	779	915
29	---	---	---	---	---	---	---	---	---	871	725	760
30	---	---	---	---	---	---	718	703	711	740	725	732
31	---	---	---	---	---	---	---	---	---	770	737	750
MONTH	---	---	---	---	---	---	718	703	711	1,010	126	669
	JUNE			JULY			AUGUST			SEPTEMBER		
1	800	770	779	339	291	325	888	805	840	927	882	907
2	810	777	802	485	192	267	806	794	799	921	911	916
3	821	796	805	282	216	241	828	800	810	953	913	931
4	813	798	803	354	282	319	843	811	824	970	952	962
5	867	803	820	407	354	383	823	724	778	976	654	965
6	875	830	852	445	407	428	846	728	793	936	551	878
7	992	875	930	514	445	482	885	827	865	932	871	901
8	1,080	992	1,040	581	513	551	827	788	803	954	932	938
9	1,090	972	1,050	592	111	390	813	802	806	1,010	954	993
10	989	849	914	265	118	196	829	811	819	1,060	1,010	1,050
11	988	714	812	369	265	320	1,500	160	412	1,070	1,050	1,060
12	726	702	711	442	369	409	384	280	321	1,100	1,060	1,070
13	764	726	748	505	442	478	453	384	421	1,140	1,100	1,120
14	772	755	763	556	503	531	488	453	469	1,140	1,120	1,130
15	777	759	768	602	556	581	500	486	493	1,140	1,120	1,130
16	795	775	783	641	602	618	532	499	515	1,210	981	1,140
17	823	795	807	667	641	653	560	530	542	1,450	1,210	1,330
18	832	810	819	685	667	675	587	558	569	1,510	1,450	1,490
19	848	827	836	713	685	699	620	586	601	1,510	1,490	1,500
20	861	846	853	746	713	725	620	529	573	1,500	1,460	1,480
21	934	833	864	786	746	766	588	564	571	1,480	1,410	1,440
22	935	200	407	800	765	785	648	588	618	1,410	1,370	1,390
23	286	208	249	812	747	797	667	648	656	1,370	1,320	1,360
24	352	286	321	805	744	773	703	667	682	1,450	1,360	1,410
25	391	352	375	782	760	767	747	703	726	1,480	1,450	1,460
26	445	391	418	811	782	795	786	747	768	1,460	1,400	1,420
27	486	443	460	849	811	823	821	785	807	1,400	1,370	1,380
28	475	118	245	889	836	864	857	821	845	1,390	1,370	1,380
29	318	276	296	859	692	773	887	845	868	1,400	1,370	1,380
30	356	293	334	862	669	744	895	856	877	1,390	1,360	1,380
31	---	---	---	1,020	862	945	905	857	887	---	---	---
MONTH	1,090	118	689	1,020	111	584	1,500	160	689	1,510	551	1,200

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

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

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	---	---	---	20.5	17.1	18.5
2	---	---	---	---	---	---	---	---	---	20.9	15.7	18.0
3	---	---	---	---	---	---	---	---	---	21.0	14.5	17.4
4	---	---	---	---	---	---	---	---	---	23.8	16.1	19.5
5	---	---	---	---	---	---	---	---	---	25.5	18.3	21.6
6	---	---	---	---	---	---	---	---	---	27.2	20.3	23.5
7	---	---	---	---	---	---	---	---	---	26.7	21.8	24.3
8	---	---	---	---	---	---	---	---	---	27.4	21.9	24.6
9	---	---	---	---	---	---	---	---	---	26.4	22.4	24.6
10	---	---	---	---	---	---	---	---	---	26.2	22.1	24.3
11	---	---	---	---	---	---	---	---	---	25.8	22.2	24.2
12	---	---	---	---	---	---	---	---	---	25.3	22.5	23.5
13	---	---	---	---	---	---	---	---	---	23.7	18.8	21.3
14	---	---	---	---	---	---	---	---	---	19.2	17.0	17.8
15	---	---	---	---	---	---	---	---	---	21.9	15.7	18.3
16	---	---	---	---	---	---	---	---	---	23.9	17.4	20.3
17	---	---	---	---	---	---	---	---	---	25.8	19.6	22.4
18	---	---	---	---	---	---	---	---	---	26.1	21.9	23.8
19	---	---	---	---	---	---	---	---	---	29.0	23.1	25.7
20	---	---	---	---	---	---	---	---	---	30.3	23.9	26.9
21	---	---	---	---	---	---	---	---	---	28.7	24.8	26.9
22	---	---	---	---	---	---	---	---	---	27.5	24.0	25.7
23	---	---	---	---	---	---	---	---	---	29.5	23.6	26.5
24	---	---	---	---	---	---	---	---	---	29.1	25.1	27.0
25	---	---	---	---	---	---	---	---	---	27.0	22.6	24.6
26	---	---	---	---	---	---	---	---	---	24.5	21.6	22.8
27	---	---	---	---	---	---	---	---	---	28.3	22.8	25.1
28	---	---	---	---	---	---	---	---	---	30.5	23.6	26.6
29	---	---	---	---	---	---	---	---	---	28.3	24.5	26.3
30	---	---	---	---	---	---	22.9	20.5	21.9	29.3	24.2	26.6
31	---	---	---	---	---	---	---	---	---	27.9	22.4	25.5
MONTH	---	---	---	---	---	---	22.9	20.5	21.9	30.5	14.5	23.4
		JUNE			JULY			AUGUST			SEPTEMBER	
1	27.5	22.3	25.2	26.1	23.8	24.6	30.6	24.8	27.6	27.9	23.2	25.6
2	26.4	22.1	23.8	25.2	22.1	23.6	31.5	26.9	29.4	27.6	22.9	25.0
3	26.8	20.2	23.3	28.7	23.8	25.9	32.9	28.0	30.5	27.5	23.0	25.2
4	26.2	21.3	22.7	31.0	26.0	28.0	33.3	28.9	30.9	28.5	23.2	25.7
5	23.3	20.4	21.7	30.7	26.4	28.4	31.1	27.7	29.1	28.5	25.0	26.7
6	29.1	21.7	24.8	31.3	26.0	28.5	28.1	24.9	26.6	27.1	24.3	25.8
7	26.8	23.9	24.5	31.5	26.2	28.6	27.9	24.5	26.4	26.2	22.5	24.2
8	27.3	22.9	24.9	32.5	26.6	29.3	27.3	24.7	25.7	25.8	20.9	23.1
9	26.4	23.5	24.2	29.8	21.0	24.8	29.4	23.5	26.1	26.0	19.6	22.5
10	24.7	22.7	23.5	25.6	21.3	23.1	29.8	25.9	27.5	25.8	19.7	22.6
11	29.3	23.2	25.6	29.7	24.4	26.5	27.5	20.0	22.5	26.0	20.2	23.1
12	29.7	25.3	27.3	31.8	25.8	28.3	23.6	21.0	22.2	26.7	21.7	24.2
13	30.0	24.9	27.5	33.4	27.0	29.9	25.3	20.4	22.6	26.4	22.0	24.2
14	32.6	25.4	28.8	31.9	28.2	30.1	26.4	21.0	23.6	26.9	23.1	24.9
15	31.4	26.6	28.3	33.9	28.6	31.0	25.4	22.3	23.5	26.6	23.6	25.0
16	30.1	26.0	28.0	33.0	28.6	29.8	25.3	22.0	23.5	27.8	23.5	25.4
17	30.8	26.0	28.6	30.4	26.8	28.6	28.0	23.3	25.6	28.5	23.6	25.9
18	30.2	25.9	28.1	29.9	25.9	28.2	28.9	24.6	26.9	28.9	24.8	26.7
19	28.3	24.1	25.6	30.3	26.1	28.4	27.6	25.2	26.3	27.0	23.5	25.4
20	24.9	22.6	23.6	32.5	27.6	30.0	25.2	22.9	23.5	25.6	21.9	23.9
21	27.6	22.2	24.6	33.0	28.8	30.9	25.9	20.7	23.3	25.7	21.8	23.7
22	26.4	20.1	22.0	32.8	28.7	30.6	27.0	22.6	25.1	25.0	21.4	23.4
23	25.8	20.1	22.5	32.2	28.5	29.9	28.9	25.2	26.8	23.5	21.9	22.7
24	28.8	21.5	24.7	28.8	25.4	26.9	30.9	26.0	28.1	24.4	20.2	22.2
25	28.9	23.1	25.9	25.4	23.3	24.3	29.6	27.2	28.3	23.3	19.0	21.3
26	29.3	23.4	26.3	26.9	22.7	24.7	32.0	26.3	28.6	24.4	19.4	21.9
27	29.8	25.1	27.4	28.1	23.3	25.6	32.4	27.0	29.2	24.3	19.2	21.6
28	28.5	21.3	23.6	26.2	23.4	24.8	29.6	26.7	28.0	23.2	18.7	21.0
29	27.0	23.4	24.9	23.4	21.8	22.4	29.5	23.8	26.4	23.0	19.2	21.0
30	26.0	24.0	24.8	24.5	21.7	22.7	28.0	23.2	25.4	22.2	18.3	20.5
31	---	---	---	28.7	22.0	24.8	28.8	22.6	25.4	---	---	---
MONTH	32.6	20.1	25.2	33.9	21.0	27.2	33.3	20.0	26.3	28.9	18.3	23.8

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	---	---	---	9.1	8.0	8.6
2	---	---	---	---	---	---	---	---	---	9.2	8.6	8.9
3	---	---	---	---	---	---	---	---	---	9.5	8.5	9.1
4	---	---	---	---	---	---	---	---	---	9.6	8.2	8.8
5	---	---	---	---	---	---	---	---	---	9.9	7.9	8.6
6	---	---	---	---	---	---	---	---	---	10.3	7.5	8.4
7	---	---	---	---	---	---	---	---	---	10.1	7.1	8.2
8	---	---	---	---	---	---	---	---	---	10.0	7.0	8.1
9	---	---	---	---	---	---	---	---	---	9.8	6.8	8.0
10	---	---	---	---	---	---	---	---	---	10.2	6.6	8.1
11	---	---	---	---	---	---	---	---	---	10.0	6.6	8.0
12	---	---	---	---	---	---	---	---	---	9.0	6.5	7.6
13	---	---	---	---	---	---	---	---	---	7.8	6.4	7.1
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	10.2	6.5	7.9
30	---	---	---	---	---	---	10.3	8.2	9.5	11.1	6.6	8.4
31	---	---	---	---	---	---	---	---	---	11.4	6.2	8.5
MONTH	---	---	---	---	---	---	10.3	8.2	9.5	11.4	6.2	8.3
		JUNE			JULY			AUGUST			SEPTEMBER	
1	11.5	6.8	8.8	7.6	7.3	7.5	8.9	5.9	7.0	---	---	---
2	9.6	6.2	7.8	7.8	7.3	7.6	8.7	5.5	6.7	12.9	6.8	9.4
3	11.2	6.3	8.3	7.5	6.8	7.2	8.4	5.1	6.4	12.8	6.7	9.5
4	11.5	6.8	8.7	7.2	6.6	6.9	8.0	5.1	6.3	12.3	6.6	9.1
5	9.8	7.4	8.5	7.5	6.6	7.0	7.9	5.3	6.4	11.6	6.2	8.7
6	9.9	6.5	7.8	8.3	6.6	7.3	8.7	6.2	7.2	8.0	6.4	7.3
7	7.9	4.9	6.7	9.1	6.7	7.6	8.8	6.2	7.3	9.9	7.0	8.2
8	10.0	5.5	7.5	9.4	6.5	7.5	8.6	6.3	7.3	11.0	7.6	8.8
9	8.1	5.8	6.8	---	---	---	9.5	6.9	7.9	11.7	7.8	9.1
10	7.9	5.6	6.9	---	---	---	10.0	6.3	7.8	11.8	7.6	9.2
11	8.7	6.3	7.8	---	---	---	8.3	6.8	7.8	11.6	7.3	9.2
12	9.3	4.9	7.1	---	---	---	8.1	7.7	7.9	11.0	6.9	8.9
13	9.9	4.1	6.8	---	---	---	8.2	7.3	7.9	11.0	6.8	8.7
14	8.7	4.1	6.2	---	---	---	8.3	7.3	7.7	11.1	6.2	8.5
15	9.0	2.9	6.2	8.1	5.9	6.8	8.9	7.0	7.8	11.2	6.0	8.3
16	8.0	4.1	5.7	6.7	5.3	5.9	9.0	7.3	8.1	10.6	6.6	8.1
17	7.7	2.8	4.8	7.8	5.5	6.4	8.8	7.0	7.8	10.0	6.4	7.8
18	9.5	3.8	6.4	8.6	5.5	6.7	8.9	6.5	7.4	9.6	6.2	7.8
19	9.7	5.3	7.4	9.0	5.4	6.8	7.5	5.8	6.5	9.5	5.8	7.5
20	10.6	6.6	8.1	9.4	5.1	6.9	6.9	6.1	6.6	9.7	6.2	7.9
21	10.6	7.5	8.7	10.0	4.9	7.0	7.8	6.5	7.0	10.3	6.2	8.1
22	9.5	6.8	8.7	10.6	4.9	7.4	7.8	6.1	6.9	10.8	6.4	8.4
23	9.3	7.9	8.8	10.4	4.8	6.9	7.8	5.8	6.7	9.7	6.2	8.0
24	8.6	7.2	8.1	6.5	4.6	5.4	8.0	5.7	6.6	10.2	6.6	8.2
25	8.2	7.1	7.6	8.9	5.6	6.9	7.8	5.5	6.4	10.2	7.0	8.4
26	8.8	6.9	7.6	10.1	6.4	7.9	8.1	5.5	6.5	10.4	6.8	8.6
27	9.6	6.7	7.8	10.7	6.1	8.0	---	---	---	11.2	6.9	9.0
28	7.8	6.9	7.4	8.7	5.7	7.0	---	---	---	11.6	7.3	9.3
29	7.9	7.3	7.6	6.9	6.2	6.6	---	---	---	11.7	7.2	9.4
30	7.8	7.2	7.5	7.6	6.8	7.1	---	---	---	11.9	7.4	9.6
31	---	---	---	8.6	6.6	7.3	---	---	---	---	---	---
MONTH	11.5	2.8	7.5	10.7	4.6	7.0	10.0	5.1	7.2	12.9	5.8	8.6

07176950 HOMINY CREEK NEAR HOMINY, OK—Continued

TURBIDITY, WATER, UNFILTERED, FIELD, NEPHELOMETRIC TURBIDITY UNITS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	---	---	---	240	22	110
2	---	---	---	---	---	---	---	---	---	120	100	110
3	---	---	---	---	---	---	---	---	---	100	68	87
4	---	---	---	---	---	---	---	---	---	68	43	56
5	---	---	---	---	---	---	---	---	---	44	31	39
6	---	---	---	---	---	---	---	---	---	37	24	31
7	---	---	---	---	---	---	---	---	---	30	18	25
8	---	---	---	---	---	---	---	---	---	24	14	19
9	---	---	---	---	---	---	---	---	---	21	14	18
10	---	---	---	---	---	---	---	---	---	19	13	16
11	---	---	---	---	---	---	---	---	---	18	12	15
12	---	---	---	---	---	---	---	---	---	17	12	15
13	---	---	---	---	---	---	---	---	---	870	13	250
14	---	---	---	---	---	---	---	---	---	830	170	360
15	---	---	---	---	---	---	---	---	---	170	66	110
16	---	---	---	---	---	---	---	---	---	67	39	50
17	---	---	---	---	---	---	---	---	---	100	27	37
18	---	---	---	---	---	---	---	---	---	31	24	27
19	---	---	---	---	---	---	---	---	---	33	19	24
20	---	---	---	---	---	---	---	---	---	24	14	19
21	---	---	---	---	---	---	---	---	---	44	12	20
22	---	---	---	---	---	---	---	---	---	22	12	16
23	---	---	---	---	---	---	---	---	---	22	10	15
24	---	---	---	---	---	---	---	---	---	20	11	15
25	---	---	---	---	---	---	---	---	---	28	12	15
26	---	---	---	---	---	---	---	---	---	100	9.9	17
27	---	---	---	---	---	---	---	---	---	59	16	25
28	---	---	---	---	---	---	---	---	---	54	19	29
29	---	---	---	---	---	---	---	---	---	37	18	25
30	---	---	---	---	---	---	23	17	19	31	16	22
31	---	---	---	---	---	---	---	---	---	28	12	19
MONTH	---	---	---	---	---	---	23	17	19	870	9.9	53
		JUNE			JULY			AUGUST			SEPTEMBER	
1	23	12	16	810	190	320	---	---	---	9.9	1.0	4.0
2	60	16	36	1,000	160	440	---	---	---	6.0	2.0	4.3
3	52	14	30	230	85	140	---	---	---	13	3.0	5.2
4	28	11	18	85	52	68	---	---	---	10	3.0	4.9
5	28	9.9	20	56	45	51	---	---	---	560	2.0	20
6	33	16	22	65	33	48	---	---	---	560	23	47
7	29	16	20	40	20	31	---	---	---	27	14	19
8	72	14	23	25	12	19	---	---	---	16	10	12
9	150	18	34	1,000	12	390	---	---	---	17	8.0	9.9
10	660	40	100	880	180	360	---	---	---	11	5.0	7.8
11	110	40	62	290	73	110	---	---	---	17	5.0	6.8
12	62	28	40	84	39	56	---	---	---	16	4.0	6.9
13	67	31	47	63	31	39	---	---	---	18	5.0	7.0
14	59	37	45	---	---	---	---	---	---	18	4.0	8.0
15	93	41	61	---	---	---	---	---	---	19	5.0	7.6
16	53	34	40	---	---	---	---	---	---	120	6.0	15
17	39	26	33	---	---	---	---	---	---	19	9.0	12
18	33	26	30	---	---	---	---	---	---	15	6.0	8.1
19	64	25	37	---	---	---	17	7.1	9.9	15	5.0	7.6
20	43	32	37	---	---	---	50	9.4	35	14	5.0	8.0
21	68	38	50	---	---	---	36	25	32	180	5.0	18
22	810	55	320	---	---	---	30	16	23	13	6.0	8.0
23	170	100	130	---	---	---	36	14	17	15	7.0	8.8
24	330	69	99	---	---	---	16	9.6	13	12	5.0	6.9
25	69	39	52	---	---	---	24	8.9	11	13	4.0	7.0
26	47	27	39	---	---	---	11	7.2	8.9	14	4.0	7.4
27	170	20	32	---	---	---	12	4.5	7.7	32	5.0	8.5
28	810	45	480	---	---	---	8.9	3.1	5.8	17	5.0	7.3
29	160	69	110	---	---	---	13	3.2	4.7	11	4.0	6.5
30	430	62	120	---	---	---	13	1.9	4.1	11	4.0	6.4
31	---	---	---	---	---	---	6.8	0.9	3.0	---	---	---
MONTH	810	9.9	73	1,000	12	160	50	0.9	13	560	1.0	10

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07176976 WILDHORSE CREEK NEAR PRUE, OK

LOCATION.--Lat 36°20'01", long 96°14'52", in SE 1/4, SE 1/4, sec32, T.22 N., R.10 E., Osage County, Hydrologic Unit 11070107, at county road, 5.6 mi northeast of New Prue and 3.5 mi southwest of Morgans Corner.

PERIOD OF RECORD.--February 1999, May 2004 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
MAY													
20...	1305	1028	80020	.35	28	750	8.9	115	7.8	7.0	242	259	30.0
JUN													
30...	1303	1028	80020	.11	--	743	8.6	112	6.8	7.7	289	309	24.8
JUL													
29...	1100	1028	80020	4.5	41	741	5.7	68	7.3	7.6	193	200	19.3
AUG													
18...	1203	1028	80020	.05	14	750	7.0	96	8.2	7.9	402	363	31.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Temperature, water, deg C (00010)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Bromide water, fltrd, mg/L (71870)
MAY													
20...	27.6	7	63	16.0	5.50	3.89	1	21.9	41	56	68	.0	.03
JUN													
30...	27.6	23	66	17.3	5.60	3.63	2	30.2	48	43	52	.0	.05
JUL													
29...	22.6	11	54	14.5	4.38	3.70	.9	15.1	36	44	53	.0	.02
AUG													
18...	31.1	36	98	25.8	8.07	3.70	2	37.3	44	62	75	.0	.12

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Residue on evap. at 180degC wat flt mg/L (70300)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7u MF col/100 mL (31625)	Aluminum, water, fltrd, ug/L (01106)	Antimony, water, fltrd, ug/L (01095)	Arsenic water, fltrd, ug/L (01000)
MAY													
20...	44.0	<.2	5.48	6.8	137	.21	.15	156	80	130	9	E.11	M
JUN													
30...	59.3	<.2	6.54	5.5	154	.24	.05	175	E12	E23	6	E.10	E1
JUL													
29...	29.9	<.2	5.48	4.4	104	.18	1.59	132	1,300	780	5	<.20	E2
AUG													
18...	81.5	<.2	5.47	7.0	206	.32	.03	233	--	--	5	E.10	<2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Barium, water, fltrd, ug/L (01005)	Beryllium, water, fltrd, ug/L (01010)	Cadmium water, fltrd, ug/L (01025)	Chromium, water, fltrd, ug/L (01030)	Cobalt water, fltrd, ug/L (01035)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Manganese, water, fltrd, ug/L (01056)	Molybdenum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selenium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)
MAY													
20...	93	<.06	<.04	<.8	.218	1.4	114	E.07	23.1	E.3	1.65	<3	<.2
JUN													
30...	129	<.06	<.04	<.8	.144	1.1	48	<.08	33.7	E.4	1.05	<3	<.2
JUL													
29...	87	<.06	<.04	<.8	.238	1.3	68	E.05	97.2	.5	1.50	<3	<.2
AUG													
18...	182	<.06	<.04	<.8	.176	1.2	35	<.08	32.5	E.3	1.26	<3	<.2

07176976 WILDHORSE CREEK NEAR PRUE, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Zinc, water, fltrd, ug/L (01090)	1,2-Di-phenyl-hydra-zine, water, unfltrd ug/L (82626)	246-Tri bromo-phenol, sur Sch 1383/85 wat unf pct rcv (90652)	2,4,6-Tri-chloro-phenol, water, unfltrd ug/L (34621)	2,4-Di-chloro-phenol, water, unfltrd ug/L (34601)	2,4-Di-methyl-phenol, water, unfltrd ug/L (34606)	2,4-Di-nitro-phenol, water, unfltrd ug/L (34616)	2,4-Di-nitro-toluene water unfltrd ug/L (34611)	2,6-Di-nitro-toluene water unfltrd ug/L (34626)	2-Chloro-naphth-alene, water, unfltrd ug/L (34581)	2-chloro-phenol, water, unfltrd ug/L (34586)	2-Methyl-4,6-di-nitro-phenol, wat unf ug/L (34657)	2-nitro-phenol, water unfltrd ug/L (34591)
MAY													
20...	E.5	<2	111	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
JUN													
30...	<.6	<2	103	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
JUL													
29...	E.4	<2	98.5	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1
AUG													
18...	E.5	<2	41.6	<1	<2	<2.0	<3	<1	<2	<1	<1	<2	<1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	3,3-Di'chloro-benzi-dine, water, unfltrd ug/L (34631)	4-Bromo-phenyl phenyl ether, wat unf ug/L (34636)	4-Chloro-3-methyl-phenol, wat unf ug/L (34452)	4-Chloro-phenyl phenyl ether, wat unf ug/L (34641)	4-Nitro-phenol, water, unfltrd ug/L (34646)	9H-Fluor-ene, water, unfltrd ug/L (34381)	Ace-naphth-ene, water, unfltrd ug/L (34205)	Ace-naphth-ylene, water, unfltrd ug/L (34200)	Anthra-cene, water, unfltrd ug/L (34220)	Benzi-dine, water, unfltrd ug/L (39120)	Benzo-[a]-anthra-cene, water, unfltrd ug/L (34526)	Benzo-[a]-pyrene, water, unfltrd ug/L (34247)	Benzo-[b]-fluor-anthene water unfltrd ug/L (34230)
MAY													
20...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
JUN													
30...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
JUL													
29...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	<1,000	<2	<1	<2
AUG													
18...	<.9	<2	<2	<1	<2	<1	<2	<2	<2	--	<2	<1	<2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Benzo-[g,h,i]-per-ylene, water, unfltrd ug/L (34521)	Benzo-[k]-fluor-anthene water unfltrd ug/L (34242)	Benzyl n-butyl phthal-ate, water, unfltrd ug/L (34292)	Bis(2-chloro-ethoxy) methane water unfltrd ug/L (34278)	Bis(2-chloro-ethyl) ether, water, unfltrd ug/L (34273)	Bis(2-chloro-iso-propyl) ether, wat unf ug/L (34283)	Bis(2-ethyl-hexyl) phthal-ate, wat unf ug/L (39100)	Chrys-ene, water, unfltrd ug/L (34320)	Di-benzo-[a,h]-anthra-cene, wat unf ug/L (34556)	Di-ethyl phthal-ate, water, unfltrd ug/L (34336)	Di-methyl phthal-ate, water, unfltrd ug/L (34341)	Di-n-butyl phthal-ate, water, unfltrd ug/L (39110)	Di-n-octyl phthal-ate, water, unfltrd ug/L (34596)
MAY													
20...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
JUN													
30...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
JUL													
29...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2
AUG													
18...	<2	<1	<2	<1	<1	<1	<2	<1	<2	<2	<1	<2	<2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Fluor-anthene water unfltrd ug/L (34376)	Hexa-chloro-benzene water unfltrd ug/L (39700)	Hexa-chloro-cyclo-penta-diene, wat unf ug/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd ug/L (34403)	Iso-phorone water unfltrd ug/L (34408)	Nitro-benzene water unfltrd ug/L (34447)	N-NItroso-di-methyl-amine, wat unf ug/L (34438)	N-NItroso-di-n-propyl-amine, wat unf ug/L (34428)	N-NItroso-di-phenyl-amine, wat unf ug/L (34433)	Penta-chloro-phenol, water, unfltrd ug/L (39032)	Petrol-eum hydro-carbons wat unf frn ext mg/L (45501)	Phenan-threne, water, unfltrd ug/L (34461)	Phenol, water, unfltrd ug/L (34694)
MAY													
20...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	<2	<1	<1.6
JUN													
30...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	E3	<1	<1.6
JUL													
29...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	E5	<1	E.6
AUG													
18...	<1	<1	<1	<2	<2	<1	<2	<2	<2	<2	2	<1	<1.6

07176976 WILDHORSE CREEK NEAR PRUE, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Phenol-d5, surrog, Sched. 1383/85 wat unf pct rcv (90630)	Pyrene, water, unfltrd ug/L (34469)	1,1,1-Tri-chloro-ethane, water, unfltrd ug/L (34506)	CFC-113 water unfltrd ug/L (77652)	1,1-Di-chloro-ethane, water unfltrd ug/L (34496)	1,1-Di-chloro-ethene, water, unfltrd ug/L (34501)	1,2,4-Tri-chloro-benzene water unfltrd ug/L (34551)	1,2-Di-chloro-benzene water unfltrd ug/L (34536)	1,2-Di-chloro-ethane, water, unfltrd ug/L (32103)	1,2-Di-chloro-ethane-d4, sur Sch2090 wat unf pct rcv (99832)	1,2-Di-chloro-propane water unfltrd ug/L (34541)	1,3-Di-chloro-benzene water unfltrd ug/L (34566)	1,4-Di-chloro-benzene water unfltrd ug/L (34571)
MAY													
20...	87.8	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	109	<.1	<.1	<.1
JUN													
30...	84.3	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	116	<.1	<.1	<.1
JUL													
29...	77.2	<2	<.2	<.2	<.2	<.2	<1	<.2	<.4	105	<.2	<.2	<.2
AUG													
18...	39.1	<2	<.1	<.1	<.1	<.1	<1	<.1	<.2	114	<.1	<.1	<.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	14Bromo fluoro-benzene surrog. VOC Sch wat unf pct rcv (99834)	Benzene water unfltrd ug/L (34030)	Bromo-di-chloro-methane water unfltrd ug/L (32101)	Chloro-benzene water unfltrd ug/L (34301)	cis-1,2-Di-chloro-ethene, water, unfltrd ug/L (77093)	Di-bromo-chloro-methane water unfltrd ug/L (32105)	Di-chloro-di-fluoro-methane wat unf ug/L (34668)	Di-chloro-methane water unfltrd ug/L (34423)	Di-ethyl ether, water, unfltrd ug/L (81576)	Diiso-propyl ether, water, unfltrd ug/L (81577)	Ethyl-benzene water unfltrd ug/L (34371)	Hexa-chloro-buta-diene, water, unfltrd ug/L (39702)	Hexa-chloro-ethane, water, unfltrd ug/L (34396)
MAY													
20...	92.8	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2
JUN													
30...	91.2	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2
JUL													
29...	88.5	<.2	<.2	<.2	<.2	<.4	<.4	<.4	<.4	<.4	<.2	<1	<2
AUG													
18...	99.0	<.1	<.1	<.1	<.1	<.2	<.2	<.2	<.2	<.2	<.1	<1	<2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Methyl tert-pentyl ether, water, unfltrd ug/L (50005)	meta- + para-Xylene, water, unfltrd ug/L (85795)	Naphth-alene, water, unfltrd ug/L (34696)	o-Xylene, water, unfltrd ug/L (77135)	Styrene water unfltrd ug/L (77128)	t-Butyl ethyl ether, water, unfltrd ug/L (50004)	Methyl t-butyl ether, water, unfltrd ug/L (78032)	Tetra-chloro-ethene, water, unfltrd ug/L (34475)	Tetra-chloro-methane water unfltrd ug/L (32102)	Toluene water unfltrd ug/L (34010)	Toluene -d8, surrog, Sch2090 wat unf percent recovry (99833)	trans-1,2-Di-chloro-ethene, water, unfltrd ug/L (34546)	Tri-bromo-methane water unfltrd ug/L (32104)
MAY													
20...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	101	<.1	<.2
JUN													
30...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	95.2	<.1	<.2
JUL													
29...	<.4	<.4	<2	<.2	<.2	<.2	<.4	<.2	<.4	<.2	103	<.2	<.4
AUG													
18...	<.2	<.2	<2	<.1	<.1	<.1	<.2	<.1	<.2	<.1	98.1	<.1	<.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Tri-chloro-ethene, water, unfltrd ug/L (39180)	Tri-chloro-fluoro-methane water unfltrd ug/L (34488)	Tri-chloro-methane water unfltrd ug/L (32106)	Vinyl chlor-ide, water, unfltrd ug/L (39175)	2Fluoro -bi-phenyl, surrog, bed sed <2 mm, pct rcv (49279)	Nitro-benzene -d5, surrog, bed sed <2 mm, pct rcv (49280)	Ter-phenyl-d14, surrog, bed sed <2 mm, pct rcv (49278)	Uranium natural water, fltrd, ug/L (22703)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
MAY											
20...	<.1	<.2	<.1	<.2	94	96	51	.07	83	64	.06
JUN											
30...	<.1	<.2	<.1	<.2	93	94	77	.07	91	49	.01
JUL											
29...	<.2	<.4	<.2	<.4	93	94	61	.07	88	59	.71
AUG											
18...	<.1	<.2	<.1	<.2	42	50	17	.12	--	--	--

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07177500 BIRD CREEK NEAR SPERRY, OK

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

DRAINAGE AREA.--905 mi^2.

WATER-DISCHARGE RECORDS

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

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

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

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

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	138	60	54	217	322	119	1,140	1,310	195	e564	672	196
2	136	60	52	174	1,070	179	804	1,470	192	4,330	588	194
3	151	60	51	146	1,410	621	720	1,160	194	3,070	552	193
4	150	61	49	130	719	6,910	679	1,040	189	1,250	419	190
5	159	61	49	113	601	15,000	649	987	218	1,080	249	189
6	165	62	59	94	768	13,900	630	956	215	1,010	223	211
7	163	61	65	79	685	3,190	562	811	208	1,000	215	205
8	160	57	64	67	436	2,880	227	304	205	849	218	200
9	2,950	52	62	59	354	e3,290	173	283	220	630	215	193
10	2,110	50	84	65	658	3,300	344	275	253	1,190	209	185
11	548	62	e190	78	667	3,180	674	270	293	727	e463	159
12	292	63	e179	79	453	3,110	585	264	340	428	e901	155
13	196	63	160	76	338	3,080	317	1,070	391	329	549	155
14	e288	67	e192	74	266	3,030	220	6,780	620	283	435	155
15	242	67	e282	72	229	3,000	174	915	324	256	462	156
16	e262	66	1,420	74	212	2,880	149	434	212	238	440	160
17	130	67	911	2,930	191	1,850	190	254	188	228	367	158
18	98	430	463	4,870	164	1,650	182	666	175	219	254	155
19	100	921	323	1,340	153	1,630	172	776	164	212	237	153
20	90	370	254	665	146	1,610	169	756	157	207	662	148
21	82	206	199	434	126	1,580	843	762	864	204	465	146
22	75	154	169	395	86	1,480	4,020	848	671	201	317	145
23	71	145	296	391	79	973	2,580	837	703	200	252	145
24	67	135	e293	338	224	677	1,310	830	789	662	230	145
25	62	104	318	2,770	177	106	1,130	825	618	410	219	145
26	62	67	203	3,250	152	80	678	822	548	284	214	145
27	60	66	160	967	114	79	1,080	811	e592	230	208	144
28	58	68	830	620	92	4,600	1,060	355	566	215	202	142
29	58	62	887	497	84	5,380	1,030	264	e548	787	200	142
30	61	58	453	435	---	1,690	1,010	234	606	2,720	199	143
31	60	---	298	361	---	1,360	---	207	---	836	198	---
TOTAL	9,244	3,825	9,069	21,860	10,976	92,414	23,501	27,576	11,458	24,849	11,034	4,952
MEAN	298	128	293	705	378	2,981	783	890	382	802	356	165
MAX	2,950	921	1,420	4,870	1,410	15,000	4,020	6,780	864	4,330	901	211
MIN	58	50	49	59	79	79	149	207	157	200	198	142
AC-FT	18,340	7,590	17,990	43,360	21,770	183,300	46,610	54,700	22,730	49,290	21,890	9,820

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2004, BY WATER YEAR (WY)

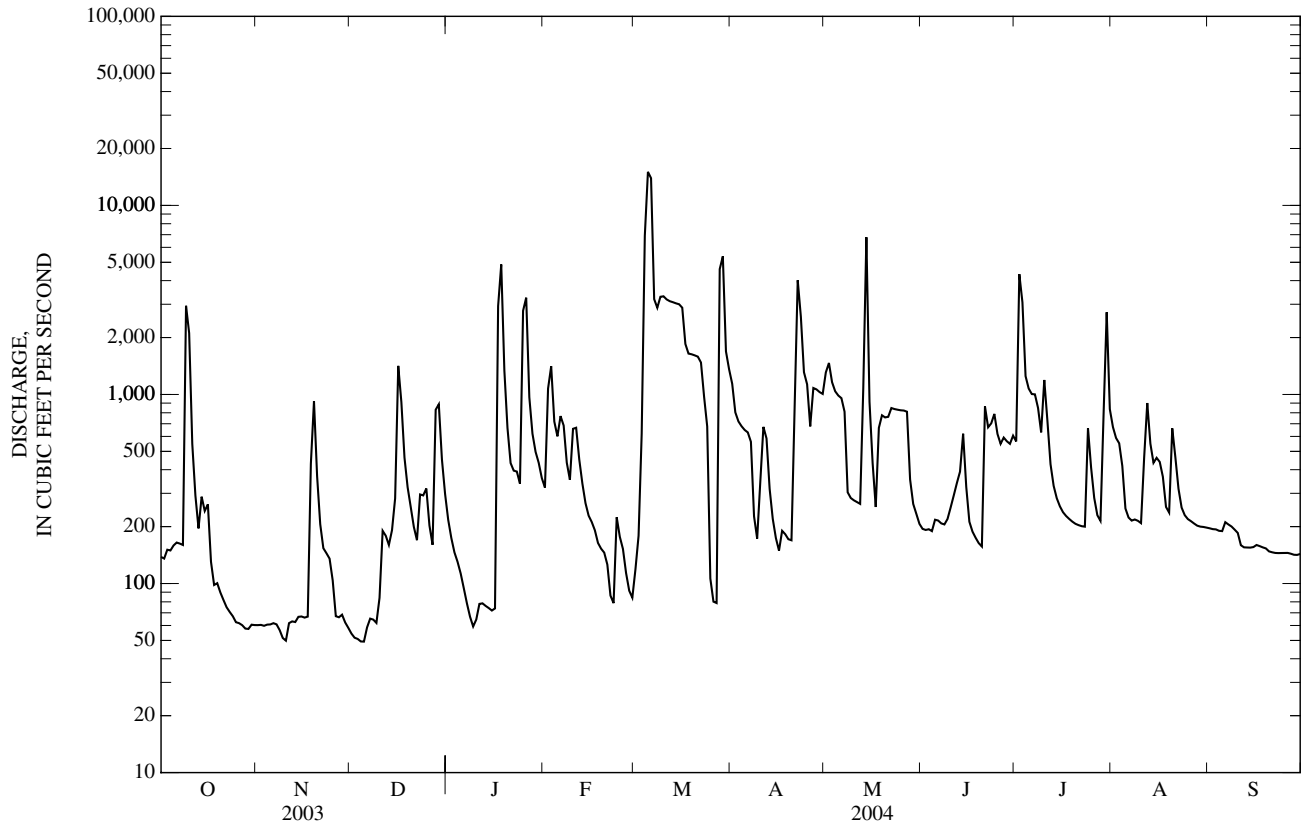
MEAN	263	400	384	462	539	1,320	1,197	1,634	1,291	676	285	259
MAX	1,504	1,649	1,168	2,208	1,500	4,949	2,891	4,824	4,890	3,421	1,148	689
(WY)	(1999)	(1995)	(1993)	(1998)	(1999)	(1990)	(1994)	(1995)	(1995)	(1995)	(1997)	(1996)
MIN	112	47.4	61.9	65.2	66.8	59.7	183	151	175	117	124	144
(WY)	(1993)	(1996)	(1990)	(1994)	(1996)	(1996)	(2001)	(1996)	(1998)	(2001)	(2001)	(2000)

e Estimated

07177500 BIRD CREEK NEAR SPERRY, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1990 - 2004	
ANNUAL TOTAL	99,022		250,758			
ANNUAL MEAN	271		685		a727	
HIGHEST ANNUAL MEAN					1,669	1995
LOWEST ANNUAL MEAN					168	1996
HIGHEST DAILY MEAN	7,500	Mar 20	15,000	Mar 5	27,500	May 10, 1993
LOWEST DAILY MEAN	49	Dec 4	49	Dec 4	b23	Jul 22, 1996
ANNUAL SEVEN-DAY MINIMUM	53	Nov 30	53	Nov 30	34	Oct 19, 1995
MAXIMUM PEAK FLOW			19,000	Mar 6	c30,600	May 10, 1993
MAXIMUM PEAK STAGE			27.78	Mar 6	d29.88	May 10, 1993
ANNUAL RUNOFF (AC-FT)	196,400		497,400		526,300	
10 PERCENT EXCEEDS	439		1,410		2,110	
50 PERCENT EXCEEDS	156		238		169	
90 PERCENT EXCEEDS	66		67		67	

a Prior to regulation, water years 1939-84, 484 ft^3/s.
b No flow at times in 1939, 1954-57, 1964-66, 1970.
c Maximum discharge for period of record, 90,000 ft^3/s, Oct. 3, 1959, from rating curve extended.
d Maximum gage height for period of record, 32.60 ft, Oct. 3, 1959.



07177500 BIRD CREEK NEAR SPERRY, OK—Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1987 to current year.
pH: April 1987 to current year.
WATER TEMPERATURE: April 1987 to current year.
DISSOLVED OXYGEN: April 1987 to current year.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, greater than 2,000 microsiemens, Nov. 1, 1992 and Mar. 31, 1996; minimum, 80 microsiemens, Aug. 20, 1989.
pH: Maximum, 8.8 units, Mar. 13, 2002; minimum, 5.7 units Sept. 2, 1987.
WATER TEMPERATURE: Maximum, 35.5°C, July 14-16, 1988; minimum, 0.0°C, several days in winter months.
DISSOLVED OXYGEN: Maximum, 17.5 mg/L, Feb. 4, 2004; minimum, 1.4 mg/L, Sept. 26, 1996.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 536 microsiemens, Mar. 3; minimum, 97 microsiemens, Mar. 4.
pH: Maximum, 8.4 units, Dec. 11; minimum, 6.8 units, Oct. 8.
WATER TEMPERATURE: Maximum, 31.7° C, July 15; minimum 1.0° C, Feb. 8.
DISSOLVED OXYGEN: Maximum, 17.5 mg/L, Feb. 4; minimum, 5.4 mg/L, Nov. 4, 5, July 17.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	316	313	314	389	378	386
2	---	---	---	---	---	---	319	316	317	378	338	357
3	---	---	---	---	---	---	323	319	320	338	319	326
4	---	---	---	342	340	341	325	323	324	319	317	318
5	---	---	---	343	341	342	325	323	324	324	318	321
6	---	---	---	342	339	340	324	320	323	329	324	327
7	---	---	---	339	336	337	322	317	319	335	328	331
8	---	---	---	340	336	337	335	322	328	345	335	340
9	309	141	233	343	340	340	345	334	340	355	345	350
10	251	167	214	344	342	343	340	332	336	395	355	362
11	217	199	204	344	342	343	332	300	308	506	395	468
12	232	208	214	344	334	337	303	298	300	424	389	402
13	289	232	263	334	332	333	316	300	308	389	370	373
14	---	---	---	333	329	330	372	316	342	372	370	371
15	---	---	---	331	327	329	398	367	379	374	371	373
16	---	---	---	331	329	330	367	290	327	374	371	373
17	---	---	---	331	330	330	290	228	253	467	167	300
18	---	---	---	332	178	315	416	279	350	261	167	206
19	---	---	---	347	178	286	426	416	421	331	261	311
20	---	---	---	373	347	354	425	394	416	301	273	289
21	---	---	---	422	373	407	394	338	366	273	252	260
22	---	---	---	419	372	392	338	303	319	256	251	254
23	---	---	---	373	315	349	450	286	320	269	256	261
24	---	---	---	328	294	318	334	280	304	272	260	265
25	---	---	---	294	289	291	311	280	301	316	181	239
26	---	---	---	289	279	283	315	307	312	204	152	167
27	---	---	---	296	277	279	320	313	318	254	165	210
28	---	---	---	360	296	337	392	282	329	265	254	261
29	---	---	---	325	310	316	391	356	381	284	265	278
30	---	---	---	324	312	315	376	360	368	285	282	284
31	---	---	---	---	---	---	382	373	375	284	281	283
MONTH	309	141	226	422	178	332	450	228	334	506	152	311

07177500 BIRD CREEK NEAR SPERRY, OK—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	286	281	284	449	396	421	261	255	258	330	278	292
2	379	258	293	498	432	463	269	260	265	298	268	280
3	283	222	260	536	308	425	275	269	272	294	273	288
4	259	219	233	308	97	200	277	274	276	294	286	290
5	308	259	285	131	119	125	285	276	281	286	281	283
6	343	300	314	191	127	150	291	285	288	290	282	286
7	309	292	299	272	191	252	294	291	291	302	289	291
8	313	304	309	271	265	268	310	294	301	350	302	322
9	322	304	309	271	268	270	335	310	320	321	316	319
10	334	304	317	271	268	270	384	316	337	321	314	317
11	304	280	288	269	263	267	394	297	335	318	314	316
12	321	295	310	267	253	261	321	288	306	319	315	318
13	334	321	329	256	253	254	359	321	348	318	144	294
14	353	334	342	257	255	255	384	359	371	209	119	157
15	383	353	371	256	253	254	404	384	395	196	164	182
16	385	371	380	256	254	255	416	404	410	224	196	209
17	371	368	369	266	252	260	441	399	422	254	224	238
18	387	370	379	270	266	268	416	386	398	331	254	280
19	404	387	397	275	268	271	391	386	389	280	277	279
20	403	399	402	276	273	274	394	391	392	282	279	280
21	400	393	396	278	275	277	432	388	404	284	269	279
22	398	394	396	283	274	276	416	228	294	269	267	267
23	398	396	397	290	276	279	300	202	235	268	267	267
24	400	368	384	288	279	281	244	198	224	268	266	267
25	374	347	366	298	288	294	263	244	257	277	265	267
26	355	334	342	316	298	306	295	261	275	266	263	265
27	403	355	381	344	316	331	310	282	291	267	262	265
28	413	403	409	408	170	279	288	286	287	288	259	269
29	412	396	405	335	181	215	290	285	287	275	266	269
30	---	---	---	243	184	224	296	290	293	280	268	274
31	---	---	---	255	243	249	---	---	---	287	280	283
MONTH	413	219	343	536	97	273	441	198	317	350	119	274
		JUNE			JULY			AUGUST			SEPTEMBER	
1	291	286	288	291	279	282	201	170	190	287	287	287
2	290	287	289	294	130	214	207	201	203	288	287	287
3	294	287	291	225	190	204	214	207	212	288	287	287
4	---	---	---	230	204	220	238	214	223	288	287	288
5	---	---	---	239	228	234	256	238	249	288	287	288
6	---	---	---	242	239	241	261	256	259	417	280	303
7	---	---	---	242	238	240	266	261	264	294	291	293
8	303	297	302	256	239	247	268	265	266	294	286	291
9	---	---	---	264	256	259	273	268	270	286	281	284
10	---	---	---	291	182	235	274	273	273	281	279	280
11	360	321	340	314	283	298	---	---	---	284	279	282
12	345	324	332	301	283	292	---	---	---	283	282	283
13	324	301	311	308	301	304	---	---	---	284	282	282
14	347	292	311	311	308	310	258	216	242	283	282	283
15	324	309	320	309	300	305	268	252	256	283	282	282
16	333	324	329	300	290	294	279	247	271	284	280	282
17	332	324	328	290	284	288	247	238	241	291	284	287
18	324	301	312	284	280	281	254	246	251	285	284	284
19	301	295	297	281	280	280	256	254	255	285	283	284
20	300	295	297	282	280	281	273	178	219	285	282	284
21	340	153	251	283	282	282	209	187	202	282	281	281
22	222	162	197	283	282	283	248	209	232	282	280	281
23	334	222	269	283	279	282	264	248	256	280	279	280
24	320	284	296	286	180	240	274	264	270	280	278	279
25	311	297	298	254	235	244	279	274	277	279	278	279
26	302	289	292	273	254	267	279	277	278	279	278	278
27	305	284	292	275	272	273	280	278	279	279	277	278
28	304	288	297	277	275	276	280	278	279	278	276	277
29	300	283	288	319	189	262	282	279	280	279	277	278
30	295	280	287	215	169	183	285	281	283	281	278	278
31	---	---	---	176	161	167	287	284	285	---	---	---
MONTH	360	153	296	319	130	260	287	170	252	417	276	284

07177500 BIRD CREEK NEAR SPERRY, OK—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	7.7	7.5	7.7	7.8	7.6	7.7	7.9	7.8	7.9
2	---	---	---	7.6	7.5	7.6	7.8	7.7	7.7	7.8	7.7	7.8
3	---	---	---	7.6	7.5	7.6	7.8	7.7	7.7	7.8	7.7	7.7
4	---	---	---	7.6	7.5	7.5	7.8	7.7	7.8	7.8	7.8	7.8
5	---	---	---	7.5	7.5	7.5	8.0	7.7	7.8	7.8	7.8	7.8
6	---	---	---	7.6	7.5	7.5	8.1	7.7	7.9	7.9	7.8	7.9
7	---	---	---	7.6	7.5	7.6	8.2	7.9	8.0	7.9	7.8	7.9
8	---	---	---	7.6	7.5	7.6	8.2	7.9	8.1	7.9	7.8	7.9
9	7.5	6.8	7.1	7.5	7.4	7.5	8.3	7.9	8.0	7.9	7.9	7.9
10	7.4	7.0	7.2	7.6	7.4	7.4	8.3	7.9	8.0	7.9	7.8	7.9
11	7.4	7.3	7.4	7.5	7.4	7.4	8.4	8.0	8.1	7.9	7.8	7.8
12	7.5	7.4	7.4	7.5	7.4	7.4	8.3	8.1	8.1	7.9	7.8	7.9
13	7.7	7.5	7.6	7.5	7.4	7.4	8.2	8.0	8.1	8.0	7.8	7.9
14	---	---	---	7.4	7.4	7.4	8.2	8.0	8.0	8.0	7.9	7.9
15	---	---	---	7.4	7.3	7.3	8.0	7.9	7.9	8.0	7.9	8.0
16	---	---	---	7.4	7.3	7.3	8.0	7.7	7.8	8.1	7.9	7.9
17	---	---	---	7.3	7.3	7.3	7.9	7.8	7.8	8.0	7.3	7.7
18	---	---	---	7.4	7.2	7.3	8.1	7.9	8.0	7.7	7.4	7.5
19	---	---	---	7.6	7.2	7.5	8.1	8.1	8.1	8.0	7.7	7.9
20	---	---	---	7.7	7.6	7.6	8.1	8.1	8.1	7.9	7.9	7.9
21	---	---	---	7.6	7.6	7.6	8.1	8.0	8.1	7.9	7.8	7.8
22	---	---	---	7.6	7.5	7.6	8.0	7.8	7.9	7.9	7.8	7.8
23	---	---	---	7.5	7.4	7.4	7.8	7.5	7.7	8.0	7.9	7.9
24	---	---	---	7.6	7.4	7.4	7.9	7.7	7.8	7.9	7.9	7.9
25	---	---	---	7.6	7.5	7.6	7.9	7.8	7.9	7.9	7.5	7.6
26	---	---	---	7.6	7.5	7.6	7.9	7.9	7.9	7.6	7.5	7.5
27	---	---	---	7.7	7.6	7.6	7.9	7.9	7.9	7.9	7.6	7.8
28	---	---	---	7.6	7.6	7.6	7.9	7.6	7.8	7.9	7.9	7.9
29	---	---	---	7.7	7.6	7.7	8.0	7.8	7.9	8.0	7.9	8.0
30	7.8	7.7	7.7	7.7	7.6	7.7	7.9	7.8	7.9	8.0	8.0	8.0
31	7.7	7.6	7.7	---	---	---	7.9	7.9	7.9	8.0	8.0	8.0
MAX	7.8	7.7	7.7	7.7	7.6	7.7	8.4	8.1	8.1	8.1	8.0	8.0
MIN	7.4	6.8	7.1	7.3	7.2	7.3	7.8	7.5	7.7	7.6	7.3	7.5
		FEBRUARY			MARCH			APRIL			MAY	
1	8.0	7.9	8.0	8.2	7.9	8.0	7.5	7.5	7.5	7.7	7.6	7.6
2	7.9	7.8	7.9	8.2	8.0	8.1	7.5	7.5	7.5	7.7	7.7	7.7
3	7.9	7.8	7.9	8.2	7.6	8.0	7.6	7.5	7.5	7.8	7.7	7.8
4	7.9	7.8	7.8	7.6	7.2	7.5	7.6	7.5	7.5	7.8	7.7	7.8
5	8.0	7.9	8.0	7.4	7.2	7.3	7.6	7.5	7.5	7.8	7.7	7.7
6	8.0	7.9	8.0	7.3	7.1	7.2	7.6	7.5	7.6	7.8	7.7	7.7
7	8.0	8.0	8.0	7.6	7.2	7.5	7.6	7.5	7.6	7.8	7.7	7.8
8	8.0	8.0	8.0	7.6	7.6	7.6	7.6	7.5	7.6	8.0	7.8	7.8
9	8.0	8.0	8.0	7.6	7.6	7.6	7.8	7.5	7.6	8.0	7.8	7.9
10	8.0	8.0	8.0	7.6	7.5	7.5	7.8	7.7	7.7	8.3	7.8	8.0
11	8.0	7.9	8.0	7.6	7.5	7.6	7.8	7.7	7.8	8.2	7.9	8.0
12	8.1	8.0	8.0	7.6	7.4	7.6	7.9	7.7	7.8	8.1	7.9	7.9
13	8.1	8.1	8.1	7.5	7.5	7.5	8.0	7.9	7.9	8.0	7.3	7.9
14	8.1	8.1	8.1	7.5	7.5	7.5	8.1	7.9	8.0	7.4	7.2	7.3
15	8.1	8.1	8.1	7.5	7.5	7.5	8.1	7.9	8.0	7.5	7.4	7.5
16	8.1	8.1	8.1	7.5	7.5	7.5	8.1	7.9	8.0	7.6	7.5	7.5
17	8.1	8.1	8.1	7.6	7.5	7.5	8.0	7.7	8.0	7.6	7.6	7.6
18	8.1	8.1	8.1	7.6	7.5	7.5	8.0	7.7	7.8	7.7	7.5	7.7
19	8.2	8.1	8.1	7.6	7.5	7.5	7.9	7.7	7.8	7.8	7.7	7.7
20	8.2	8.2	8.2	7.6	7.6	7.6	7.9	7.7	7.8	7.8	7.8	7.8
21	8.3	8.2	8.2	7.6	7.5	7.6	7.9	7.6	7.7	7.8	7.8	7.8
22	8.3	8.1	8.1	7.6	7.6	7.6	7.7	7.4	7.5	7.8	7.7	7.7
23	8.2	8.1	8.1	7.6	7.5	7.6	7.6	7.5	7.5	7.8	7.7	7.7
24	8.2	8.1	8.2	7.6	7.5	7.6	7.6	7.5	7.6	7.8	7.7	7.7
25	8.2	7.9	8.1	7.5	7.4	7.4	7.7	7.6	7.7	7.7	7.7	7.7
26	8.2	7.9	7.9	7.4	7.3	7.4	7.7	7.7	7.7	7.8	7.7	7.7
27	8.2	8.0	8.1	7.4	7.4	7.4	7.7	7.6	7.7	7.8	7.7	7.7
28	8.2	8.0	8.1	7.5	7.0	7.2	7.7	7.7	7.7	7.8	7.7	7.7
29	8.2	7.9	8.0	7.3	7.2	7.3	7.7	7.7	7.7	7.8	7.7	7.7
30	---	---	---	7.4	7.2	7.4	7.8	7.7	7.7	7.8	7.7	7.7
31	---	---	---	7.5	7.4	7.5	---	---	---	7.9	7.7	7.8
MAX	8.3	8.2	8.2	8.2	8.0	8.1	8.1	7.9	8.0	8.3	7.9	8.0
MIN	7.9	7.8	7.8	7.3	7.0	7.2	7.5	7.4	7.5	7.4	7.2	7.3

07177500 BIRD CREEK NEAR SPERRY, OK—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.9	7.7	7.8	7.9	7.8	7.8	7.5	7.4	7.5	7.8	7.6	7.7
2	7.9	7.7	7.8	7.9	7.3	7.5	7.6	7.5	7.5	7.8	7.7	7.7
3	7.9	7.7	7.7	7.5	7.3	7.4	7.8	7.5	7.6	7.8	7.7	7.8
4	---	---	---	7.6	7.5	7.5	7.8	7.6	7.6	7.8	7.7	7.7
5	---	---	---	7.7	7.6	7.6	7.7	7.6	7.6	7.8	7.6	7.7
6	---	---	---	7.7	7.7	7.7	7.8	7.6	7.7	7.8	7.7	7.7
7	---	---	---	7.7	7.7	7.7	7.8	7.6	7.7	7.9	7.7	7.8
8	7.7	7.5	7.6	7.7	7.6	7.7	7.8	7.6	7.7	7.9	7.7	7.8
9	---	---	---	7.7	7.6	7.7	7.8	7.6	7.7	7.9	7.7	7.8
10	---	---	---	7.7	7.5	7.6	7.8	7.6	7.7	7.8	7.7	7.8
11	7.8	7.2	7.4	7.9	7.7	7.8	---	---	---	7.8	7.7	7.8
12	7.9	7.2	7.4	8.0	7.8	7.8	---	---	---	7.8	7.7	7.8
13	8.1	7.0	7.2	8.0	7.8	7.9	---	---	---	7.8	7.7	7.8
14	7.8	6.9	7.6	7.9	7.8	7.8	8.0	7.7	7.8	7.8	7.7	7.8
15	8.0	7.8	7.8	8.0	7.7	7.9	8.0	7.8	7.9	7.8	7.7	7.7
16	8.0	7.8	7.8	7.9	7.7	7.8	8.1	7.9	7.9	7.8	7.6	7.7
17	8.0	7.8	7.9	7.9	7.7	7.8	8.0	7.8	7.8	7.8	7.7	7.8
18	8.0	7.6	7.7	8.0	7.8	7.8	8.0	7.7	7.8	7.8	7.6	7.7
19	7.8	7.6	7.7	7.9	7.7	7.8	7.8	7.7	7.7	7.8	7.7	7.7
20	7.7	7.6	7.7	7.9	7.6	7.7	7.8	7.5	7.6	7.8	7.7	7.7
21	7.8	7.3	7.7	7.9	7.6	7.7	7.6	7.6	7.6	7.8	7.7	7.8
22	7.5	7.3	7.4	7.9	7.6	7.8	7.8	7.6	7.6	7.8	7.7	7.8
23	7.8	7.5	7.5	7.9	7.6	7.7	7.8	7.6	7.7	7.8	7.7	7.7
24	7.8	7.7	7.8	7.8	7.3	7.5	7.8	7.6	7.7	7.8	7.7	7.7
25	7.8	7.7	7.8	7.6	7.3	7.4	7.8	7.6	7.7	7.8	7.7	7.7
26	7.8	7.6	7.8	7.7	7.6	7.6	7.8	7.6	7.7	7.8	7.7	7.7
27	7.9	7.6	7.8	7.8	7.6	7.7	7.8	7.6	7.7	7.8	7.7	7.8
28	7.9	7.8	7.8	7.8	7.6	7.7	7.8	7.6	7.7	7.8	7.7	7.8
29	7.9	7.7	7.8	7.7	7.3	7.6	7.8	7.7	7.7	7.8	7.7	7.8
30	7.8	7.7	7.8	7.4	7.2	7.3	7.8	7.7	7.7	7.8	7.7	7.8
31	---	---	---	7.4	7.3	7.4	7.8	7.7	7.7	---	---	---
MAX	8.1	7.8	7.9	8.0	7.8	7.9	8.1	7.9	7.9	7.9	7.7	7.8
MIN	7.5	6.9	7.2	7.4	7.2	7.3	7.5	7.4	7.5	7.8	7.6	7.7

07177500 BIRD CREEK NEAR SPERRY, OK—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	15.9	15.2	15.6	7.6	6.7	7.2	8.2	6.2	6.9
2	---	---	---	16.0	15.0	15.5	7.4	6.8	7.1	10.4	8.2	9.1
3	---	---	---	18.0	15.9	17.0	7.4	6.8	7.1	11.9	10.2	10.9
4	---	---	---	19.4	17.9	18.7	7.8	7.2	7.5	11.9	9.0	10.4
5	---	---	---	18.1	14.7	16.6	7.4	6.2	6.9	9.0	6.4	7.6
6	---	---	---	14.7	12.0	13.4	6.5	5.9	6.1	6.4	3.4	4.5
7	---	---	---	12.0	10.6	11.2	6.5	5.9	6.1	3.4	2.0	2.6
8	---	---	---	11.0	10.6	10.8	6.9	5.9	6.5	2.3	1.8	2.0
9	20.7	19.1	19.9	11.4	10.8	11.1	8.2	6.8	7.7	2.3	1.7	2.0
10	19.9	19.4	19.6	12.2	11.2	11.6	7.2	4.8	5.8	2.2	1.6	1.9
11	19.6	18.8	19.2	13.4	12.2	12.8	5.2	3.2	4.1	2.8	1.8	2.4
12	19.6	18.3	19.0	14.6	13.4	14.1	3.2	2.2	2.7	3.9	2.8	3.6
13	19.8	17.8	18.7	14.1	12.6	13.6	3.1	2.5	2.9	5.3	3.8	4.8
14	---	---	---	12.6	11.0	11.9	3.6	2.8	3.1	6.7	5.2	6.2
15	---	---	---	11.3	10.9	11.1	4.8	3.2	3.9	7.0	6.4	6.7
16	---	---	---	12.3	11.2	11.9	4.9	3.7	4.2	7.4	6.4	7.1
17	---	---	---	13.3	12.2	12.8	4.2	3.4	3.8	8.1	7.2	7.7
18	---	---	---	14.2	12.3	13.6	4.3	3.7	3.9	7.9	6.6	7.3
19	---	---	---	12.4	11.6	12.0	4.2	3.2	3.7	6.6	4.9	5.5
20	---	---	---	12.4	11.3	11.8	4.4	3.0	3.6	4.9	4.3	4.6
21	---	---	---	12.6	11.4	11.9	5.3	3.4	4.2	5.3	4.2	4.7
22	---	---	---	13.0	11.4	11.9	6.4	5.2	5.8	5.4	4.4	4.8
23	---	---	---	13.1	11.1	12.1	7.8	6.4	7.1	5.1	3.9	4.5
24	---	---	---	11.1	9.1	9.6	6.6	4.6	5.5	5.7	4.6	5.1
25	---	---	---	9.3	7.6	8.1	5.1	4.1	4.6	7.2	5.5	6.4
26	---	---	---	8.2	7.6	7.8	5.9	4.3	4.9	6.4	5.1	6.0
27	---	---	---	8.0	7.0	7.6	7.8	5.8	6.4	5.1	3.0	3.8
28	---	---	---	7.0	6.0	6.6	9.0	7.2	8.1	3.3	2.4	2.8
29	---	---	---	6.4	5.8	6.1	7.2	6.1	6.6	2.9	2.4	2.7
30	16.7	15.0	15.9	7.3	5.8	6.6	6.3	5.8	6.0	2.4	1.5	1.9
31	16.9	15.9	16.6	---	---	---	6.6	5.5	6.0	2.3	1.4	1.8
MONTH	20.7	15.0	18.4	19.4	5.8	11.8	9.0	2.2	5.5	11.9	1.4	5.1
		FEBRUARY			MARCH			APRIL			MAY	
1	3.0	2.2	2.6	10.8	8.7	9.4	14.0	12.0	13.0	16.6	15.5	16.0
2	3.6	3.0	3.2	10.8	9.1	9.9	14.6	12.6	13.6	16.8	15.7	16.2
3	3.1	1.9	2.3	10.2	9.6	9.9	14.5	12.6	13.7	16.6	15.0	15.8
4	2.5	2.0	2.3	9.6	9.1	9.4	14.5	12.6	13.7	17.3	14.9	16.0
5	2.6	2.0	2.2	10.3	9.2	10	14.2	12.4	13.2	17.8	15.3	16.5
6	2.6	2.1	2.5	10.6	9.7	10.2	13.9	12.7	13.4	18.3	16.0	17.1
7	2.3	1.4	1.8	10.5	8.6	9.4	14.4	12.8	13.5	19.1	16.2	17.4
8	2.0	1.0	1.4	9.4	7.9	8.6	17.5	14.4	15.7	23.9	19.1	21.4
9	2.6	1.3	1.8	9.3	8.5	8.8	17.4	15.2	15.7	24.4	22.3	23.2
10	3.6	2.0	2.6	9.1	8.1	8.6	15.3	12.8	14.2	24.4	22.2	23.1
11	4.0	3.0	3.5	9.4	8.5	8.9	13.1	11.5	12.4	24.2	22.3	23.2
12	3.8	2.9	3.3	9.4	8.3	8.9	14.2	12.7	13.3	23.9	22.4	22.9
13	3.5	2.0	2.7	9.0	8.7	8.8	14.8	12.8	13.6	23.0	19.4	21.8
14	3.4	2.5	2.9	9.6	8.7	9.1	16.2	13.0	14.3	20.0	18.2	18.8
15	4.1	2.4	3.1	9.0	8.7	8.8	18.4	14.6	16.0	18.4	17.3	17.8
16	4.1	2.6	3.3	9.2	8.5	8.9	20.7	16.9	18.4	20.8	17.7	18.9
17	5.2	3.0	4.0	10.0	8.5	9.2	21.1	19.0	20.2	23.0	19.9	21.0
18	6.6	3.9	4.9	10.6	8.9	9.7	21.1	19.6	20.0	22.9	17.5	19.4
19	9.0	6.1	7.1	10.3	9.1	9.6	19.6	18.9	19.2	20.8	18.5	19.4
20	10.1	8.4	9.0	11.6	9.9	10.7	20.0	18.7	19.3	21.4	19.1	20.2
21	10.2	8.6	9.3	10.4	9.1	9.7	20.4	18.3	19.4	20.8	19.3	20.2
22	10.2	8.8	9.6	10.8	9.2	9.9	19.7	17.6	18.3	20.0	18.6	19.3
23	10.6	9.7	10.0	11.6	10.0	10.8	17.9	17.0	17.5	20.3	18.4	19.3
24	9.9	8.6	9.2	11.9	10.8	11.2	17.1	16.5	16.8	20.3	18.4	19.4
25	8.6	7.4	7.9	14.7	11.9	13.4	17.8	16.3	17.0	19.8	18.3	18.9
26	8.4	6.4	7.3	16.3	14.7	15.7	19.3	17.5	18.2	18.4	17.7	18.0
27	8.8	6.6	7.6	17.1	16.3	16.8	18.5	14.6	16.3	19.8	18.2	18.7
28	9.0	7.6	8.2	17.0	14.6	15.7	17.1	15.2	16.2	25.7	19.8	22.5
29	8.9	8.3	8.7	15.9	14.9	15.2	16.6	15.4	15.9	25.8	24.5	25.1
30	---	---	---	15.5	13.1	14.0	16.6	15.4	16.0	26.8	24.2	25.4
31	---	---	---	13.8	12.4	13.2	---	---	---	26.5	23.6	24.9
MONTH	10.6	1.0	5.0	17.1	7.9	10.7	21.1	11.5	15.9	26.8	14.9	19.9

07177500 BIRD CREEK NEAR SPERRY, OK—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.8	23.2	24.5	21.3	19.4	20.2	27.0	24.6	25.6	27.2	25.5	26.4
2	25.6	23.7	24.4	24.3	20.9	22.0	28.9	26.2	27.3	26.8	25.4	26.0
3	24.8	21.9	23.2	24.5	23.4	24.1	29.8	27.5	28.5	26.5	24.9	25.7
4	---	---	---	24.2	22.9	23.6	30.6	28.3	29.2	27.0	25.3	26.1
5	---	---	---	23.9	22.9	23.3	29.7	27.8	28.3	27.5	26.0	26.7
6	---	---	---	24.0	22.1	23.1	27.8	25.5	26.2	27.2	25.6	26.3
7	---	---	---	24.1	22.5	23.2	26.6	25.0	25.7	26.3	24.5	25.2
8	25.5	23.4	24.3	23.5	21.7	22.4	26.4	25.1	25.6	24.8	23.3	24.1
9	---	---	---	21.9	19.9	20.6	27.6	24.5	25.7	24.9	22.9	23.9
10	---	---	---	26.7	21.8	24.6	27.9	26.1	26.9	25.1	23.1	24.1
11	26.0	23.6	24.5	29.1	26.7	27.6	---	---	---	25.4	23.2	24.2
12	27.8	24.9	26.1	30.4	27.6	28.7	---	---	---	26.0	23.9	24.9
13	27.9	25.6	26.7	31.2	28.3	29.5	---	---	---	25.9	24.2	25.1
14	28.0	25.6	26.9	30.4	28.8	29.6	25.8	23.5	24.5	26.4	24.6	25.5
15	28.4	26.8	27.4	31.7	29.0	30.1	25.1	24.0	24.4	26.3	25.1	25.8
16	28.6	26.7	27.5	31.0	28.7	29.4	25.8	23.7	24.6	26.5	25.2	25.9
17	28.9	26.4	27.5	29.5	27.6	28.5	27.1	24.5	25.6	26.4	24.7	25.6
18	28.9	26.7	27.6	29.0	27.1	27.9	27.8	25.4	26.4	26.9	25.0	26.0
19	28.1	25.4	26.3	29.1	26.8	27.8	27.1	25.9	26.2	26.8	25.1	25.8
20	25.4	23.8	24.5	30.3	27.5	28.6	25.9	23.1	24.5	25.9	24.0	24.8
21	24.8	21.5	23.4	30.8	28.4	29.5	24.7	22.6	23.4	25.0	23.4	24.2
22	24.4	22.5	23.3	30.5	28.5	29.4	26.3	23.5	24.7	25.0	23.5	24.3
23	25.9	22.8	24.1	30.1	28.1	29.0	27.4	25.2	26.1	24.8	23.6	24.0
24	25.4	21.2	22.6	29.2	25.0	26.5	28.5	26.0	27.1	24.8	23.4	24.1
25	22.2	20.3	21.3	25.4	24.5	24.8	28.2	26.9	27.5	24.6	22.8	23.6
26	21.1	19.3	20.3	26.0	23.8	24.7	29.0	26.4	27.6	24.0	22.4	23.3
27	22.1	19.0	20.3	26.8	24.3	25.4	29.4	27.5	28.4	24.0	22.1	22.9
28	21.8	19.9	20.7	26.6	24.7	25.2	28.9	27.1	27.7	23.3	21.6	22.5
29	21.9	18.8	20.1	24.7	21.9	23.4	27.1	25.4	26.3	23.3	21.9	22.6
30	21.9	20.2	20.7	22.8	21.6	22.2	26.7	25.0	25.9	23.0	21.4	22.3
31	---	---	---	24.8	22.4	23.4	27.1	25.0	26.0	---	---	---
MONTH	28.9	18.8	24.1	31.7	19.4	25.8	30.6	22.6	26.3	27.5	21.4	24.7

07177500 BIRD CREEK NEAR SPERRY, OK—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	6.8	6.2	6.5	12.2	11.5	11.9	12.6	12.0	12.3
2	---	---	---	7.0	6.3	6.6	12.2	11.5	11.9	12.0	11.2	11.6
3	---	---	---	6.7	5.9	6.4	12.3	11.3	11.8	11.2	10.6	10.8
4	---	---	---	6.1	5.4	5.8	12.2	11.3	11.8	10.9	10.4	10.6
5	---	---	---	6.0	5.4	5.7	12.8	11.4	12.1	11.9	10.9	11.3
6	---	---	---	6.9	5.9	6.5	13.4	11.8	12.7	13.2	11.9	12.6
7	---	---	---	---	---	---	13.6	12.3	12.9	13.9	13.2	13.6
8	---	---	---	---	---	---	13.6	11.9	12.8	14.2	13.8	14.0
9	8.4	6.8	7.6	---	---	---	13.4	11.2	12.3	14.4	14.1	14.2
10	8.0	7.1	7.6	---	---	---	13.8	11.2	12.1	14.4	14.2	14.3
11	8.0	7.8	7.9	---	---	---	14.1	12.4	13.2	14.4	13.9	14.1
12	8.3	7.8	7.9	---	---	---	14.5	13.5	14.0	14.0	13.4	13.7
13	8.2	7.6	8.0	---	---	---	14.6	13.7	14.1	13.8	13.1	13.4
14	---	---	---	---	---	---	14.5	13.7	13.9	13.4	12.6	12.9
15	---	---	---	---	---	---	13.7	13.2	13.4	12.8	12.2	12.5
16	---	---	---	---	---	---	13.2	12.8	13.0	12.9	11.8	12.2
17	---	---	---	---	---	---	13.3	13.2	13.3	12.1	10.4	11.3
18	---	---	---	---	---	---	13.4	13.2	13.3	11.8	10.6	11.3
19	---	---	---	---	---	---	13.5	13.4	13.5	12.8	11.8	12.4
20	---	---	---	---	---	---	13.6	13.3	13.5	13.0	12.7	12.9
21	---	---	---	---	---	---	13.4	13.0	13.3	13.1	12.9	13.0
22	---	---	---	---	---	---	13.0	12.2	12.6	13.0	12.8	12.9
23	---	---	---	---	---	---	12.2	10.8	11.5	---	---	---
24	---	---	---	---	---	---	12.8	11.8	12.2	---	---	---
25	---	---	---	---	---	---	12.8	12.8	12.8	---	---	---
26	---	---	---	11.5	11.1	11.2	12.9	12.7	12.8	---	---	---
27	---	---	---	11.4	11.2	11.3	12.7	11.9	12.3	---	---	---
28	---	---	---	11.8	11.2	11.6	11.9	10.7	11.3	13.6	12.8	13.1
29	---	---	---	12.1	11.7	11.9	12.2	11.4	11.8	13.4	12.6	12.8
30	7.0	6.4	6.9	12.3	11.6	12.0	12.6	12.2	12.4	13.9	13.0	13.6
31	6.6	6.1	6.4	---	---	---	12.6	12.5	12.5	14.3	13.9	14.0
MONTH	8.4	6.1	7.5	12.3	5.4	8.7	14.6	10.7	12.7	14.4	10.4	12.7
		FEBRUARY			MARCH			APRIL			MAY	
1	14.3	14.0	14.1	16.3	14.8	15.4	10.9	10.4	10.8	9.9	9.6	9.8
2	14.2	13.9	14.0	16.1	14.6	15.4	10.8	10.4	10.6	10.0	9.7	9.8
3	16.7	14.2	15.2	15.4	14.0	14.7	10.9	10.5	10.7	---	---	---
4	17.5	15.6	16.6	14.3	12.4	13.6	10.9	10.5	10.7	---	---	---
5	15.6	14.9	15.2	---	---	---	11.0	10.5	10.7	---	---	---
6	15.2	14.8	14.9	---	---	---	11.0	10.5	10.7	---	---	---
7	15.6	15.2	15.4	---	---	---	10.9	10.4	10.6	---	---	---
8	15.9	15.6	15.8	---	---	---	10.5	9.5	10	---	---	---
9	15.9	15.7	15.8	---	---	---	10.0	9.1	9.5	---	---	---
10	15.8	15.4	15.6	---	---	---	10.1	9.2	9.6	---	---	---
11	15.5	15.2	15.3	---	---	---	10.6	10.1	10.4	11.4	10.0	10.6
12	15.8	15.3	15.6	---	---	---	10.8	10.3	10.5	10.8	9.7	10.1
13	16.1	15.8	15.9	12.7	12.5	12.6	11.3	10.3	10.7	10.2	8.4	9.8
14	16.1	15.8	15.9	12.9	12.6	12.7	11.7	10.2	10.9	10.5	7.9	9.2
15	16.1	15.8	16.0	12.8	12.6	12.7	11.2	9.8	10.5	11.4	10.5	11.1
16	16.3	15.8	16.1	12.8	12.2	12.7	10.6	9.2	9.9	11.3	10.6	11.0
17	16.4	15.9	16.1	12.6	12.3	12.5	10.3	8.4	9.3	10.7	9.4	10.3
18	16.2	15.6	16.0	12.5	12.3	12.4	9.6	8.0	8.8	12.3	9.0	11.3
19	16.7	15.0	15.7	12.6	12.4	12.5	9.6	8.2	8.9	12.1	11.5	11.8
20	15.6	14.4	14.8	12.5	12.2	12.3	10.1	8.3	9.1	12.1	11.5	11.7
21	15.3	14.0	14.6	12.9	12.4	12.7	9.8	8.0	8.7	12.0	11.3	11.7
22	15.4	14.3	14.9	12.7	12.0	12.5	8.8	7.9	8.4	12.2	11.7	11.9
23	15.6	14.4	14.9	12.2	11.7	11.9	9.0	8.5	8.8	12.1	11.5	11.8
24	15.8	14.3	15.1	11.8	11.2	11.6	9.3	9.0	9.2	12.1	11.6	11.9
25	15.7	15.1	15.4	11.2	10.0	10.5	9.6	9.3	9.5	12.2	11.3	11.8
26	16.7	15.4	15.9	10.1	9.6	9.9	9.4	9.3	9.4	12.5	11.7	12.2
27	17.1	15.9	16.5	9.8	9.4	9.6	10.3	8.8	10	12.2	11.5	12.0
28	17.0	15.8	16.3	9.6	8.1	8.8	10.3	10.1	10.2	11.5	9.6	10.5
29	16.8	15.1	15.7	9.6	8.6	9.1	10.2	10.0	10.1	9.8	9.2	9.5
30	---	---	---	10.6	9.4	10.3	10.3	9.9	10.1	9.8	8.8	9.4
31	---	---	---	10.9	10.6	10.8	---	---	---	10.2	9.0	9.6
MONTH	17.5	13.9	15.5	16.3	8.1	12.1	11.7	7.9	9.9	12.5	7.9	10.8

07177500 BIRD CREEK NEAR SPERRY, OK—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.3	9.4	9.8	9.5	9.0	9.3	8.5	8.2	8.3	7.3	6.6	7.0
2	10.1	9.1	9.7	9.0	5.8	7.6	8.6	7.8	8.2	7.2	6.6	6.9
3	10.7	9.6	10.0	7.7	6.2	7.0	8.8	7.8	8.2	7.4	6.7	7.0
4	---	---	---	8.1	7.7	7.9	8.6	7.8	8.1	7.2	6.6	6.9
5	---	---	---	8.6	8.0	8.3	8.5	7.4	7.9	7.2	6.5	6.9
6	---	---	---	8.8	8.5	8.6	9.0	7.5	8.4	7.2	6.6	6.9
7	---	---	---	8.8	8.5	8.6	9.2	8.1	8.7	7.6	6.7	7.1
8	6.7	6.1	6.4	9.0	8.6	8.8	9.0	8.1	8.5	7.6	6.9	7.3
9	---	---	---	9.4	8.7	9.1	9.1	8.3	8.6	7.7	7.0	7.4
10	---	---	---	8.7	7.3	7.7	8.8	7.9	8.3	7.6	6.9	7.3
11	---	---	---	7.7	7.3	7.4	---	---	---	7.6	6.8	7.3
12	---	---	---	7.8	7.1	7.3	---	---	---	7.5	6.8	7.2
13	---	---	---	7.7	6.7	7.2	---	---	---	7.5	6.8	7.2
14	---	---	---	7.2	6.4	6.9	8.0	7.1	7.5	7.4	6.8	7.1
15	7.8	6.8	7.2	7.1	6.0	6.5	7.9	7.2	7.5	7.2	6.6	7.0
16	7.8	6.6	7.1	6.7	5.9	6.2	8.1	7.2	7.5	7.3	6.6	7.0
17	7.8	6.6	7.1	7.4	5.4	6.1	7.8	7.0	7.3	7.6	6.7	7.1
18	7.6	6.5	7.0	7.8	6.5	7.2	7.5	6.6	7.0	7.4	6.7	7.1
19	7.5	6.4	7.0	7.6	6.8	7.1	7.1	6.4	6.8	7.6	6.7	7.1
20	7.9	7.1	7.4	7.5	6.5	6.9	6.9	6.6	6.7	7.9	6.7	7.3
21	8.1	7.0	7.5	7.6	6.5	7.0	7.1	6.9	7.0	7.8	7.1	7.4
22	7.2	7.0	7.1	7.8	6.5	7.1	7.3	6.3	7.0	7.7	7.0	7.4
23	7.6	7.2	7.4	7.7	6.7	7.2	7.4	6.6	7.0	7.6	7.1	7.4
24	8.9	7.5	8.5	7.5	6.5	6.9	7.2	6.4	6.8	7.9	7.1	7.5
25	9.3	8.3	8.9	7.5	6.5	7.0	7.0	6.2	6.5	8.0	7.3	7.7
26	9.6	9.0	9.2	8.2	7.4	7.7	7.0	6.2	6.6	8.0	7.4	7.7
27	9.5	8.8	9.2	8.6	7.3	7.9	7.0	6.1	6.6	8.1	7.5	7.8
28	9.5	8.8	9.2	8.4	7.6	7.9	6.9	6.2	6.6	8.2	7.6	7.9
29	9.7	8.8	9.3	8.5	8.0	8.2	7.3	6.5	6.9	8.2	7.6	7.9
30	9.3	8.7	9.1	8.6	7.3	8.0	7.4	6.6	7.0	8.2	7.6	7.9
31	---	---	---	8.7	8.4	8.6	7.4	6.7	7.1	---	---	---
MONTH	10.7	6.1	8.2	9.5	5.4	7.6	9.2	6.1	7.5	8.2	6.5	7.3

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

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

DRAINAGE AREA.--8.2 mi^2.

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

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

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 9	0605	*3,830	*12.42	Mar 28	0500	935	8.22

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

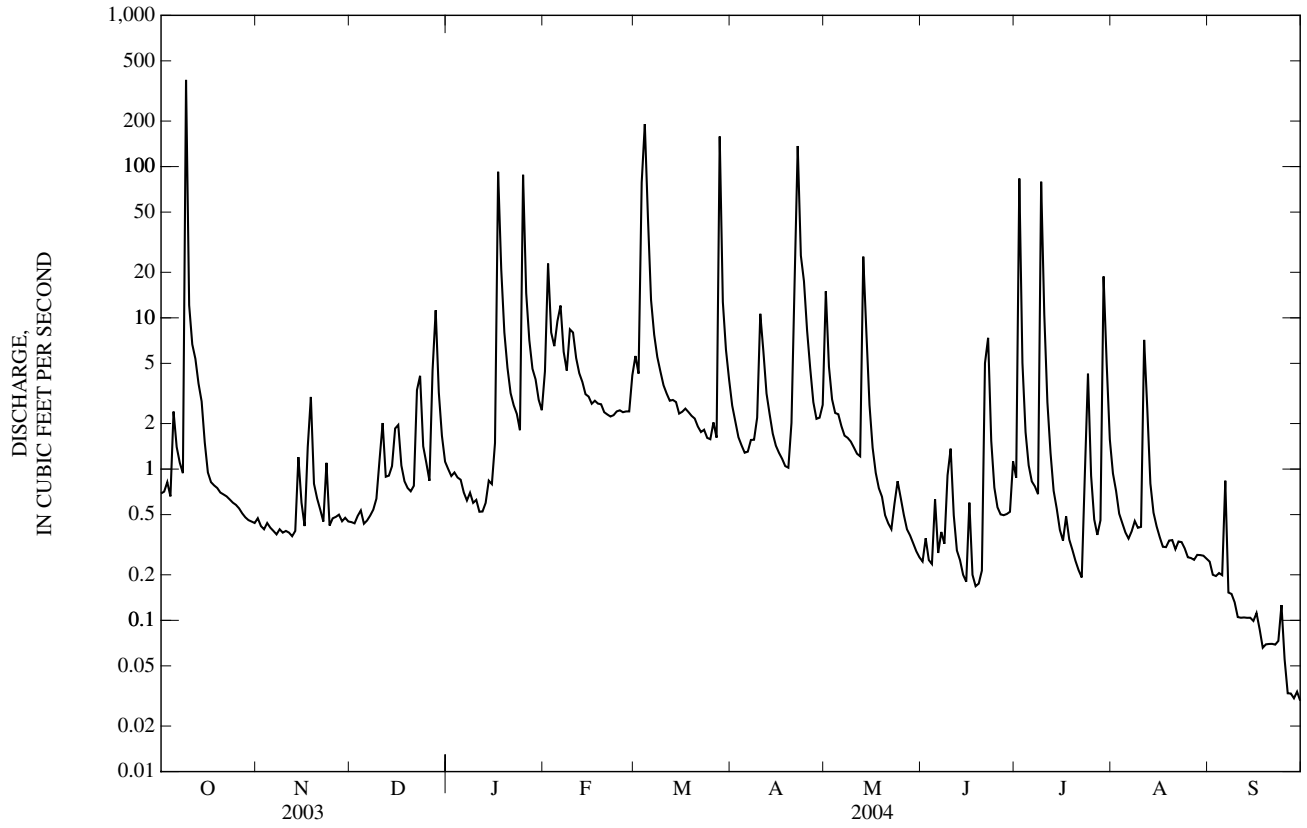
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.69	0.47	0.45	1.0	4.4	5.6	2.6	15	0.24	0.88	0.94	0.24
2	0.71	e0.42	0.44	e0.90	23	4.3	2.1	4.8	0.35	83	0.72	0.20
3	0.82	e0.40	0.49	e0.95	8.0	78	1.6	2.9	0.25	5.0	0.51	0.20
4	0.66	e0.44	0.53	e0.88	6.5	191	1.4	2.3	0.24	1.8	0.44	0.21
5	2.4	e0.41	0.44	e0.85	9.5	46	1.3	2.3	0.63	1.1	0.38	0.20
6	1.4	e0.39	0.46	e0.70	12	13	1.3	1.9	0.28	0.83	0.35	0.84
7	1.1	e0.37	0.49	0.62	6.0	7.8	1.6	1.7	0.38	0.77	0.39	0.15
8	0.94	e0.40	0.54	0.70	4.5	5.5	1.6	1.6	0.32	0.68	0.45	0.15
9	374	e0.38	0.64	0.60	8.4	4.4	2.2	1.5	0.91	79	0.41	0.13
10	12	e0.39	1.1	0.63	8.0	3.6	11	1.4	1.4	11	0.41	0.11
11	6.7	e0.38	2.0	0.52	5.4	3.2	6.0	1.3	0.49	2.8	7.1	0.10
12	5.4	e0.36	0.89	0.52	4.3	2.8	3.2	1.2	0.29	1.3	2.5	0.10
13	3.7	e0.39	0.91	0.60	3.8	2.9	2.3	25	e0.25	0.72	0.80	0.10
14	2.8	e1.2	1.0	0.84	3.1	2.8	1.7	8.0	e0.20	0.55	0.52	0.10
15	e1.5	e0.60	1.9	0.80	3.0	2.3	1.4	2.7	e0.18	0.40	0.42	0.10
16	e0.95	e0.42	2.0	1.5	2.7	2.4	1.3	1.4	e0.60	0.34	0.35	0.11
17	e0.82	e1.4	1.1	92	2.8	2.5	1.2	0.94	e0.20	0.49	0.31	0.09
18	e0.78	e3.0	0.83	21	2.7	2.4	1.0	0.75	0.17	0.34	0.30	0.07
19	e0.75	e0.80	0.75	8.0	2.7	2.2	1.0	0.66	0.17	0.29	0.34	0.07
20	e0.70	e0.64	0.71	4.7	2.4	2.2	2.0	0.50	0.21	0.25	0.34	0.07
21	e0.68	e0.54	0.78	3.2	2.3	1.9	17	0.44	5.0	0.21	0.30	0.07
22	e0.66	e0.45	3.3	2.6	2.2	1.8	137	0.40	7.4	0.19	0.33	0.07
23	e0.63	e1.1	4.1	2.3	2.3	1.8	26	0.59	1.5	0.93	0.33	0.07
24	e0.60	0.42	1.4	1.8	2.4	1.6	17	0.83	0.75	4.3	0.30	0.13
25	e0.58	0.47	1.1	88	2.4	1.6	8.2	0.64	0.56	0.90	0.26	0.06
26	e0.55	0.48	0.84	15	2.4	2.0	4.6	0.50	0.50	0.46	0.26	0.03
27	e0.51	0.50	4.5	7.1	2.4	1.6	2.8	0.40	0.50	0.37	0.25	0.03
28	e0.48	0.45	11	4.6	2.4	158	2.1	0.36	0.50	0.46	0.27	0.03
29	e0.46	0.48	3.2	3.9	4.2	13	2.2	0.32	0.52	19	0.27	0.03
30	e0.45	0.45	1.7	2.9	---	6.2	2.7	0.29	1.1	4.9	0.27	0.03
31	0.44	---	1.1	2.5	---	3.9	---	0.26	---	1.6	0.26	---
TOTAL	424.86	18.60	50.69	272.21	146.2	578.3	267.4	82.88	26.09	224.86	21.08	3.89
MEAN	13.7	0.62	1.64	8.78	5.04	18.7	8.91	2.67	0.87	7.25	0.68	0.13
MAX	374	3.0	11	92	23	191	137	25	7.4	83	7.1	0.84
MIN	0.44	0.36	0.44	0.52	2.2	1.6	1.0	0.26	0.17	0.19	0.25	0.03
AC-FT	843	37	101	540	290	1,150	530	164	52	446	42	7.7
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)												
MEAN	3.12	5.74	5.81	5.65	5.77	14.5	11.9	15.3	7.40	1.75	2.39	1.85
MAX	19.2	31.1	23.0	33.0	16.1	47.8	39.6	59.2	55.7	8.28	17.7	9.78
(WY)	(1999)	(1997)	(1988)	(1998)	(2001)	(1988)	(1999)	(2000)	(1995)	(1994)	(1997)	(2003)
MIN	0.12	0.01	0.10	0.13	0.01	0.07	0.16	0.21	0.00	0.04	0.01	0.00
(WY)	(1993)	(1996)	(1996)	(2003)	(1996)	(1996)	(1996)	(1988)	(1988)	(1991)	(2000)	(2000)

e Estimated

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

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1988 - 2004	
ANNUAL TOTAL	1,439.44		2,117.06			
ANNUAL MEAN	3.94		5.78		6.65	
HIGHEST ANNUAL MEAN					15.3	1995
LOWEST ANNUAL MEAN					0.56	1996
HIGHEST DAILY MEAN	374	Oct 9	374	Oct 9	1,480	May 6, 2000
LOWEST DAILY MEAN	0.03	Jan 23	0.03	Sep 26	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	0.04	Jan 22	0.05	Sep 24	0.00	May 13, 1988
MAXIMUM PEAK FLOW			3,830	Oct 9	8,290	May 6, 2000
MAXIMUM PEAK STAGE			12.42	Oct 9	a16.50	May 6, 2000
ANNUAL RUNOFF (AC-FT)	2,860		4,200		4,820	
10 PERCENT EXCEEDS	3.9		7.1		7.6	
50 PERCENT EXCEEDS	0.58		0.88		0.67	
90 PERCENT EXCEEDS	0.09		0.23		0.02	

a From high-water mark.



07177800 COAL CREEK AT TULSA, OK

LOCATION.--Lat 36°11'40", long 95°54'50", in SE $^1/_4$ SW $^1/_4$ sec.22, T.20 N., R.13 E., Tulsa County, Hydrologic Unit 11070107, near right downstream abutment of bridge on State Highway 11, .2 mile Northwest of intersection of SH 11 and Apache Street in Tulsa, and at mile 4.1.

DRAINAGE AREA.--7.53 mi^2.

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

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

REMARKS.--No estimated daily discharge. Records good. U.S. Geological Survey satellite telemeter at station.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 9	0555	2,380	11.42	Apr 21	2030	2,640	11.72
Mar 28	0440	*2,930	*12.04	May 13	1655	2,320	11.34

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

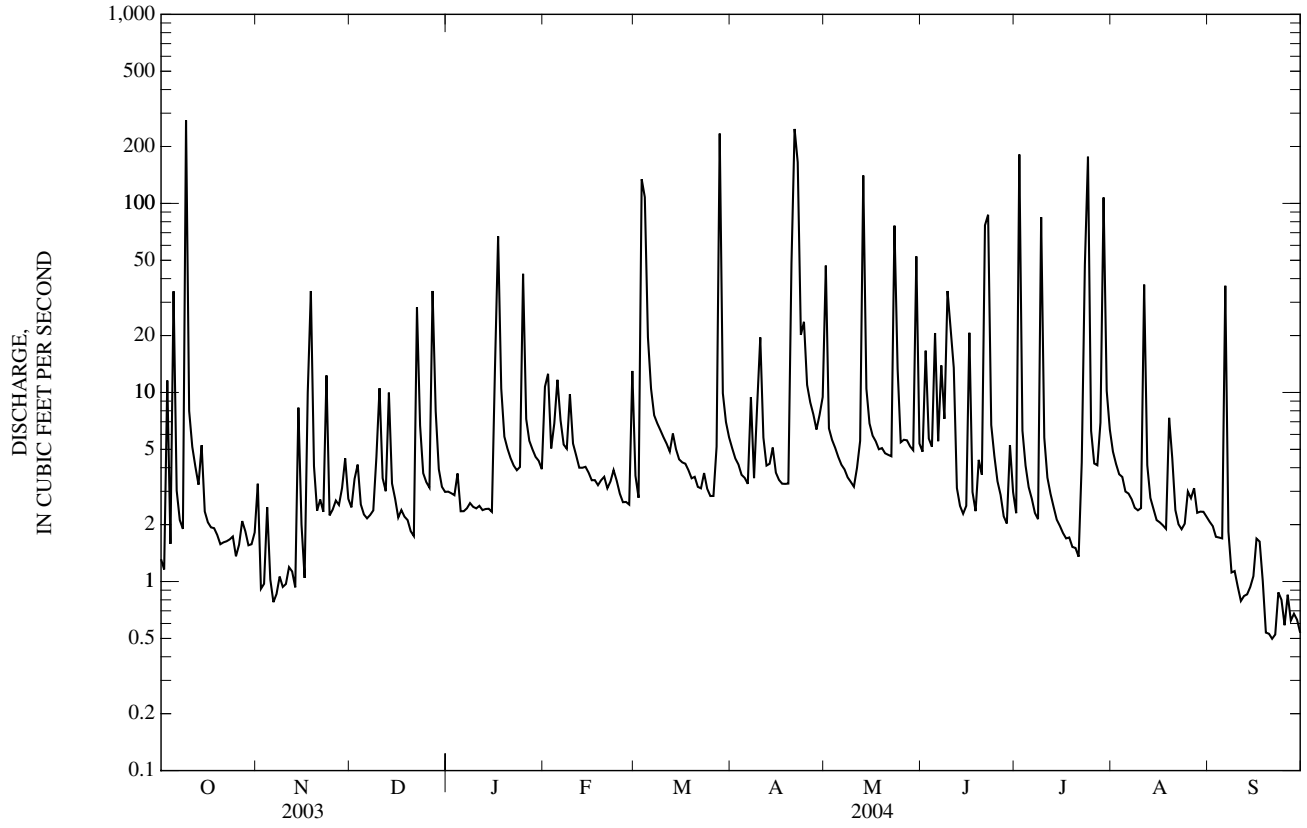
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	3.3	2.5	3.0	11	3.6	5.1	47	4.9	2.3	4.9	2.1
2	1.2	0.92	3.5	2.9	13	2.8	4.5	6.5	17	181	4.2	2.0
3	12	0.97	4.2	2.9	5.1	134	4.2	5.6	5.7	6.3	3.7	1.7
4	1.6	2.5	2.6	3.7	6.9	108	3.7	5.1	5.2	4.1	3.6	1.7
5	34	1.0	2.3	2.4	12	20	3.5	4.6	21	3.2	3.0	1.7
6	3.0	0.78	2.2	2.4	7.1	10	3.3	4.1	5.5	2.7	2.9	37
7	2.1	0.86	2.2	2.4	5.3	7.6	9.4	3.9	14	2.3	2.7	1.8
8	1.9	1.1	2.4	2.6	5.0	6.9	3.5	3.6	7.3	2.1	2.5	1.1
9	275	0.94	4.6	2.5	9.8	6.3	8.5	3.4	34	85	2.4	1.1
10	8.0	0.97	11	2.4	5.4	5.8	20	3.2	22	5.8	2.4	0.94
11	5.2	1.2	3.5	2.5	4.6	5.4	5.8	4.0	14	3.5	37	0.79
12	4.0	1.1	3.0	2.4	4.0	4.9	4.1	5.5	3.1	2.9	4.1	0.84
13	3.3	0.93	10	2.4	4.0	6.1	4.2	140	2.5	2.5	2.8	0.86
14	5.3	8.3	3.3	2.4	4.0	5.0	5.1	10	2.3	2.1	2.4	0.94
15	2.3	2.0	2.7	2.3	3.8	4.4	3.8	6.9	2.5	2.0	2.1	1.1
16	2.1	1.0	2.2	14	3.4	4.3	3.4	5.9	21	1.8	2.1	1.7
17	1.9	10	2.4	67	3.4	4.2	3.3	5.5	3.0	1.7	2.0	1.6
18	1.9	34	2.2	10	3.2	3.9	3.3	5.0	2.4	1.7	1.9	1.0
19	1.8	4.1	2.1	5.8	3.4	3.5	3.3	5.1	4.4	1.5	7.3	0.54
20	1.6	2.4	1.8	5.0	3.6	3.6	48	4.8	3.7	1.5	4.5	0.53
21	1.6	2.7	1.7	4.5	3.1	3.2	248	4.7	77	1.4	2.4	0.50
22	1.6	2.3	28	4.1	3.4	3.1	165	4.6	87	4.3	2.0	0.52
23	1.7	12	6.7	3.9	3.9	3.7	20	76	6.7	47	1.9	0.88
24	1.7	2.2	3.7	4.0	3.4	3.1	24	13	4.6	177	2.0	0.80
25	1.4	2.4	3.4	42	2.9	2.8	11	5.5	3.4	6.3	3.0	0.59
26	1.6	2.7	3.1	7.2	2.6	2.8	8.9	5.6	2.9	4.2	2.8	0.85
27	2.1	2.5	34	5.6	2.6	5.2	7.7	5.6	2.2	4.1	3.1	0.62
28	1.8	3.1	8.0	5.0	2.6	234	6.4	5.2	2.0	6.9	2.3	0.68
29	1.6	4.5	3.9	4.6	13	9.9	7.6	4.9	5.3	107	2.3	0.63
30	1.6	2.7	3.2	4.3	---	7.0	9.5	52	3.0	10	2.3	0.54
31	1.8	---	3.0	3.9	---	5.8	---	5.4	---	6.4	2.2	---
TOTAL	388.0	115.47	169.4	230.1	155.5	630.9	658.1	462.2	389.6	690.6	124.8	67.65
MEAN	12.5	3.85	5.46	7.42	5.36	20.4	21.9	14.9	13.0	22.3	4.03	2.25
MAX	275	34	34	67	13	234	248	140	87	181	37	37
MIN	1.2	0.78	1.7	2.3	2.6	2.8	3.3	3.2	2.0	1.4	1.9	0.50
AC-FT	770	229	336	456	308	1,250	1,310	917	773	1,370	248	134

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)

MEAN	7.60	7.94	7.63	6.00	6.03	12.0	12.0	15.1	10.8	7.77	5.95	6.45
MAX	33.6	24.9	20.3	13.3	15.2	33.2	34.9	46.3	42.1	24.8	23.9	18.0
(WY)	(1999)	(1995)	(1993)	(1998)	(2001)	(1990)	(1999)	(1995)	(1995)	(1994)	(2003)	(1999)
MIN	1.11	0.55	0.37	0.32	0.96	1.71	1.62	2.86	1.79	0.29	0.75	1.81
(WY)	(1993)	(1996)	(1997)	(1997)	(1996)	(1992)	(1989)	(1988)	(1988)	(1991)	(1991)	(2000)

07177800 COAL CREEK AT TULSA, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1988 - 2004	
ANNUAL TOTAL	3,242.83		4,082.32			
ANNUAL MEAN	8.88		11.2		8.83	
HIGHEST ANNUAL MEAN					15.8	1999
LOWEST ANNUAL MEAN					3.60	1996
HIGHEST DAILY MEAN	275	Oct 9	275	Oct 9	782	Oct 5, 1998
LOWEST DAILY MEAN	0.36	Aug 27	0.50	Sep 21	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	0.63	Aug 22	0.62	Sep 19	0.00	Jul 30, 1991
MAXIMUM PEAK FLOW			2,930	Mar 28	5,190	Jun 23, 1995
MAXIMUM PEAK STAGE			12.04	Mar 28	14.18	Jun 23, 1995
ANNUAL RUNOFF (AC-FT)	6,430		8,100		6,400	
10 PERCENT EXCEEDS	13		14		16	
50 PERCENT EXCEEDS	2.4		3.5		2.3	
90 PERCENT EXCEEDS	1.2		1.4		0.35	



07178000 BIRD CREEK NEAR OWASSO, OK

LOCATION.--Lat 36°14'54", long 95°52'01", in NW ¼ NW ¼ sec.6, T.20 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, at bridge on Mingo Road 1.4 mi upstream from Mingo Creek, 1.5 mi downstream from Coal Creek, 2 mi southwest of Owasso, and at mile 14.1.

DRAINAGE AREA.--1,022 mi^2.

WATER-DISCHARGE RECORDS

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

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

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

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

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	66	70	243	386	159	1,340	1,880	234	582	736	213
2	187	65	67	201	1,060	211	900	1,880	235	6,040	633	210
3	216	65	69	174	1,800	892	773	1,410	248	3,540	587	209
4	208	66	67	163	828	8,730	724	1,200	226	1,460	491	208
5	296	67	65	144	667	14,900	688	1,110	275	1,210	292	208
6	236	66	68	124	849	17,100	670	1,060	285	1,100	250	312
7	225	65	78	112	785	5,350	650	968	259	1,070	240	233
8	218	63	80	96	505	3,090	321	390	260	942	239	226
9	6,880	60	79	85	427	3,380	232	324	285	1,040	237	216
10	2,970	58	91	98	696	3,430	421	308	382	1,320	232	211
11	730	62	204	113	733	3,360	768	301	338	949	607	184
12	356	69	190	113	520	3,290	722	292	379	517	959	179
13	233	67	177	110	393	3,270	426	1,720	351	389	667	178
14	339	75	208	108	316	3,270	290	8,000	702	329	461	178
15	260	83	302	107	274	3,250	221	1,360	393	294	498	179
16	276	75	1,470	122	255	3,190	218	613	305	275	468	185
17	173	77	1,180	2,780	235	2,380	240	383	265	257	422	183
18	115	256	512	4,860	207	2,070	245	636	214	247	287	181
19	119	1,120	345	1,780	194	2,060	232	837	198	240	255	180
20	109	394	266	804	185	2,050	243	816	193	238	624	173
21	99	212	207	524	171	2,030	1,060	794	975	231	522	171
22	92	155	214	442	131	1,960	7,250	899	1,140	228	366	170
23	85	167	380	443	119	1,180	3,210	896	756	239	279	171
24	81	141	305	386	222	869	1,910	1,030	895	1,400	249	172
25	79	120	344	2,460	208	186	1,540	903	678	582	236	172
26	77	85	216	3,480	197	123	911	882	592	360	229	171
27	78	75	192	1,210	158	121	1,180	877	603	280	224	173
28	e83	82	841	723	134	6,660	1,240	469	615	256	221	173
29	89	77	1,170	575	141	6,130	1,200	303	570	1,020	217	173
30	76	74	512	498	---	2,030	1,150	335	654	2,780	215	173
31	68	---	328	431	---	1,610	---	258	---	984	215	---
TOTAL	15,243	4,107	10,297	23,509	12,796	108,331	30,975	33,134	13,505	30,399	12,158	5,765
MEAN	492	137	332	758	441	3,495	1,032	1,069	450	981	392	192
MAX	6,880	1,120	1,470	4,860	1,800	17,100	7,250	8,000	1,140	6,040	959	312
MIN	68	58	65	85	119	121	218	258	193	228	215	170
AC-FT	30,230	8,150	20,420	46,630	25,380	214,900	61,440	65,720	26,790	60,300	24,120	11,430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2004, BY WATER YEAR (WY)

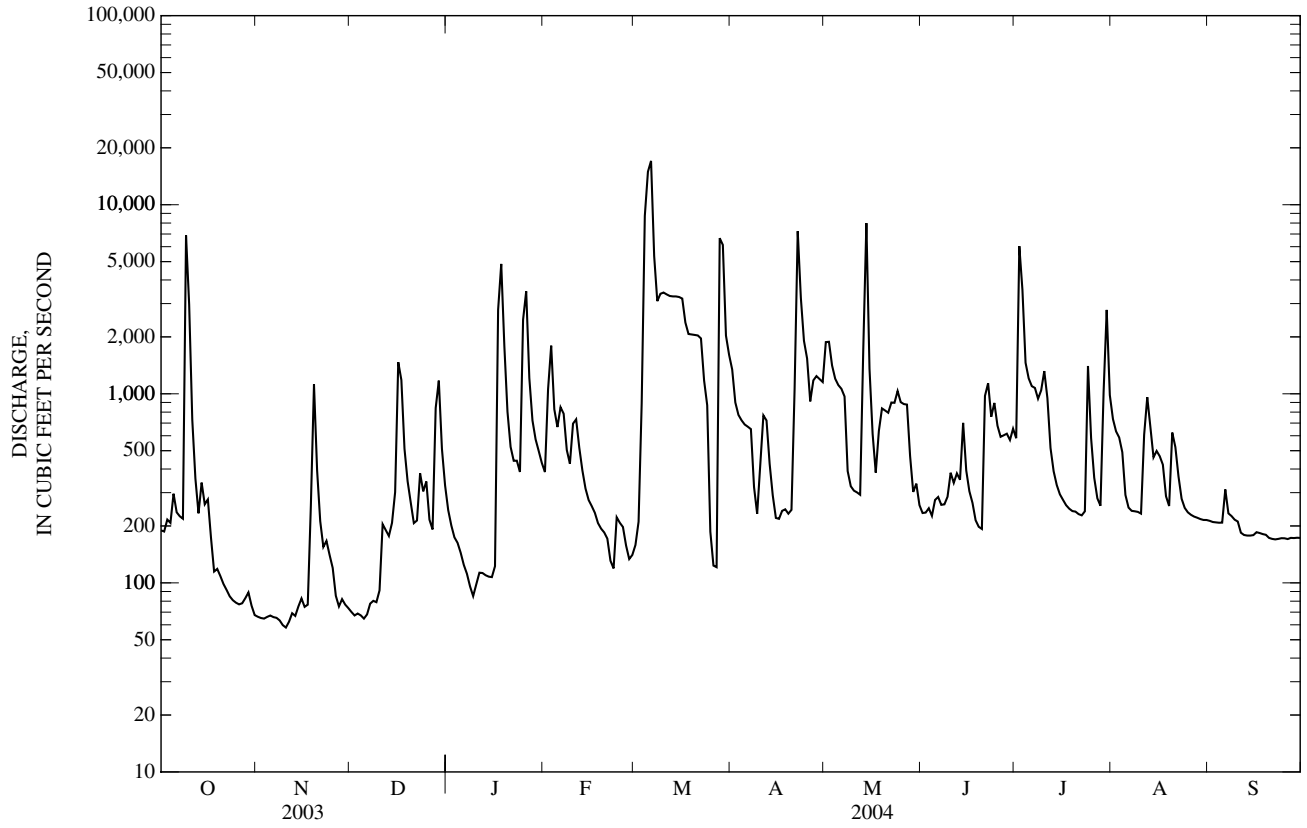
MEAN	342	513	497	536	627	1,561	1,443	1,933	1,472	753	326	316
MAX	1,873	2,362	1,561	2,464	1,618	5,861	3,589	5,565	5,579	3,195	1,255	747
(WY)	(1999)	(1995)	(1993)	(1998)	(1999)	(1990)	(1994)	(1995)	(1995)	(1995)	(1997)	(1996)
MIN	131	74.0	85.7	79.5	83.9	91.9	222	160	223	181	173	160
(WY)	(1993)	(1996)	(1990)	(2000)	(1996)	(1991)	(2001)	(1996)	(1998)	(1991)	(1999)	(2000)

e Estimated

07178000 BIRD CREEK NEAR OWASSO, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1990 - 2004	
ANNUAL TOTAL	133,982		300,219			
ANNUAL MEAN	367		820		861	
HIGHEST ANNUAL MEAN					1,906	1995
LOWEST ANNUAL MEAN					202	1996
HIGHEST DAILY MEAN	9,810	Mar 20	17,100	Mar 6	27,700	May 11, 1993
LOWEST DAILY MEAN	58	Nov 10	58	Nov 10	a45	Nov 6, 1993
ANNUAL SEVEN-DAY MINIMUM	63	Nov 5	63	Nov 5	58	Jan 1, 1994
MAXIMUM PEAK FLOW			18,000	Mar 6	29,200	May 11, 1993
MAXIMUM PEAK STAGE			20.65	Mar 6	26.94	May 11, 1993
ANNUAL RUNOFF (AC-FT)	265,800		595,500		623,600	
10 PERCENT EXCEEDS	539		1,880		2,530	
50 PERCENT EXCEEDS	178		286		200	
90 PERCENT EXCEEDS	77		83		87	

a Minimum daily discharge for period of record, 2.0 ft^3/s, July 31, Aug. 1, 13-16, 1936, and July 5, 1937.



07178000 BIRD CREEK NEAR OWASSO, OK—Continued

WATER QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1987 to current year.
pH: May 1987 to current year.
WATER TEMPERATURE: May 1987 to current year.
DISSOLVED OXYGEN: May 1987 to current year.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,950 microsiemens, Apr. 1, 1996; minimum, 48 microsiemens, July 18, 1989.
pH: Maximum, 8.9 units, May 17, 1988; minimum, 5.5 units June 14, 15, 1987.
WATER TEMPERATURE: Maximum, 35.0°C, Aug. 2, 3, 1987; minimum, 0.0°C, several days during winter periods.
DISSOLVED OXYGEN: Maximum, 16.3 mg/L, Jan. 17, 1988; minimum, 1.2 mg/L, Sept. 8, 1995.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 553 microsiemens, Dec. 23; minimum, 104 microsiemens, Mar. 4, 5.
pH: Maximum, 8.3 units, Apr. 16; minimum, 6.9 units, Oct. 9, 10, Mar. 5.
WATER TEMPERATURE: Maximum, 31.6°C, July 15; minimum, 1.4°C, Feb. 9.
DISSOLVED OXYGEN: Maximum, 16.0 mg/L, Jan. 31; minimum, 3.2 mg/L, May 14.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	364	331	342	377	356	369	371	316	338	393	389	391
2	331	327	328	361	353	357	381	359	373	407	393	400
3	330	325	328	369	359	364	366	356	361	407	390	401
4	351	326	335	372	369	371	365	361	363	390	367	377
5	353	321	330	372	365	369	372	364	368	373	359	363
6	353	302	319	369	362	367	391	372	382	374	355	364
7	334	327	331	392	369	377	392	386	389	359	355	357
8	335	332	333	391	374	382	392	385	390	361	359	359
9	335	127	213	379	375	377	386	379	384	365	361	362
10	251	137	196	379	370	375	379	372	375	395	365	375
11	251	224	234	376	371	374	420	373	385	415	371	391
12	241	224	231	374	372	373	409	346	362	379	372	377
13	253	241	245	376	373	374	361	351	358	459	379	409
14	312	253	280	374	371	372	466	358	426	465	407	438
15	379	309	333	372	363	369	459	422	442	407	384	397
16	312	284	301	367	359	361	448	314	385	388	381	385
17	326	312	319	382	367	375	325	275	306	419	189	343
18	332	326	329	368	346	359	416	273	305	221	176	204
19	346	332	338	355	182	250	466	391	430	333	213	291
20	361	346	355	333	274	307	470	461	466	333	305	316
21	385	361	373	338	333	336	463	454	461	311	294	302
22	385	367	374	377	335	354	454	405	430	294	285	289
23	369	365	367	397	377	391	553	368	434	285	280	282
24	---	---	---	386	364	373	413	334	374	296	282	289
25	---	---	---	365	330	349	345	313	328	366	189	278
26	---	---	---	332	327	330	344	312	330	210	175	187
27	---	---	---	331	315	325	353	344	348	236	178	199
28	---	---	---	318	314	316	447	320	359	285	236	269
29	---	---	---	322	318	320	434	306	383	301	283	294
30	395	362	377	319	314	316	422	380	400	309	301	308
31	396	377	390	---	---	---	392	380	385	313	307	311
MONTH	396	127	316	397	182	354	553	273	381	465	175	333

07178000 BIRD CREEK NEAR OWASSO, OK—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	315	310	313	455	421	433	274	243	262	382	261	303
2	425	282	346	469	443	456	287	273	281	292	272	281
3	296	274	287	489	373	446	295	287	292	291	269	280
4	275	245	255	413	104	233	299	295	297	296	290	293
5	348	253	294	129	104	120	302	298	300	290	287	289
6	388	346	371	175	126	139	---	---	---	290	283	286
7	357	331	340	255	175	226	---	---	---	293	287	291
8	348	328	337	258	253	256	---	---	---	320	293	304
9	367	345	348	256	246	252	361	347	355	368	320	339
10	387	347	372	256	252	254	438	361	391	368	342	348
11	351	308	330	254	251	253	429	386	409	347	343	345
12	335	308	322	252	245	249	394	317	335	353	346	349
13	354	335	346	250	242	248	354	319	340	353	269	334
14	369	353	362	254	246	251	391	354	375	269	123	166
15	387	368	377	255	243	252	406	391	400	207	183	190
16	415	387	401	261	247	254	430	406	416	231	207	221
17	419	411	417	270	258	263	444	430	437	260	231	245
18	413	402	406	277	270	274	455	444	449	321	260	282
19	418	402	410	282	275	278	468	441	455	296	285	288
20	433	418	425	287	278	284	447	414	435	292	288	290
21	434	432	433	287	283	286	482	361	420	296	290	292
22	433	431	432	289	283	286	361	226	276	293	277	282
23	431	422	425	306	289	298	341	217	247	278	275	277
24	439	426	433	299	295	297	260	221	244	348	228	274
25	439	395	412	325	299	312	276	260	266	280	272	276
26	405	389	396	355	325	341	298	276	285	281	270	275
27	392	365	379	400	355	380	310	296	301	273	270	272
28	383	365	372	403	160	273	301	299	300	288	273	278
29	421	383	400	314	187	227	306	297	299	300	281	286
30	---	---	---	240	182	211	306	299	302	356	300	313
31	---	---	---	257	223	242	---	---	---	364	281	301
MONTH	439	245	370	489	104	277	482	217	340	382	123	285
		JUNE			JULY			AUGUST			SEPTEMBER	
1	307	299	304	305	291	296	204	178	186	310	304	306
2	313	305	307	292	142	224	215	204	212	310	307	309
3	331	313	322	---	---	---	223	215	218	310	307	309
4	331	316	320	235	193	216	229	223	226	310	308	309
5	321	313	318	243	232	238	252	229	240	311	309	310
6	356	312	331	254	242	247	275	252	265	380	301	313
7	320	313	316	255	234	246	285	275	281	384	298	320
8	346	314	328	245	233	238	293	285	290	368	312	330
9	346	332	338	286	174	247	292	289	290	314	311	313
10	338	319	332	---	---	---	294	290	292	314	306	310
11	346	316	331	---	---	---	387	264	295	306	302	304
12	379	346	360	306	290	296	365	219	258	310	304	305
13	374	352	358	309	292	300	240	192	214	310	302	305
14	352	308	325	318	308	314	242	215	226	307	302	304
15	356	314	329	325	318	321	278	242	266	305	301	303
16	341	254	324	325	321	323	286	272	276	306	301	303
17	370	267	338	324	315	319	303	271	292	307	300	304
18	368	365	367	315	308	311	271	260	263	307	302	304
19	367	362	364	308	302	305	275	265	271	311	305	307
20	364	355	359	304	300	301	285	252	274	307	299	302
21	374	194	325	302	299	300	252	198	212	303	298	300
22	260	143	185	---	---	---	225	213	222	305	298	301
23	280	234	261	---	---	---	262	221	243	300	296	298
24	344	258	319	---	---	---	281	262	273	298	294	296
25	317	304	311	---	---	---	293	280	287	297	294	295
26	315	307	311	---	---	---	319	293	299	300	295	298
27	307	298	303	---	---	---	303	300	301	299	293	295
28	313	296	305	---	---	---	304	302	303	296	293	294
29	313	296	305	---	---	---	306	303	304	294	291	292
30	317	291	303	283	187	206	306	303	304	293	292	293
31	---	---	---	196	180	192	305	303	304	---	---	---
MONTH	379	143	320	325	142	272	387	178	264	384	291	304

07178000 BIRD CREEK NEAR OWASSO, OK—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

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

07178000 BIRD CREEK NEAR OWASSO, OK—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

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

07178000 BIRD CREEK NEAR OWASSO, OK—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	18.8	17.7	18.2	15.9	15.2	15.5	7.7	6.4	6.9	7.3	6.0	6.5
2	18.8	16.8	17.7	16.9	15.5	16.1	6.9	6.4	6.6	9.0	7.3	8.2
3	18.8	17.6	18.1	18.4	16.4	17.2	7.3	6.7	6.9	10.8	8.8	9.8
4	19.0	18.0	18.5	18.4	16.6	17.6	7.7	6.9	7.1	10.3	9.1	9.8
5	19.6	18.7	19.1	16.6	14.8	15.7	7.0	6.1	6.4	9.1	6.9	8.2
6	19.7	18.3	19.0	14.8	13.4	14.2	7.2	5.9	6.4	6.9	4.9	5.8
7	20.4	19.0	19.5	13.4	12.9	13.1	7.2	5.9	6.4	4.9	3.6	4.2
8	20.7	19.1	19.8	12.9	12.2	12.6	7.2	6.2	6.6	4.2	3.3	3.6
9	20.1	19.0	19.6	12.3	11.8	12.0	7.6	6.1	7.1	3.8	2.8	3.2
10	20.1	19.6	19.8	12.0	11.5	11.8	6.3	5.3	5.8	3.6	2.5	2.9
11	19.7	19.3	19.5	12.6	11.6	12.1	5.6	4.3	5.2	4.0	2.5	3.2
12	19.8	18.8	19.3	12.8	12.1	12.3	4.4	3.6	4.0	4.3	3.5	3.8
13	19.7	18.6	19.1	12.1	11.5	11.7	3.8	3.1	3.4	5.4	4.2	4.7
14	19.4	18.6	19.0	11.6	11.4	11.4	3.8	2.9	3.3	6.4	5.0	5.6
15	18.7	17.7	18.2	11.9	11.4	11.6	4.3	3.2	3.8	6.5	5.6	6.1
16	18.5	17.5	17.9	12.4	11.5	11.8	4.8	4.0	4.3	7.0	6.5	6.8
17	18.3	17.3	17.7	12.3	11.5	11.9	4.0	3.4	3.8	8.5	7.0	7.6
18	18.5	16.7	17.5	12.9	12.2	12.3	4.3	3.8	4.0	7.8	6.8	7.4
19	18.7	17.0	17.7	13.2	11.9	12.3	4.5	3.8	4.1	6.8	4.9	5.7
20	19.3	17.3	18.1	12.2	11.5	11.8	4.3	3.4	3.8	4.9	4.5	4.6
21	19.9	18.0	18.8	12.6	11.5	12.0	4.9	3.7	4.2	5.0	4.3	4.6
22	20.2	18.3	19.1	12.7	11.6	12.2	6.1	4.7	5.4	5.3	4.5	4.8
23	20.7	18.5	19.4	12.7	10.9	11.9	8.6	6.1	7.3	5.2	4.3	4.7
24	---	---	---	10.9	9.7	10.3	7.4	6.0	6.8	5.5	4.8	5.2
25	---	---	---	9.7	8.7	9.0	6.0	4.7	5.3	7.8	5.4	6.5
26	---	---	---	9.6	8.3	8.8	5.4	4.5	5.0	6.7	5.4	6.2
27	---	---	---	8.6	7.7	8.2	6.7	5.4	6.1	5.4	3.2	4.2
28	---	---	---	8.2	7.0	7.5	9.9	6.7	8.3	3.2	2.6	2.9
29	---	---	---	7.9	6.3	7.0	8.6	6.4	7.1	3.0	2.3	2.7
30	17.5	15.3	16.2	8.0	6.4	7.0	6.4	6.0	6.2	2.5	1.9	2.2
31	16.3	15.6	15.9	---	---	---	6.5	5.8	6.1	2.1	1.6	1.8
MONTH	20.7	15.3	18.5	18.4	6.3	12.0	9.9	2.9	5.6	10.8	1.6	5.3
		FEBRUARY			MARCH			APRIL			MAY	
1	2.8	1.9	2.4	10.7	8.7	9.5	13.4	12.9	13.2	16.9	15.9	16.4
2	3.7	2.8	3.2	10.6	9.4	10.0	14.7	13.3	13.9	16.8	15.7	16.2
3	3.2	2.3	2.6	10.3	9.8	10.1	14.9	13.8	14.2	16.5	15.7	16.2
4	2.4	2.2	2.4	10.1	9.3	9.7	14.9	13.7	14.2	16.9	16.0	16.5
5	2.5	2.1	2.2	10.3	9.3	10	14.1	13.6	13.7	17.7	16.9	17.3
6	2.7	2.4	2.6	10.8	10.0	10.3	---	---	---	18.6	17.4	18.0
7	2.4	1.7	2.0	10.8	9.6	10.2	---	---	---	18.6	18.0	18.3
8	2.0	1.5	1.6	9.6	8.3	9.0	---	---	---	20.4	18.0	19.1
9	2.4	1.4	1.8	9.5	8.7	9.1	15.2	14.4	14.8	23.0	20.2	21.8
10	3.0	1.9	2.4	9.2	8.3	8.8	15.2	13.3	14.5	24.3	22.8	23.4
11	3.7	3.0	3.3	9.4	8.8	9.2	13.3	12.3	12.8	24.1	23.3	23.7
12	4.0	3.1	3.5	9.3	8.6	9.0	13.3	12.2	12.8	23.7	23.3	23.5
13	3.7	2.6	3.1	9.3	8.7	8.8	14.3	13.0	13.5	23.3	20.2	22.5
14	3.3	2.8	3.0	9.4	8.7	9.1	15.3	12.9	14.0	20.3	18.3	18.9
15	3.6	2.4	3.0	9.3	8.6	8.8	17.0	14.2	15.5	18.3	17.6	17.9
16	3.8	2.8	3.3	9.0	8.5	8.8	19.3	15.9	17.4	19.4	17.8	18.6
17	4.8	3.4	4.0	9.9	8.6	9.2	20.2	17.8	18.9	21.6	19.1	20.3
18	6.0	4.0	4.9	10.4	9.3	9.9	20.2	19.1	19.6	23.1	20.3	21.9
19	7.9	5.3	6.6	10.6	9.5	10.1	20.0	19.3	19.7	21.2	19.0	20.1
20	9.6	7.3	8.3	11.6	10.4	11.0	20.4	19.1	19.7	22.2	20.7	21.4
21	10.3	8.2	9.1	11.3	9.7	10.2	20.7	19.3	19.8	22.3	21.3	21.7
22	10.6	8.8	9.6	10.5	9.3	9.9	19.5	16.3	17.7	21.4	20.2	20.9
23	10.2	9.7	9.9	11.5	10.5	11.0	17.7	17.2	17.5	21.0	20.0	20.4
24	9.7	8.9	9.4	11.9	11.4	11.6	17.2	16.7	16.9	22.9	20.3	21.2
25	9.1	8.2	8.5	12.7	11.6	12.2	17.6	16.5	17.0	20.7	19.5	20.4
26	9.0	7.3	8.1	14.6	12.6	13.6	18.7	17.3	18.0	19.5	18.8	19.0
27	9.2	7.0	8.0	15.4	14.1	14.9	18.7	16.5	17.7	19.7	18.6	19.1
28	8.5	7.5	8.1	16.0	14.5	15.2	17.2	16.5	16.9	21.9	19.7	20.7
29	9.4	8.4	8.7	15.7	15.0	15.3	17.1	16.4	16.8	24.1	21.6	23.0
30	---	---	---	15.3	14.0	14.5	17.2	16.3	16.7	26.4	24.0	25.3
31	---	---	---	14.0	13.3	13.6	---	---	---	26.6	24.4	25.5
MONTH	10.6	1.4	5.0	16.0	8.3	10.7	20.7	12.2	16.2	26.6	15.7	20.3

07178000 BIRD CREEK NEAR OWASSO, OK—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	27.0	24.4	25.6	21.8	21.0	21.4	26.5	24.2	25.2	28.0	25.8	26.7
2	26.4	24.3	25.2	23.5	20.6	21.5	28.0	26.5	27.2	27.3	25.9	26.5
3	25.8	23.6	24.6	24.8	23.5	24.4	29.6	27.8	28.6	27.4	25.5	26.3
4	24.5	23.4	23.9	24.8	23.8	24.4	30.4	28.9	29.5	27.9	25.7	26.6
5	23.9	22.6	23.1	24.5	23.8	24.2	29.6	28.7	29.2	28.1	26.2	27.1
6	24.5	22.8	23.6	24.2	23.1	23.7	28.7	27.4	28.1	27.7	26.3	27.0
7	24.6	23.7	24.2	24.3	23.6	23.9	27.9	26.4	27.0	27.1	25.2	26.0
8	25.8	24.1	24.8	24.6	23.4	24.0	26.7	25.3	26.2	26.4	24.5	25.3
9	24.8	24.3	24.6	23.4	21.6	22.5	27.4	26.1	26.6	26.0	23.7	24.7
10	24.3	23.8	24.0	25.5	21.1	23.3	28.0	25.8	26.8	26.0	23.4	24.5
11	24.9	23.7	24.3	28.1	25.1	26.8	26.9	24.5	26.0	26.2	23.6	24.7
12	26.7	24.7	25.6	29.7	27.7	28.6	24.8	22.7	23.5	26.5	24.1	25.2
13	27.4	25.8	26.6	30.8	28.6	29.6	24.0	23.2	23.6	26.8	24.5	25.6
14	28.6	26.5	27.6	30.7	29.6	30.2	25.1	23.3	24.2	27.0	25.2	26.1
15	28.3	26.9	27.6	31.6	30.0	30.8	25.2	24.0	24.5	27.0	25.6	26.3
16	28.4	26.3	27.5	30.9	29.8	30.5	25.6	24.1	24.7	27.7	25.9	26.7
17	28.8	26.4	27.6	30.1	29.0	29.6	26.6	24.6	25.5	28.1	25.8	26.9
18	29.2	27.3	28.1	29.7	27.9	28.7	27.4	25.6	26.4	28.3	26.3	27.2
19	28.0	26.8	27.1	29.7	27.7	28.6	27.1	26.4	26.7	27.9	26.1	26.9
20	26.8	25.6	26.0	30.3	27.8	29.0	26.4	25.0	25.7	26.8	25.4	26.1
21	25.9	22.2	24.4	31.2	28.5	29.7	25.1	23.7	24.1	26.3	24.5	25.4
22	23.2	22.2	22.6	---	---	---	25.2	23.4	24.3	25.8	24.1	24.9
23	24.6	23.0	23.8	---	---	---	26.3	24.8	25.5	24.8	24.0	24.5
24	25.7	23.4	24.7	---	---	---	28.1	26.2	27.0	25.5	23.8	24.6
25	23.5	22.7	23.1	---	---	---	28.8	27.2	27.9	25.3	23.3	24.2
26	22.8	21.7	22.3	---	---	---	29.7	27.5	28.4	25.2	23.2	24.1
27	22.4	21.1	21.7	---	---	---	30.2	28.0	28.9	24.6	22.9	23.8
28	23.0	20.6	21.8	---	---	---	29.4	28.0	28.7	24.0	22.4	23.2
29	22.2	21.3	21.6	---	---	---	29.1	27.2	28.0	23.6	22.2	22.9
30	22.4	20.4	21.5	22.9	22.0	22.3	28.1	26.3	27.1	23.4	21.7	22.5
31	---	---	---	24.3	22.4	23.3	28.0	25.7	26.7	---	---	---
MONTH	29.2	20.4	24.6	31.6	20.6	26.1	30.4	22.7	26.5	28.3	21.7	25.4

07178000 BIRD CREEK NEAR OWASSO, OK—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	9.2	8.1	8.5	10.7	9.2	9.9	14.4	12.7	13.4	12.0	11.6	11.7
2	9.5	8.6	8.9	10.3	9.1	9.6	13.6	12.8	13.1	11.7	11.2	11.5
3	9.7	8.7	9.1	10.6	8.8	9.5	13.7	12.4	12.9	11.3	10.5	10.9
4	9.6	8.6	9.0	9.8	8.5	9.1	13.9	12.1	12.8	10.7	10.2	10.5
5	9.2	8.0	8.7	9.5	8.7	9.1	14.0	12.2	13.0	11.3	10.4	10.9
6	8.7	7.4	8.0	10.1	9.1	9.5	14.4	12.3	13.2	12.4	10.8	11.6
7	9.4	8.0	8.6	10.5	9.2	9.8	14.0	12.2	12.9	13.0	11.8	12.4
8	9.6	8.2	8.8	10.5	9.3	9.9	12.7	11.8	12.3	13.6	12.6	13.1
9	8.6	6.6	7.5	11.2	9.8	10.4	12.2	11.1	11.6	14.0	13.1	13.6
10	7.4	6.5	7.0	11.7	10.3	10.9	13.3	11.5	12.2	14.2	13.6	13.9
11	7.6	7.4	7.6	11.9	10.6	11.1	12.7	11.5	12.0	14.5	13.9	14.1
12	7.6	7.4	7.5	12.3	10.7	11.4	13.4	12.2	12.8	14.7	13.9	14.2
13	7.5	7.2	7.4	11.7	10.8	11.2	13.7	12.8	13.2	14.4	13.9	14.1
14	7.8	7.2	7.6	11.1	10.6	10.8	14.0	13.2	13.5	14.4	13.6	14.0
15	7.8	7.2	7.6	11.2	10.5	10.8	14.0	13.0	13.4	14.4	13.5	13.8
16	7.9	7.4	7.6	11.9	10.4	11.0	13.1	12.6	12.9	13.8	13.2	13.5
17	8.5	7.9	8.1	11.2	10.7	10.9	13.4	12.7	13.1	13.5	8.3	12.2
18	8.3	7.8	8.0	11.0	10.4	10.6	13.5	13.0	13.3	13.6	12.0	12.8
19	8.5	7.6	7.9	11.6	10.3	10.9	13.6	13.0	13.4	14.5	13.4	14.0
20	8.7	7.8	8.1	11.9	11.6	11.7	---	---	---	15.0	14.5	14.8
21	8.6	7.7	8.0	12.1	11.4	11.8	---	---	---	15.3	15.0	15.1
22	8.8	6.3	7.9	12.0	11.3	11.5	---	---	---	15.2	15.0	15.1
23	8.8	7.3	7.9	12.3	11.2	11.6	---	---	---	15.3	14.6	14.9
24	---	---	---	11.8	10.6	11.2	---	---	---	14.7	14.5	14.6
25	---	---	---	11.8	10.6	11.2	---	---	---	14.5	13.0	13.7
26	---	---	---	12.4	11.5	11.9	---	---	---	13.7	13.2	13.4
27	---	---	---	12.6	11.7	12.1	---	---	---	15.1	13.7	14.4
28	---	---	---	13.4	12.1	12.7	---	---	---	15.6	15.1	15.4
29	---	---	---	13.6	12.4	12.9	---	---	---	15.6	15.4	15.5
30	11.2	9.1	9.9	13.8	12.5	13.0	---	---	---	15.9	15.5	15.7
31	10.8	9.2	9.9	---	---	---	11.9	11.1	11.7	16.0	15.8	15.9
MONTH	11.2	6.3	8.2	13.8	8.5	10.9	14.4	11.1	12.8	16.0	8.3	13.6
		FEBRUARY			MARCH			APRIL			MAY	
1	15.9	15.5	15.7	12.2	10.9	11.6	10.8	10.5	10.6	9.3	8.1	8.6
2	15.5	15.0	15.2	11.3	10.4	10.8	10.7	10.3	10.5	9.0	8.5	8.8
3	15.7	15.0	15.4	10.9	10.2	10.6	10.6	10.2	10.4	9.2	8.6	9.0
4	15.7	15.5	15.6	10.5	9.0	10	---	---	---	9.3	8.8	9.0
5	15.5	15.3	15.4	9.4	8.3	8.8	---	---	---	9.2	8.6	8.9
6	15.4	15.3	15.3	8.6	8.3	8.5	---	---	---	9.1	8.5	8.7
7	15.8	15.4	15.6	10.7	8.2	9.6	---	---	---	9.2	8.4	8.8
8	15.9	15.7	15.8	11.3	10.7	11.2	---	---	---	9.2	8.3	8.7
9	15.8	15.6	15.7	11.4	11.1	11.3	8.9	8.3	8.7	8.8	7.9	8.4
10	15.6	15.2	15.4	11.6	11.4	11.5	8.4	8.1	8.2	9.2	7.6	8.2
11	15.2	14.7	14.9	11.5	11.3	11.4	9.3	8.2	8.9	8.5	7.4	7.9
12	14.8	14.6	14.7	---	---	---	9.4	9.1	9.3	7.8	7.1	7.4
13	14.9	14.8	14.8	---	---	---	9.7	9.2	9.4	7.2	6.2	6.9
14	15.0	14.6	14.8	---	---	---	10.5	9.2	9.7	6.7	3.2	5.5
15	14.8	14.4	14.7	---	---	---	10.5	9.2	9.8	7.4	6.7	7.1
16	14.7	14.3	14.5	---	---	---	11.1	9.2	9.9	7.4	7.4	7.4
17	14.5	14.2	14.3	---	---	---	9.8	8.2	8.9	7.4	6.8	7.2
18	14.2	13.8	14.1	---	---	---	8.8	7.8	8.2	7.8	6.8	7.0
19	13.8	12.6	13.3	---	---	---	8.8	7.6	8.0	8.1	7.8	8.1
20	12.6	11.7	12.3	12.9	11.8	12.3	9.0	7.3	8.1	8.1	7.9	8.0
21	12.1	11.5	11.7	12.5	11.8	12.2	8.5	5.7	7.7	8.2	8.0	8.1
22	12.4	11.3	11.8	12.4	12.1	12.3	7.5	6.8	7.2	8.2	8.0	8.1
23	11.9	11.2	11.6	12.2	11.5	11.7	8.0	7.5	7.7	8.5	8.1	8.2
24	12.0	11.3	11.5	11.6	11.2	11.3	8.3	7.8	8.1	8.3	6.1	7.7
25	12.6	11.4	12.0	11.3	10.8	11.1	8.5	8.2	8.3	8.0	7.8	7.9
26	13.1	11.8	12.4	10.8	10.3	10.6	8.4	8.1	8.3	8.2	8.0	8.1
27	12.1	11.5	11.7	10.4	9.4	10	9.1	8.0	8.5	8.6	8.2	8.3
28	12.3	11.4	11.8	10.6	7.6	8.7	9.2	8.8	9.0	8.9	8.1	8.6
29	12.3	11.6	11.9	8.9	8.3	8.7	9.1	8.6	8.9	8.1	7.3	7.7
30	---	---	---	10.2	8.9	9.6	9.5	8.8	9.1	7.9	7.1	7.4
31	---	---	---	10.6	10.1	10.3	---	---	---	8.1	6.3	7.2
MONTH	15.9	11.2	13.9	12.9	7.6	10.6	11.1	5.7	8.9	9.3	3.2	8.0

07178000 BIRD CREEK NEAR OWASSO, OK—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.9	7.3	7.9	10.8	10.0	10.5	7.2	7.0	7.1	8.7	7.3	7.8
2	8.8	7.6	8.0	10.7	7.6	9.2	7.1	6.9	7.0	8.4	7.2	7.7
3	8.8	7.3	8.1	8.7	7.7	8.3	7.1	6.8	6.9	8.4	7.2	7.7
4	8.6	7.8	8.1	9.7	8.6	9.2	7.2	6.5	6.8	8.6	7.2	7.7
5	8.8	8.0	8.3	10.1	9.4	9.7	7.1	6.5	6.7	8.5	7.2	7.7
6	9.1	8.5	8.8	10.7	9.9	10.2	7.5	6.3	6.8	---	---	---
7	8.6	8.2	8.4	10.9	10.1	10.6	8.1	6.8	7.4	---	---	---
8	9.1	8.0	8.5	---	---	---	8.1	7.2	7.7	---	---	---
9	9.8	8.4	8.9	---	---	---	8.0	7.1	7.7	---	---	---
10	---	---	---	---	---	---	8.1	6.8	7.4	---	---	---
11	---	---	---	---	---	---	7.2	6.5	7.0	---	---	---
12	---	---	---	---	---	---	7.3	6.5	6.8	---	---	---
13	---	---	---	---	---	---	7.2	7.0	7.1	---	---	---
14	---	---	---	---	---	---	7.4	7.0	7.2	---	---	---
15	---	---	---	---	---	---	8.0	7.4	7.7	---	---	---
16	7.3	6.6	6.8	---	---	---	8.2	7.6	7.9	---	---	---
17	7.6	6.5	6.9	---	---	---	8.3	7.1	7.9	---	---	---
18	8.0	6.6	7.2	---	---	---	8.2	7.3	7.7	---	---	---
19	7.7	7.0	7.2	---	---	---	7.9	7.0	7.4	---	---	---
20	7.7	6.5	7.1	7.3	6.0	6.4	7.4	6.8	7.1	---	---	---
21	8.4	7.0	7.6	7.3	5.9	6.5	7.2	6.8	6.9	7.8	6.5	7.0
22	8.0	7.7	7.8	---	---	---	7.2	6.9	7.1	7.8	6.7	7.2
23	8.2	7.6	7.8	---	---	---	7.3	6.9	7.1	7.7	6.8	7.2
24	9.4	8.2	8.7	---	---	---	8.2	6.8	7.4	7.9	6.8	7.3
25	9.7	9.4	9.5	---	---	---	8.0	6.9	7.3	8.0	6.9	7.3
26	10.1	9.6	9.9	---	---	---	7.9	6.7	7.2	8.1	6.9	7.4
27	10.4	9.9	10.1	---	---	---	8.2	6.8	7.3	8.2	7.0	7.5
28	10.4	9.9	10.1	---	---	---	7.9	6.7	7.1	8.4	7.3	7.7
29	10.7	9.9	10.3	---	---	---	8.0	6.6	7.1	8.5	7.4	7.8
30	10.8	10.0	10.4	7.3	6.6	6.9	8.3	6.9	7.4	8.8	7.5	8.0
31	---	---	---	7.2	7.0	7.1	8.7	7.1	7.7	---	---	---
MONTH	10.8	6.5	8.4	10.9	5.9	8.6	8.7	6.3	7.3	8.8	6.5	7.5

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK

LOCATION.--Lat 36°13'23", long 95°49'09", in SE $^1/_4$ SE $^1/_4$ sec.9, T.20 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, near left downstream abutment of bridge, 2.3 mi downstream from Elm Creek, 5 mi northwest of Catoosa High School, and at mile 9.5.

DRAINAGE AREA.--1,103 mi^2

WATER-DISCHARGE RECORDS

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

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

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	121	129	414	541	284	1,740	2,640	269	689	1,040	239
2	204	111	123	372	1,450	301	1,220	2,360	313	7,630	846	233
3	319	103	139	336	2,290	2,360	1,030	1,710	394	5,290	752	231
4	258	140	132	328	1,110	10,400	954	1,440	264	1,900	623	228
5	587	150	123	301	1,030	15,400	895	1,330	341	1,510	371	225
6	305	117	120	253	1,220	17,600	848	1,280	367	1,340	310	572
7	270	111	136	227	1,090	7,520	840	1,200	309	1,310	294	278
8	252	104	137	200	748	4,150	447	510	353	1,180	287	257
9	8,340	100	206	189	716	4,400	324	392	432	2,130	287	244
10	4,600	95	283	208	971	4,270	740	368	712	1,940	278	236
11	1,160	94	368	225	1,010	4,030	1,010	355	439	1,300	1,080	205
12	625	104	333	226	752	3,870	923	347	446	663	1,280	196
13	412	107	435	216	581	3,840	556	2,430	393	484	869	196
14	599	161	405	216	480	3,800	382	10,000	826	402	550	194
15	449	181	459	218	423	3,760	300	2,020	465	356	584	194
16	417	122	1,460	281	398	3,710	269	843	590	327	547	201
17	286	186	1,370	4,060	362	2,750	286	510	467	306	500	198
18	187	1,240	688	6,700	330	2,310	288	735	261	292	345	194
19	187	1,590	501	2,450	304	2,290	265	1,010	253	284	300	187
20	172	626	411	1,130	289	2,260	329	983	269	279	771	183
21	167	363	337	776	269	2,260	2,050	950	2,180	266	644	180
22	e163	281	382	645	209	2,200	9,660	1,050	2,530	256	439	179
23	159	437	755	636	185	1,470	4,730	1,050	1,090	333	325	180
24	154	284	492	559	296	1,190	2,770	1,310	1,160	4,160	297	181
25	150	239	538	3,090	295	403	2,020	1,070	858	956	274	179
26	154	178	374	4,900	287	276	1,250	1,050	720	511	267	177
27	154	150	375	1,590	233	278	1,410	1,030	705	384	259	181
28	152	153	1,560	993	196	7,980	1,480	586	743	333	250	179
29	174	146	1,500	806	278	7,940	1,440	355	668	2,400	245	180
30	136	135	780	697	---	2,790	1,380	840	805	4,270	243	180
31	126	---	538	612	---	2,110	---	317	---	1,470	241	---
TOTAL	21,544	7,929	15,589	33,854	18,343	128,202	41,836	42,071	19,622	44,951	15,398	6,487
MEAN	695	264	503	1,092	633	4,136	1,395	1,357	654	1,450	497	216
MAX	8,340	1,590	1,560	6,700	2,290	17,600	9,660	10,000	2,530	7,630	1,280	572
MIN	126	94	120	189	185	276	265	317	253	256	241	177
AC-FT	42,730	15,730	30,920	67,150	36,380	254,300	82,980	83,450	38,920	89,160	30,540	12,870

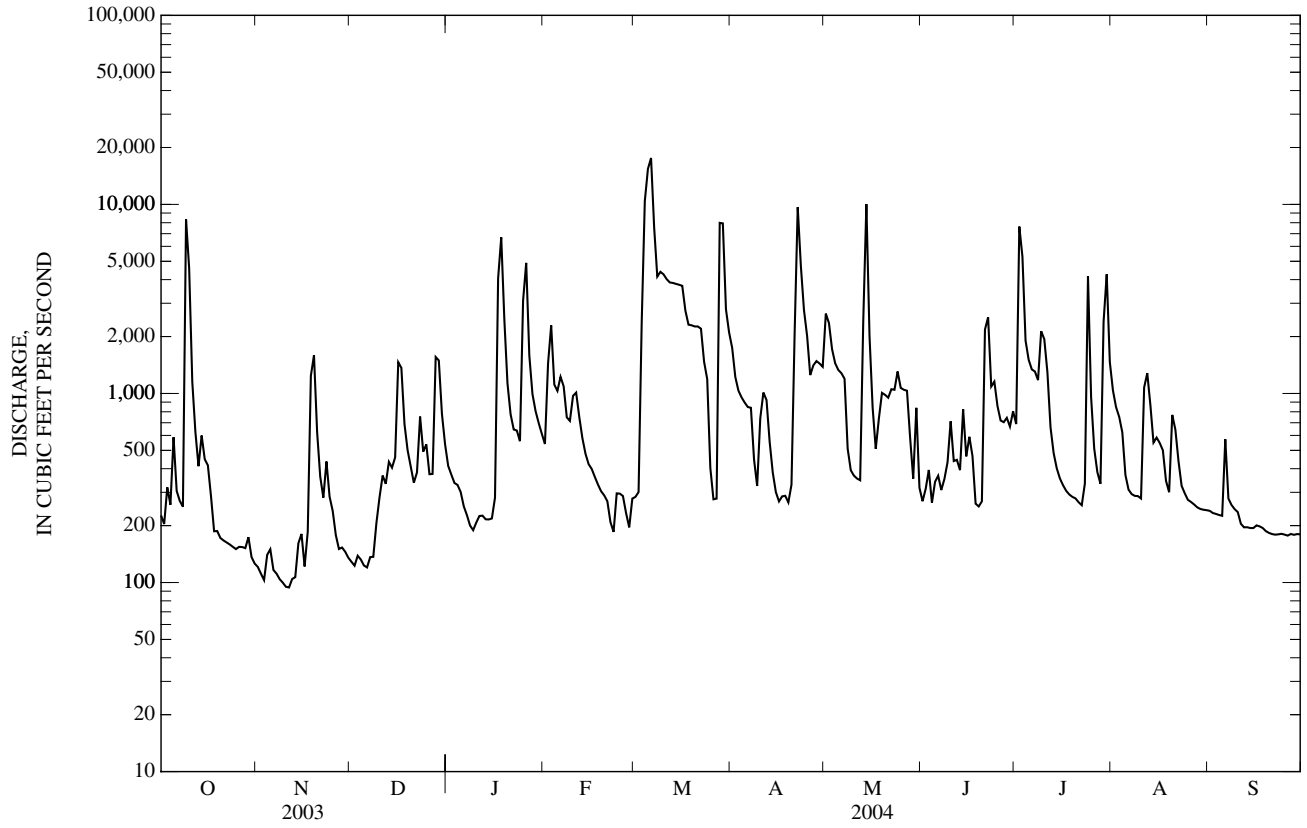
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2004, BY WATER YEAR (WY)

MEAN	488	679	652	707	841	1,855	1,683	2,247	1,723	909	429	446
MAX	2,329	2,603	1,854	2,881	2,213	6,393	3,646	5,724	5,658	3,195	1,596	917
(WY)	(1999)	(1995)	(1993)	(1998)	(1999)	(1990)	(1994)	(1995)	(1995)	(1995)	(1997)	(1996)
MIN	168	109	152	131	109	149	288	228	298	212	208	216
(WY)	(1993)	(1996)	(1990)	(2003)	(1996)	(1996)	(1996)	(1996)	(1998)	(2001)	(1991)	(2004)

e Estimated

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

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1990 - 2004	
ANNUAL TOTAL	202,500		395,826			
ANNUAL MEAN	555		1,081		1,056	
HIGHEST ANNUAL MEAN					2,127	1999
LOWEST ANNUAL MEAN					278	1996
HIGHEST DAILY MEAN	12,400	Mar 20	17,600	Mar 6	25,900	May 11, 1993
LOWEST DAILY MEAN	94	Nov 11	94	Nov 11	62	Nov 6, 1993
ANNUAL SEVEN-DAY MINIMUM	102	Nov 7	102	Nov 7	73	Oct 22, 1992
MAXIMUM PEAK FLOW			18,200	Mar 6	27,400	May 11, 1993
MAXIMUM PEAK STAGE			25.05	Mar 6	33.22	May 11, 1993
INSTANTANEOUS LOW FLOW					62	Nov 6, 1993
ANNUAL RUNOFF (AC-FT)	401,700		785,100		764,700	
10 PERCENT EXCEEDS	897		2,370		2,930	
50 PERCENT EXCEEDS	244		408		293	
90 PERCENT EXCEEDS	123		166		141	



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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: August 1988 to current year.
pH: August 1988 to current year.
WATER TEMPERATURE: August 1988 to current year.
DISSOLVED OXYGEN: August 1988 to current year.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,420 microsiemens, Apr. 2, 1996; minimum, 48 microsiemens, June 1, 1996.
pH: Maximum, 9.4 units, July 17, 1989; minimum, 6.0 units, May 12, 1991.
WATER TEMPERATURE: Maximum, 32.0°C, several days during summer periods; minimum, 1.5°C, Dec. 23, 1989, Jan. 20, 1993, Feb. 4, 1996.
DISSOLVED OXYGEN: Maximum, 15.2 mg/l, Jan. 10, 1999; minimum, 1.9 mg/l, July 24, 1996.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 685 microsiemens, Dec. 13; minimum, 133 microsiemens, Oct. 9.
pH: Maximum, 8.2 units, Apr. 16, 17; minimum, 6.8 units, May 14.
WATER TEMPERATURE: Maximum, 31.4°C, July 15, 16; minimum, 1.8°C, Feb. 8.
DISSOLVED OXYGEN: Maximum, 14.9 mg/L, Dec. 17; minimum, 3.2 mg/L, Oct. 9.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	440	418	428	557	531	546	487	460	477	464	447	456
2	453	410	432	544	515	532	509	470	491	491	464	472
3	507	408	432	523	502	513	536	503	523	498	481	491
4	444	381	396	518	499	510	557	510	540	503	476	493
5	427	282	359	632	512	575	536	527	533	504	474	493
6	391	349	373	517	502	509	536	519	529	484	470	478
7	406	381	394	517	496	510	533	511	522	489	473	481
8	419	400	412	526	501	516	517	497	510	498	476	488
9	422	133	238	532	509	522	530	488	501	529	478	513
10	276	141	208	530	505	519	603	469	527	528	490	515
11	324	276	306	527	507	517	589	444	517	526	492	511
12	355	309	332	524	506	518	527	492	509	524	473	502
13	391	350	364	526	505	514	685	486	570	492	458	479
14	466	370	398	533	509	518	607	521	570	524	464	502
15	443	370	410	571	473	530	544	479	513	531	487	514
16	433	364	393	495	472	487	499	324	425	554	475	499
17	431	384	405	498	469	487	343	324	334	---	---	---
18	463	431	454	494	189	328	360	316	331	---	---	---
19	484	444	467	349	228	285	485	360	433	---	---	---
20	484	447	471	393	302	350	516	485	503	---	---	---
21	---	---	---	430	393	414	517	501	510	---	---	---
22	---	---	---	466	430	444	521	455	509	359	347	354
23	---	---	---	553	441	479	499	402	442	348	330	341
24	524	511	519	472	450	464	524	413	451	366	341	351
25	536	517	526	484	465	476	426	368	387	440	217	325
26	529	499	516	487	469	482	411	377	388	---	---	---
27	516	486	504	503	471	494	432	411	420	---	---	---
28	512	486	500	505	455	486	534	293	360	249	198	226
29	512	474	498	478	453	469	445	331	383	258	246	253
30	513	473	501	488	457	476	453	433	443	270	256	264
31	550	501	528	---	---	---	455	433	441	---	---	---
MONTH	550	133	420	632	189	482	685	293	471	554	198	435

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

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	651	487	530	312	287	297	---	---	---
2	---	---	---	530	506	518	330	312	321	---	---	---
3	349	298	314	533	263	426	339	323	332	---	---	---
4	317	305	310	---	---	---	344	330	337	---	---	---
5	532	313	394	---	---	---	345	329	341	335	319	329
6	537	429	459	---	---	---	357	335	347	344	316	328
7	429	387	402	---	---	---	393	350	360	335	320	329
8	433	389	406	---	---	---	430	373	397	398	335	365
9	528	429	462	---	---	---	474	428	445	424	391	402
10	478	419	442	---	---	---	510	432	471	437	414	425
11	419	390	402	---	---	---	455	413	437	431	410	420
12	420	388	399	---	---	---	439	367	392	435	414	425
13	466	420	438	280	272	276	423	380	395	439	177	379
14	496	466	477	280	275	277	474	423	440	224	136	175
15	509	490	499	278	273	276	495	468	481	257	204	227
16	539	509	519	280	271	276	532	493	506	305	252	278
17	559	535	546	296	280	287	526	503	515	351	305	327
18	558	533	548	300	293	297	522	506	516	366	320	342
19	554	500	523	300	292	297	532	515	525	359	323	335
20	538	513	525	304	299	301	535	507	518	338	324	333
21	539	520	533	303	296	300	---	---	---	340	325	334
22	547	532	542	307	297	301	---	---	---	337	310	322
23	564	539	555	335	307	322	---	---	---	316	302	310
24	557	513	541	340	319	327	---	---	---	369	269	316
25	527	512	519	437	340	383	---	---	---	313	297	307
26	516	490	503	502	437	477	---	---	---	315	301	309
27	513	489	505	512	487	505	---	---	---	311	296	305
28	516	482	505	511	176	285	---	---	---	353	304	322
29	651	495	529	309	212	245	---	---	---	397	352	382
30	---	---	---	266	214	238	---	---	---	455	237	325
31	---	---	---	290	266	281	---	---	---	409	358	383
MONTH	651	298	474	651	176	338	535	287	419	455	136	335
		JUNE			JULY			AUGUST			SEPTEMBER	
1	402	320	378	363	335	346	262	238	250	384	362	376
2	406	368	393	335	154	226	282	262	273	383	363	377
3	431	355	383	244	168	225	287	277	284	382	359	376
4	423	403	414	254	212	236	292	275	285	379	358	372
5	428	385	414	276	252	261	328	289	306	383	354	372
6	415	370	384	283	264	275	352	326	335	437	272	333
7	425	380	405	288	272	280	364	343	354	391	325	357
8	438	397	412	290	272	281	368	343	360	402	345	361
9	438	416	428	420	185	281	369	349	362	401	355	370
10	420	320	369	335	182	268	373	354	366	386	352	370
11	407	388	397	362	187	284	435	256	341	386	347	365
12	423	394	409	364	350	357	356	252	284	373	344	362
13	432	406	420	370	349	360	263	242	254	366	348	359
14	416	351	373	382	311	359	281	242	264	373	358	367
15	403	358	386	397	285	348	312	274	287	381	360	372
16	404	247	380	402	386	396	317	299	311	375	347	366
17	406	247	328	401	383	395	344	317	327	379	341	364
18	439	406	426	407	379	395	---	---	---	395	355	378
19	440	415	433	403	384	394	---	---	---	390	343	370
20	443	405	425	401	381	394	---	---	---	392	347	367
21	423	175	326	397	374	389	304	254	276	369	354	363
22	323	197	238	394	345	386	298	258	271	374	357	367
23	335	261	307	396	345	385	307	277	291	376	353	368
24	369	300	343	396	155	224	354	307	339	371	350	365
25	359	338	349	302	269	281	365	343	356	371	345	362
26	361	349	356	345	302	326	378	359	371	371	347	362
27	361	341	349	381	343	358	384	364	377	373	346	363
28	359	329	340	388	367	380	384	360	375	368	347	361
29	362	345	356	---	---	---	386	354	374	370	353	364
30	367	319	345	---	---	---	380	358	372	372	348	365
31	---	---	---	269	237	254	378	361	373	---	---	---
MONTH	443	175	376	420	154	322	435	238	322	437	272	366

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

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.8	7.6	7.6	7.4	7.3	7.3	7.6	7.2	7.5	7.8	7.7	7.8
2	7.7	7.7	7.7	7.4	7.3	7.3	7.6	7.4	7.5	7.8	7.7	7.8
3	7.8	7.7	7.7	7.4	7.3	7.3	7.6	7.5	7.6	7.8	7.7	7.7
4	7.8	7.6	7.7	7.4	7.2	7.3	7.8	7.6	7.7	7.8	7.7	7.7
5	7.8	7.6	7.7	7.5	7.3	7.4	7.8	7.7	7.8	7.7	7.7	7.7
6	7.7	7.5	7.6	7.4	7.2	7.3	7.8	7.6	7.7	7.7	7.6	7.7
7	7.7	7.6	7.6	7.3	7.3	7.3	7.7	7.5	7.6	7.7	7.6	7.7
8	7.7	7.6	7.7	7.3	7.3	7.3	7.6	7.5	7.6	7.6	7.6	7.6
9	7.8	7.0	7.6	7.3	7.2	7.3	7.6	7.2	7.5	7.7	7.6	7.6
10	7.3	7.0	7.2	7.3	7.2	7.3	7.9	7.6	7.7	7.7	7.6	7.7
11	7.4	7.3	7.4	7.2	7.1	7.2	7.8	7.7	7.7	7.7	7.7	7.7
12	7.5	7.4	7.4	7.2	7.1	7.1	7.8	7.7	7.8	7.7	7.7	7.7
13	7.5	7.4	7.5	7.2	7.2	7.2	7.8	7.7	7.8	7.7	7.7	7.7
14	7.6	7.5	7.5	7.2	7.2	7.2	7.9	7.7	7.8	7.7	7.7	7.7
15	7.5	7.5	7.5	7.3	7.2	7.3	8.0	7.7	7.9	7.7	7.7	7.7
16	7.5	7.4	7.4	7.2	7.2	7.2	7.9	7.7	7.9	7.8	7.6	7.7
17	7.5	7.4	7.4	7.2	7.0	7.0	7.8	7.7	7.8	---	---	---
18	7.5	7.4	7.4	7.4	7.0	7.1	7.8	7.7	7.8	---	---	---
19	7.5	7.4	7.4	7.1	7.0	7.1	7.9	7.8	7.8	---	---	---
20	7.5	7.4	7.4	7.3	7.1	7.2	8.0	7.9	7.9	---	---	---
21	---	---	---	7.3	7.2	7.2	8.0	7.9	8.0	---	---	---
22	---	---	---	7.2	7.1	7.2	8.0	7.9	7.9	---	---	---
23	---	---	---	7.3	7.1	7.2	8.0	7.7	7.8	7.9	7.8	7.8
24	7.4	7.3	7.3	7.4	7.1	7.2	7.7	7.7	7.7	7.8	7.7	7.7
25	7.3	7.3	7.3	7.4	7.4	7.4	7.9	7.7	7.8	7.8	7.4	7.7
26	7.3	7.2	7.2	7.5	7.2	7.4	7.8	7.8	7.8	7.5	7.4	7.5
27	7.3	7.3	7.3	7.6	7.3	7.5	7.8	7.8	7.8	7.6	7.4	7.5
28	7.3	7.3	7.3	7.7	7.5	7.6	7.9	7.7	7.8	7.7	7.6	7.7
29	7.3	7.3	7.3	7.7	7.3	7.5	7.8	7.7	7.8	7.8	7.6	7.7
30	7.4	7.3	7.3	7.5	6.9	7.4	7.8	7.8	7.8	7.7	7.6	7.7
31	7.3	7.3	7.3	---	---	---	7.8	7.7	7.7	7.7	7.7	7.7
MAX	7.8	7.7	7.7	7.7	7.5	7.6	8.0	7.9	8.0	7.9	7.8	7.8
MIN	7.3	7.0	7.2	7.1	6.9	7.0	7.6	7.2	7.5	7.5	7.4	7.5
		FEBRUARY			MARCH			APRIL			MAY	
1	7.7	7.7	7.7	7.5	7.4	7.4	7.7	7.7	7.7	---	---	---
2	7.7	7.5	7.6	7.6	7.4	7.5	7.7	7.7	7.7	---	---	---
3	7.6	7.5	7.5	7.6	7.4	7.5	7.8	7.7	7.7	---	---	---
4	7.6	7.5	7.5	---	---	---	7.8	7.7	7.7	---	---	---
5	7.6	7.5	7.5	---	---	---	7.8	7.7	7.8	7.7	7.6	7.6
6	7.8	7.5	7.8	---	---	---	7.8	7.7	7.8	7.7	7.6	7.6
7	7.9	7.7	7.8	---	---	---	7.8	7.7	7.8	7.7	7.6	7.6
8	7.8	7.7	7.8	---	---	---	7.8	7.7	7.8	7.7	7.6	7.6
9	7.9	7.7	7.8	---	---	---	7.8	7.7	7.8	7.7	7.6	7.6
10	7.8	7.6	7.7	---	---	---	7.8	7.8	7.8	7.7	7.6	7.7
11	7.6	7.6	7.6	---	---	---	7.9	7.8	7.8	7.7	7.4	7.6
12	7.6	7.6	7.6	---	---	---	7.9	7.8	7.9	7.6	7.4	7.5
13	7.7	7.6	7.6	7.8	7.8	7.8	8.0	7.8	7.9	7.5	7.3	7.4
14	7.6	7.5	7.6	7.8	7.8	7.8	8.1	7.8	8.0	7.3	6.8	6.9
15	7.6	7.6	7.6	7.8	7.8	7.8	8.1	7.9	8.1	7.1	7.0	7.1
16	7.6	7.5	7.6	7.8	7.8	7.8	8.2	8.0	8.1	7.2	7.1	7.2
17	7.5	7.4	7.5	7.8	7.8	7.8	8.2	8.0	8.1	7.3	7.2	7.2
18	7.5	7.4	7.5	7.8	7.8	7.8	8.1	7.9	8.0	7.4	7.3	7.3
19	7.7	7.4	7.5	7.8	7.8	7.8	8.0	7.9	7.9	7.5	7.3	7.4
20	7.7	7.4	7.4	7.8	7.8	7.8	8.0	7.8	7.9	7.5	7.5	7.5
21	7.6	7.5	7.5	7.9	7.8	7.8	8.1	7.6	7.7	7.6	7.5	7.5
22	7.6	7.2	7.4	7.9	7.8	7.8	---	---	---	7.5	7.5	7.5
23	7.5	7.3	7.4	7.8	7.8	7.8	---	---	---	7.6	7.5	7.5
24	7.6	7.5	7.6	7.8	7.8	7.8	---	---	---	7.6	7.4	7.5
25	7.7	7.6	7.6	7.8	7.7	7.7	---	---	---	7.5	7.5	7.5
26	7.8	7.6	7.7	7.7	7.7	7.7	---	---	---	7.5	7.5	7.5
27	7.8	7.5	7.6	7.7	7.7	7.7	---	---	---	7.5	7.5	7.5
28	7.5	7.3	7.4	7.8	7.3	7.7	---	---	---	7.5	7.5	7.5
29	7.5	7.3	7.4	7.5	7.3	7.5	---	---	---	7.5	7.4	7.4
30	---	---	---	7.6	7.5	7.5	---	---	---	7.7	7.4	7.5
31	---	---	---	7.7	7.6	7.6	---	---	---	7.6	7.4	7.5
MAX	7.9	7.7	7.8	7.9	7.8	7.8	8.2	8.0	8.1	7.7	7.6	7.7
MIN	7.5	7.2	7.4	7.5	7.3	7.4	7.7	7.6	7.7	7.1	6.8	6.9

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

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

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

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

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	19.6	18.1	18.7	17.3	16.5	16.8	10.5	9.2	9.9	8.8	7.6	7.9
2	18.3	17.7	18.0	17.5	16.4	17.0	9.9	9.3	9.7	10.8	8.8	9.6
3	18.8	18.0	18.5	19.2	17.4	18.4	10.0	9.0	9.6	12.0	10.7	11.1
4	19.1	18.1	18.6	19.9	18.9	19.5	9.8	9.4	9.7	12.1	9.8	11.0
5	19.4	18.2	18.9	18.9	15.8	17.4	9.6	8.8	9.3	9.8	7.9	8.8
6	19.7	19.0	19.2	15.8	13.9	14.9	9.1	8.3	8.7	7.9	5.8	6.7
7	20.3	19.3	19.7	13.9	13.5	13.6	9.3	8.3	8.8	6.0	5.0	5.6
8	20.9	19.8	20.2	14.1	13.4	13.8	9.8	8.3	9.2	5.9	5.2	5.5
9	21.1	19.1	19.9	14.1	13.5	13.8	10.9	9.3	10.2	6.4	5.3	5.9
10	20.2	19.6	19.9	14.4	13.6	14.0	10.0	7.6	8.4	5.8	4.8	5.5
11	20.3	19.5	19.9	15.3	14.0	14.6	7.7	5.5	6.3	6.1	4.8	5.7
12	20.1	19.2	19.7	15.8	15.0	15.4	6.6	5.2	5.7	6.8	5.5	6.3
13	20.4	18.8	19.5	15.2	13.8	14.4	6.0	4.8	5.5	7.4	6.5	7.1
14	20.4	18.8	19.4	13.8	12.6	13.2	5.8	5.1	5.4	8.4	7.1	7.9
15	19.1	18.0	18.6	12.6	11.9	12.1	6.4	5.3	5.8	8.5	7.8	8.2
16	19.1	17.6	18.3	13.8	12.2	13.3	6.2	4.4	5.1	9.1	8.0	8.7
17	19.0	17.7	18.0	14.9	13.2	14.1	4.8	3.8	4.3	---	---	---
18	18.1	17.5	17.8	15.7	12.9	14.5	5.6	4.5	4.9	---	---	---
19	18.6	17.9	18.4	12.9	12.2	12.6	5.9	4.8	5.2	---	---	---
20	19.3	18.6	19.0	13.1	12.1	12.5	6.0	4.7	5.2	---	---	---
21	---	---	---	13.3	12.4	12.7	7.0	5.4	5.8	---	---	---
22	---	---	---	14.1	12.9	13.2	9.0	7.0	7.4	6.3	5.0	5.7
23	---	---	---	14.4	12.2	13.4	9.3	7.5	8.4	6.6	4.9	5.7
24	20.8	19.8	20.4	12.2	10.5	11.1	8.8	7.3	7.8	7.1	5.8	6.3
25	20.3	18.2	19.6	10.7	9.8	10.2	8.0	6.3	6.7	8.4	6.9	7.4
26	18.2	16.6	17.3	10.9	10.1	10.5	7.4	6.1	6.5	7.0	5.9	6.6
27	17.2	16.4	16.7	11.1	9.7	10.8	9.4	7.4	7.7	5.9	4.1	4.9
28	17.5	16.6	17.0	9.8	8.6	9.5	11.5	8.6	10	4.3	3.3	3.8
29	17.0	16.2	16.6	9.4	8.4	8.9	8.8	7.1	7.8	3.9	3.2	3.6
30	17.8	16.2	17.2	10.2	8.5	9.5	7.4	6.5	6.9	3.8	2.6	3.2
31	17.9	17.3	17.7	---	---	---	7.9	6.7	7.1	3.6	2.6	3.0
MONTH	21.1	16.2	18.7	19.9	8.4	13.5	11.5	3.8	7.4	12.1	2.6	6.6
		FEBRUARY			MARCH			APRIL			MAY	
1	4.2	3.3	3.6	11.3	10.0	10.5	14.1	13.0	13.5	---	---	---
2	4.8	3.5	4.2	11.3	10.3	10.8	15.4	13.2	14.1	---	---	---
3	3.5	3.0	3.2	11.3	10.2	10.6	15.6	13.6	14.5	---	---	---
4	3.2	3.0	3.1	---	---	---	15.6	13.6	14.5	---	---	---
5	3.6	3.0	3.3	---	---	---	14.9	13.6	14.3	19.1	16.9	17.8
6	3.7	2.8	3.2	---	---	---	15.0	13.3	14.2	19.9	17.6	18.6
7	3.1	2.3	2.7	---	---	---	15.0	13.8	14.4	19.9	18.4	19.0
8	3.2	1.8	2.5	---	---	---	16.1	14.0	14.8	21.4	18.3	19.5
9	3.5	2.4	2.9	---	---	---	16.1	14.5	14.9	22.8	20.2	21.3
10	4.0	2.6	3.2	---	---	---	15.1	13.3	14.4	24.0	22.0	22.9
11	4.4	3.4	3.9	---	---	---	13.8	12.6	13.1	24.1	22.8	23.5
12	4.8	3.7	4.2	---	---	---	13.9	12.2	13.0	24.0	22.9	23.4
13	4.7	3.2	3.9	9.5	8.9	9.1	14.6	12.8	13.5	23.5	19.4	22.2
14	4.6	3.8	4.1	9.8	8.9	9.3	15.8	13.2	14.2	19.7	18.2	18.9
15	4.8	3.7	4.1	9.5	8.8	9.1	17.3	14.7	15.8	18.3	17.5	17.9
16	5.3	3.8	4.4	9.2	8.7	9.0	19.2	17.2	17.9	20.1	17.8	18.7
17	6.3	4.8	5.3	10.2	8.9	9.5	19.5	18.6	19.1	21.8	19.0	20.1
18	7.5	5.3	6.0	10.9	9.8	10.3	19.7	19.3	19.5	23.2	21.0	22.0
19	8.5	7.1	7.7	10.7	10.2	10.5	19.6	19.3	19.5	23.0	19.7	21.2
20	9.9	8.5	9.2	11.9	10.7	11.3	20.2	19.4	19.8	23.3	20.9	22.0
21	10.3	9.3	9.7	11.6	10.0	10.7	---	---	---	23.2	21.4	22.3
22	10.7	10.1	10.4	10.5	9.8	10.1	---	---	---	22.4	21.2	21.8
23	11.2	10.7	11.0	12.5	10.5	11.3	---	---	---	22.0	20.3	21.1
24	10.9	9.6	10.3	12.5	11.7	12.0	---	---	---	23.0	20.7	22.0
25	9.6	8.9	9.1	13.8	12.3	12.9	---	---	---	21.5	20.4	20.9
26	9.4	8.3	8.9	15.6	13.8	14.8	---	---	---	20.4	19.5	19.7
27	9.4	8.6	9.0	16.3	15.6	16.0	---	---	---	20.5	19.0	19.7
28	9.7	9.1	9.4	16.0	14.5	15.3	---	---	---	23.0	19.8	21.0
29	10.5	9.2	9.9	15.6	15.2	15.4	---	---	---	23.9	21.9	22.6
30	---	---	---	15.4	14.0	14.8	---	---	---	25.8	23.0	24.4
31	---	---	---	14.3	13.3	13.8	---	---	---	25.9	23.8	24.9
MONTH	11.2	1.8	5.9	16.3	8.7	11.7	20.2	12.2	15.4	25.9	16.9	21.1

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

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	25.9	24.2	25.1	22.8	21.9	22.4	26.7	24.1	25.2	26.7	26.0	26.4
2	26.0	24.6	25.2	23.0	21.1	22.0	28.7	26.1	27.2	26.7	25.8	26.2
3	25.1	22.6	23.8	25.3	23.0	24.6	30.0	27.3	28.4	26.1	25.5	25.9
4	25.1	23.3	23.9	25.5	24.3	24.8	30.3	28.5	29.3	26.6	25.8	26.2
5	23.5	22.6	23.2	25.0	24.3	24.6	30.0	28.0	28.6	26.9	26.4	26.7
6	25.0	22.8	23.7	24.9	23.6	24.2	28.4	26.8	27.4	27.0	24.8	26.1
7	25.0	23.7	24.1	25.3	23.8	24.4	27.5	26.0	26.7	26.3	24.9	25.3
8	25.5	23.9	24.6	25.5	23.9	24.5	27.2	25.6	26.1	25.2	24.1	24.6
9	25.5	24.2	24.6	24.4	22.7	23.3	27.1	25.0	25.9	24.7	23.7	24.2
10	24.3	23.4	23.8	25.9	21.9	23.5	27.3	25.9	26.6	24.6	23.8	24.1
11	25.2	23.5	24.1	28.1	25.1	26.5	27.4	23.4	25.4	24.6	24.0	24.3
12	26.8	24.4	25.5	29.8	27.2	28.3	24.3	22.9	23.5	25.1	24.4	24.8
13	27.1	25.5	26.3	30.5	27.9	29.2	24.5	22.9	23.7	25.3	24.8	25.1
14	29.0	26.4	27.5	30.4	28.9	29.5	25.2	22.8	23.9	25.7	25.2	25.5
15	28.4	27.1	27.6	31.4	29.2	30.1	24.9	23.4	24.2	26.1	25.7	25.9
16	27.9	25.6	27.2	31.4	29.5	30.0	25.7	23.5	24.5	26.5	26.0	26.2
17	28.0	25.5	26.4	29.7	28.4	29.1	26.5	24.1	25.2	26.5	25.9	26.3
18	28.2	27.0	27.6	29.6	27.6	28.4	27.3	25.1	26.1	27.0	26.5	26.8
19	27.6	25.7	26.7	29.0	27.3	28.2	27.3	26.0	26.4	26.8	26.0	26.5
20	25.7	24.7	25.1	29.6	28.0	28.8	26.5	24.6	25.5	26.0	25.2	25.5
21	25.4	21.7	23.9	30.0	28.6	29.4	24.9	24.1	24.4	25.2	24.8	25.1
22	24.0	22.2	22.8	30.1	29.2	29.6	25.4	23.2	24.1	25.1	24.7	24.9
23	25.1	22.6	23.6	29.8	29.3	29.6	26.3	24.6	25.3	24.7	24.4	24.6
24	26.3	23.9	24.9	29.4	24.1	25.5	28.0	25.4	26.5	24.8	24.1	24.5
25	24.6	23.0	23.8	26.1	24.2	24.9	28.0	27.0	27.4	24.5	23.9	24.2
26	23.9	22.4	23.1	25.2	23.5	24.3	28.7	27.2	27.9	24.4	23.8	24.1
27	23.4	22.1	22.7	26.0	23.8	24.8	29.0	27.9	28.5	24.0	23.4	23.7
28	23.4	21.3	22.3	26.0	24.5	24.9	29.1	27.4	28.2	23.5	23.1	23.3
29	23.4	22.1	22.7	---	---	---	27.4	26.8	27.2	23.1	22.7	22.9
30	22.8	21.1	22.0	---	---	---	27.4	26.3	26.7	22.8	22.4	22.6
31	---	---	---	24.8	22.4	23.4	26.7	26.0	26.4	---	---	---
MONTH	29.0	21.1	24.6	31.4	21.1	26.3	30.3	22.8	26.2	27.0	22.4	25.1

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

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.6	5.8	7.4	9.5	8.2	8.9	10.0	9.6	9.9	12.2	11.7	11.9
2	8.7	7.9	8.5	9.6	8.8	9.2	10.3	9.8	10.1	11.9	11.2	11.5
3	7.9	5.7	6.4	9.0	7.9	8.5	10.4	9.8	10.2	11.5	10.5	10.9
4	7.9	6.2	6.7	8.2	7.6	8.0	10.6	10.1	10.4	11.0	10.1	10.5
5	8.8	7.7	8.3	8.0	7.6	7.7	10.9	10.2	10.5	11.8	10.8	11.1
6	8.8	8.4	8.6	8.8	7.6	8.3	11.1	9.9	10.6	12.7	11.8	12.2
7	9.3	8.6	8.9	9.4	8.7	9.1	11.6	9.9	11.1	13.2	12.7	12.9
8	9.3	8.6	9.0	9.5	9.1	9.3	---	---	---	13.3	12.9	13.2
9	9.2	3.2	5.8	9.5	9.1	9.3	---	---	---	13.6	13.0	13.2
10	7.5	3.5	5.5	9.5	9.0	9.3	---	---	---	14.1	13.4	13.7
11	8.0	7.5	7.8	9.2	8.8	9.0	---	---	---	14.1	13.5	13.8
12	8.0	7.6	7.9	9.1	8.7	8.9	---	---	---	14.1	13.5	13.7
13	7.6	5.4	6.6	9.5	8.7	9.2	---	---	---	13.8	13.5	13.6
14	5.4	4.1	4.6	9.3	9.0	9.1	---	---	---	13.7	13.1	13.4
15	5.8	4.3	5.1	9.5	9.2	9.4	---	---	---	13.2	12.8	13.0
16	6.5	5.1	6.1	9.2	8.6	8.9	14.5	13.6	14.1	13.1	12.2	12.7
17	5.5	4.5	4.9	8.8	8.3	8.7	14.9	14.2	14.5	---	---	---
18	5.8	5.2	5.5	9.6	7.6	8.4	14.8	14.0	14.4	---	---	---
19	6.3	5.5	5.7	9.8	9.3	9.5	14.5	13.6	14.1	---	---	---
20	6.3	5.9	6.1	10.0	9.7	9.9	14.2	12.9	13.6	---	---	---
21	---	---	---	9.9	9.6	9.7	12.9	7.9	10.0	---	---	---
22	---	---	---	9.9	9.2	9.3	9.3	5.9	7.4	10.7	10.2	10.3
23	---	---	---	9.3	8.5	8.9	11.8	9.1	10.8	10.7	10.5	10.6
24	7.4	6.1	7.0	9.2	8.8	9.0	12.2	10.9	11.6	10.8	10.6	10.7
25	7.1	6.3	6.7	9.2	8.8	9.0	13.5	11.6	12.7	10.6	10.0	10.3
26	8.0	6.4	7.4	9.1	8.6	8.9	13.4	12.7	13.1	10.7	10.3	10.4
27	8.9	7.9	8.5	8.7	8.3	8.5	13.4	11.9	12.6	11.7	10.7	11.2
28	8.7	8.2	8.5	9.5	8.5	9.0	12.1	10.2	11.4	12.3	11.7	12.0
29	9.3	8.5	9.0	10.0	9.3	9.7	12.6	11.7	12.0	---	---	---
30	9.4	8.5	9.2	10.0	9.6	9.8	12.3	11.6	11.9	---	---	---
31	9.0	8.1	8.7	---	---	---	12.4	11.6	11.9	---	---	---
MONTH	9.4	3.2	7.2	10.0	7.6	9.0	14.9	5.9	11.7	14.1	10.0	12.0
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	10.9	9.6	10.1	---	---	---	---	---	---
2	---	---	---	10.9	10.0	10.4	---	---	---	---	---	---
3	---	---	---	10.7	9.1	9.9	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	9.3	9.1	9.2
6	---	---	---	---	---	---	---	---	---	9.3	9.0	9.2
7	12.9	12.3	12.6	---	---	---	---	---	---	9.4	9.1	9.3
8	12.9	12.7	12.8	---	---	---	---	---	---	9.5	9.0	9.2
9	12.9	12.7	12.8	---	---	---	---	---	---	9.5	8.5	9.0
10	12.9	12.6	12.7	---	---	---	8.0	6.9	7.3	9.9	8.0	8.9
11	12.7	12.3	12.5	---	---	---	8.3	7.5	7.8	9.6	7.9	8.8
12	12.8	12.1	12.4	---	---	---	8.3	8.0	8.2	9.2	7.8	8.4
13	---	---	---	13.1	12.0	12.4	8.5	7.9	8.1	8.6	7.6	8.0
14	---	---	---	---	---	---	8.7	7.8	8.2	8.0	6.4	7.2
15	---	---	---	---	---	---	8.6	7.6	8.2	9.1	8.0	8.6
16	---	---	---	---	---	---	8.5	7.4	8.0	9.2	9.1	9.1
17	---	---	---	13.0	12.6	12.7	8.4	7.0	7.6	9.1	8.9	9.0
18	---	---	---	12.7	12.5	12.6	7.7	6.4	7.0	8.9	8.5	8.6
19	---	---	---	12.7	12.4	12.6	7.2	6.1	6.6	9.7	8.3	9.4
20	11.9	10.8	11.1	12.6	12.2	12.4	7.1	6.1	6.7	9.6	9.3	9.4
21	11.2	10.6	10.9	12.9	12.2	12.6	7.1	5.1	6.1	9.6	9.2	9.4
22	11.1	10.5	10.8	12.9	12.5	12.7	---	---	---	9.6	9.2	9.4
23	11.0	10.3	10.6	12.5	12.0	12.3	---	---	---	9.7	9.4	9.5
24	11.4	10.3	10.7	12.0	11.6	11.8	---	---	---	9.5	6.8	8.7
25	12.0	10.7	11.3	11.6	10.8	11.2	---	---	---	9.4	9.2	9.2
26	12.0	10.9	11.5	10.9	10.4	10.6	---	---	---	9.7	9.3	9.5
27	11.7	10.6	11.0	10.5	10.2	10.4	---	---	---	9.8	9.5	9.7
28	10.8	10.4	10.6	---	---	---	---	---	---	9.6	9.3	9.4
29	11.0	10.4	10.7	---	---	---	---	---	---	9.3	8.4	8.7
30	---	---	---	---	---	---	---	---	---	8.4	5.8	7.3
31	---	---	---	---	---	---	---	---	---	8.1	7.1	7.4
MONTH	12.9	10.3	11.6	13.1	9.1	11.6	8.7	5.1	7.5	9.9	5.8	8.9

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

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.4	7.5	7.9	9.2	8.6	8.9	---	---	---	8.1	6.8	7.3
2	8.4	7.5	7.9	9.1	6.4	7.7	---	---	---	8.1	6.8	7.2
3	8.1	6.4	7.1	7.2	6.3	6.8	---	---	---	7.5	6.8	7.3
4	---	---	---	8.0	7.2	7.7	---	---	---	7.6	6.8	7.2
5	---	---	---	8.2	8.0	8.1	7.4	6.6	7.0	7.6	6.7	7.2
6	---	---	---	8.5	8.2	8.4	7.7	6.8	7.2	7.4	5.5	6.5
7	---	---	---	8.5	8.4	8.5	8.0	7.0	7.4	6.7	5.3	6.1
8	---	---	---	8.4	8.2	8.3	8.0	7.2	7.6	7.4	6.3	6.8
9	---	---	---	---	---	---	8.0	7.3	7.7	7.6	6.9	7.2
10	---	---	---	---	---	---	8.0	7.0	7.5	7.7	6.7	7.3
11	---	---	---	---	---	---	7.9	6.7	7.2	7.8	7.1	7.5
12	---	---	---	---	---	---	7.1	6.6	6.9	8.1	7.1	7.4
13	---	---	---	---	---	---	7.4	7.0	7.2	7.8	7.0	7.4
14	---	---	---	---	---	---	7.6	7.2	7.4	8.2	6.9	7.3
15	---	---	---	---	---	---	8.1	7.2	7.6	7.7	6.8	7.2
16	---	---	---	---	---	---	8.2	7.3	7.7	7.7	6.5	7.0
17	---	---	---	---	---	---	8.2	7.2	7.6	7.6	6.7	7.1
18	---	---	---	---	---	---	7.9	6.8	7.5	7.3	6.4	7.0
19	7.3	6.4	6.7	---	---	---	7.8	6.7	7.1	7.6	6.8	7.1
20	7.3	6.4	6.8	7.8	7.0	7.3	7.3	6.2	6.6	7.5	6.8	7.2
21	7.7	6.5	7.4	7.7	6.7	7.1	6.7	6.3	6.5	7.2	6.9	7.1
22	7.9	7.0	7.5	7.5	6.6	7.0	6.7	6.2	6.4	7.2	6.8	7.0
23	7.7	7.5	7.6	7.2	6.5	6.8	6.8	6.3	6.5	7.2	6.9	7.0
24	8.1	7.6	7.8	---	---	---	7.1	6.3	6.7	7.2	6.8	7.0
25	8.7	8.1	8.4	---	---	---	7.2	6.4	6.7	7.4	7.0	7.2
26	8.9	8.3	8.6	---	---	---	7.2	6.3	6.8	7.5	7.2	7.3
27	9.2	8.5	8.8	---	---	---	7.2	6.2	6.8	7.6	7.2	7.4
28	9.0	8.7	8.9	---	---	---	7.2	6.3	6.7	7.7	7.4	7.6
29	9.3	8.5	8.8	---	---	---	7.2	6.5	6.8	7.8	7.5	7.6
30	9.2	8.7	8.9	---	---	---	7.5	6.6	7.0	7.9	7.6	7.8
31	---	---	---	---	---	---	7.5	6.8	7.2	---	---	---
MONTH	9.3	6.4	7.9	9.2	6.3	7.7	8.2	6.2	7.1	8.2	5.3	7.2

07178520 DOG CREEK SOUTH OF CLAREMORE, OK

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

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--74.9 mi^2.

PERIOD OF RECORD.--August 1997 to September 2004 (discontinued).

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

REMARKS.--No estimated daily discharge. Records poor. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

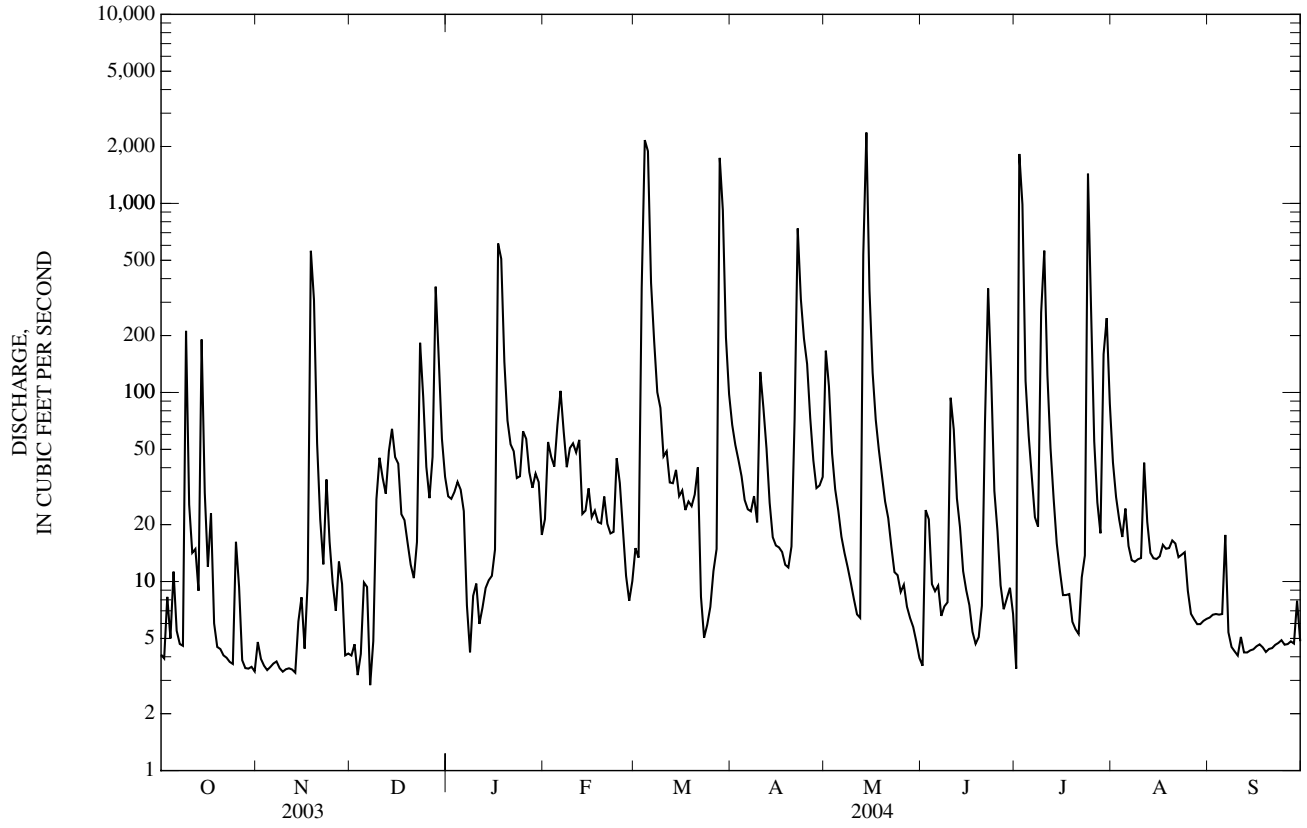
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.8	4.1	28	21	15	67	166	3.6	3.5	43	6.4
2	3.9	3.9	4.7	27	55	13	53	108	24	1,830	28	6.7
3	8.3	3.6	3.2	30	46	357	44	48	21	986	21	6.7
4	5.0	3.4	4.1	34	41	2,160	36	31	9.7	115	17	6.7
5	11	3.5	9.9	31	67	1,890	27	24	8.9	59	24	6.7
6	5.5	3.7	9.4	24	102	380	24	17	9.5	36	15	18
7	4.7	3.8	2.8	7.5	62	186	24	14	6.6	22	13	5.4
8	4.6	3.5	4.8	4.2	40	100	28	12	7.4	20	13	4.5
9	212	3.3	27	8.4	51	83	21	9.9	7.8	265	13	4.3
10	26	3.4	45	9.8	54	46	128	8.1	94	562	13	4.1
11	14	3.5	35	6.0	48	49	83	6.7	64	124	43	5.1
12	15	3.4	29	7.3	56	33	50	6.4	28	51	21	4.2
13	8.9	3.3	49	9.2	23	33	26	535	19	27	14	4.2
14	191	6.2	64	10	24	39	17	2,370	11	16	13	4.3
15	30	8.3	45	11	31	28	16	346	9.0	11	13	4.4
16	12	4.4	42	15	22	30	15	127	7.5	8.5	14	4.5
17	23	10	23	613	24	24	14	72	5.4	8.5	16	4.7
18	6.0	561	21	509	21	27	12	50	4.7	8.6	15	4.5
19	4.5	308	16	145	20	25	12	36	5.1	6.1	15	4.2
20	4.4	54	12	71	28	29	15	27	7.4	5.6	16	4.4
21	4.1	21	10	53	20	40	72	22	69	5.3	16	4.4
22	4.0	12	16	49	18	8.3	737	15	355	11	13	4.6
23	3.8	35	183	35	18	5.1	311	11	119	14	14	4.7
24	3.7	16	95	36	45	5.9	193	11	30	1,440	14	4.9
25	16	9.8	40	62	33	7.3	142	8.8	18	270	8.9	4.6
26	9.4	7.0	28	57	19	11	73	9.6	9.5	55	6.7	4.7
27	3.8	13	46	38	11	15	44	7.4	7.1	26	6.3	4.8
28	3.5	9.7	363	31	7.9	1,740	31	6.4	8.1	18	6.0	4.7
29	3.5	4.1	148	37	10	921	32	5.7	9.3	159	6.0	7.9
30	3.5	4.2	57	34	---	195	36	4.8	6.7	247	6.2	4.8
31	3.3	---	36	18	---	98	---	3.9	---	87	6.3	---
TOTAL	652.5	1,130.8	1,473.0	2,050.4	1,017.9	8,593.6	2,383	4,119.7	985.3	6,497.1	483.4	164.1
MEAN	21.0	37.7	47.5	66.1	35.1	277	79.4	133	32.8	210	15.6	5.47
MAX	212	561	363	613	102	2,160	737	2,370	355	1,830	43	18
MIN	3.3	3.3	2.8	4.2	7.9	5.1	12	3.9	3.6	3.5	6.0	4.1
AC-FT	1,290	2,240	2,920	4,070	2,020	17,050	4,730	8,170	1,950	12,890	959	325

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2004, BY WATER YEAR (WY)

MEAN	15.4	14.9	26.7	43.9	46.8	142	74.4	108	110	56.5	14.5	11.9
MAX	51.2	37.7	47.5	88.7	145	277	223	225	253	210	35.1	39.9
(WY)	(1999)	(2004)	(2004)	(2001)	(2001)	(2004)	(1999)	(1999)	(1999)	(2004)	(2003)	(2003)
MIN	3.31	3.78	8.31	3.65	10.7	27.5	12.3	40.4	6.24	10.7	6.18	4.30
(WY)	(2000)	(2003)	(2001)	(2000)	(2003)	(2002)	(2001)	(2001)	(1998)	(2001)	(1998)	(2000)

07178520 DOG CREEK SOUTH OF CLAREMORE, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1997 - 2004	
ANNUAL TOTAL	17,085.5		29,550.8			
ANNUAL MEAN	46.8		80.7		55.5	
HIGHEST ANNUAL MEAN					98.7	1999
LOWEST ANNUAL MEAN					26.0	2002
HIGHEST DAILY MEAN	1,550	Jun 2	2,370	May 14	2,370	May 14, 2004
LOWEST DAILY MEAN	2.8	Dec 7	2.8	Dec 7	0.00	Nov 12, 1999
ANNUAL SEVEN-DAY MINIMUM	3.3	Jan 7	3.5	Nov 7	0.20	Nov 26, 1999
MAXIMUM PEAK FLOW			2,930	Jul 2	2,930	Jul 2, 2004
MAXIMUM PEAK STAGE			19.19	Jul 2	19.47	Jun 20, 1999
ANNUAL RUNOFF (AC-FT)	33,890		58,610		40,230	
10 PERCENT EXCEEDS	76		127		99	
50 PERCENT EXCEEDS	11		16		13	
90 PERCENT EXCEEDS	3.7		4.2		3.4	



07178520 DOG CREEK SOUTH OF CLAREMORE, OK—Continued

WATER QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: August 1997 to September 2004 (discontinued).

INSTRUMENTATION.--Water temperature recorder provides continuous readings.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum, 32.0°C, July 10, 1998; minimum, -0.6°C, Dec. 13, 2000.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 28.2°C, Aug. 27; minimum, 1.7°C, Jan. 31, Feb. 7.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.2	15.0	15.5	16.5	15.1	15.7	10.1	7.8	8.9	9.4	7.4	8.6
2	16.4	13.6	15.0	17.5	15.4	16.4	9.4	8.2	8.6	11.5	9.4	10.6
3	17.3	15.2	16.0	19.6	16.9	18.2	9.4	8.3	8.9	12.9	11.5	12.3
4	17.9	15.9	16.8	20.0	17.0	18.9	9.3	8.5	8.9	12.4	7.7	10.2
5	18.7	17.3	17.9	17.0	13.7	15.3	8.5	6.3	7.5	7.7	4.6	6.0
6	19.5	17.1	18.1	13.7	11.2	12.7	7.4	5.9	6.5	4.6	2.5	3.6
7	19.4	17.5	18.5	11.2	10.2	10.7	8.1	5.5	6.7	3.0	1.8	2.4
8	20.3	17.9	19.1	11.0	10.5	10.7	9.8	7.2	8.4	4.7	2.1	3.4
9	20.7	19.0	19.7	11.6	10.4	10.9	12.5	9.6	10.7	5.6	3.2	4.2
10	20.7	19.7	20.0	12.6	11.3	11.9	10.6	5.4	7.1	5.0	2.7	3.7
11	20.5	19.6	19.9	14.8	12.5	13.6	5.5	4.7	5.0	6.4	3.2	4.6
12	19.8	18.8	19.3	15.5	13.8	14.8	5.5	4.5	5.0	7.7	4.8	6.2
13	20.0	18.4	19.1	13.8	12.7	13.1	5.8	5.1	5.5	8.9	6.5	7.5
14	20.3	17.6	18.3	12.7	11.4	12.0	5.9	5.4	5.6	9.8	7.5	8.5
15	18.7	17.1	17.6	12.5	11.3	11.7	7.5	5.8	6.4	9.5	7.8	8.5
16	18.3	16.9	17.5	12.8	11.1	11.9	7.7	5.3	6.6	9.1	8.0	8.5
17	18.1	16.3	17.4	15.3	12.3	13.6	5.6	4.7	5.1	8.9	6.7	7.9
18	17.7	15.3	16.4	15.7	11.7	14.1	6.3	5.0	5.7	6.8	5.8	6.4
19	18.6	15.3	16.8	13.1	11.4	12.2	6.7	5.4	5.9	5.8	4.3	4.9
20	19.9	16.7	18.2	12.7	11.4	12.0	6.8	4.7	5.6	5.3	4.4	4.8
21	20.2	17.6	18.9	13.5	12.4	12.9	8.2	5.3	6.8	6.0	4.9	5.3
22	20.0	17.8	19.0	13.8	12.4	13.2	11.0	7.8	9.5	6.1	4.8	5.4
23	20.1	17.5	18.8	14.5	11.3	13.2	11.0	6.7	7.9	5.8	4.9	5.3
24	20.5	17.9	19.1	11.3	7.7	9.4	6.8	5.7	6.1	7.1	5.4	6.5
25	19.7	16.3	17.6	8.9	7.5	8.1	6.5	5.7	6.0	8.0	7.1	7.6
26	16.3	13.6	14.9	10.0	7.5	8.8	7.1	6.0	6.6	7.6	4.7	6.4
27	14.5	12.3	13.5	10.4	8.2	9.5	12.4	7.1	8.5	4.7	1.9	3.0
28	15.2	13.5	14.1	9.1	7.2	8.2	12.4	7.3	8.8	3.5	2.0	2.8
29	15.8	12.7	14.2	8.4	6.2	7.2	7.4	6.5	6.9	4.1	3.1	3.7
30	17.9	15.0	16.3	8.8	6.4	7.6	7.2	6.0	6.5	3.1	1.8	2.4
31	17.0	15.5	16.1	---	---	---	7.4	6.7	6.9	3.7	1.7	2.8
MONTH	20.7	12.3	17.4	20.0	6.2	12.3	12.5	4.5	7.1	12.9	1.7	5.9

07178520 DOG CREEK SOUTH OF CLAREMORE, OK—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	4.8	3.2	4.0	12.8	9.5	10.8	16.8	14.0	15.3	20.2	17.3	18.2
2	5.8	4.2	4.7	12.4	9.2	10.6	17.7	16.6	17.1	18.8	16.5	17.4
3	4.2	2.8	3.2	11.0	9.7	10.1	17.9	16.7	17.3	18.7	16.5	17.2
4	4.2	3.4	3.9	11.4	9.4	10.1	17.8	16.3	17.0	19.1	17.5	18.3
5	4.0	3.1	3.5	10.9	10.2	10.5	17.3	15.3	16.3	20.5	18.8	19.7
6	4.0	2.9	3.3	12.1	9.9	10.8	16.7	15.3	16.2	22.2	20.4	21.2
7	2.9	1.7	2.2	12.2	10.0	10.9	17.1	15.8	16.6	23.1	21.3	22.2
8	2.7	2.0	2.3	13.1	9.9	11.3	18.4	16.1	17.2	23.8	21.5	22.4
9	3.8	2.1	3.1	13.1	10.7	11.9	18.3	15.1	16.5	23.8	21.8	22.5
10	4.5	3.1	3.6	12.5	10.8	11.5	15.1	13.2	14.0	24.1	21.3	22.4
11	4.6	4.0	4.3	12.4	11.4	12.0	14.8	12.6	13.6	23.9	21.1	22.3
12	4.2	2.8	3.3	12.4	11.2	11.8	14.8	13.6	14.2	22.9	21.2	22.1
13	4.2	2.5	3.2	12.5	11.7	12.2	14.7	13.3	13.9	22.3	18.7	20.9
14	5.1	3.0	4.0	12.2	11.1	11.7	15.1	13.1	14.0	21.0	19.7	20.5
15	4.5	3.2	3.9	12.3	11.0	11.8	17.6	14.6	16.2	19.7	18.4	19.0
16	5.4	3.2	4.1	11.2	10.2	10.6	20.0	17.0	18.6	20.5	18.1	19.1
17	7.3	4.1	5.4	12.7	10.4	11.5	20.4	19.0	19.8	21.2	17.8	19.0
18	8.8	5.1	6.7	15.3	12.3	14.0	20.3	19.1	19.6	21.3	19.2	20.2
19	10.6	6.6	8.5	16.0	14.7	15.3	19.5	18.9	19.1	22.0	21.2	21.6
20	11.7	9.1	10.1	17.5	15.9	16.8	19.8	18.7	19.1	23.7	22.0	23.0
21	11.2	8.7	9.7	16.0	13.3	14.0	20.7	18.6	19.3	23.7	22.5	23.2
22	10.9	7.9	9.2	14.8	11.5	13.0	20.7	15.7	18.7	23.8	22.3	23.1
23	10.5	9.1	9.8	16.6	12.0	13.8	20.0	18.6	19.2	24.2	22.3	23.0
24	10.0	7.5	8.7	15.1	13.9	14.6	19.0	18.0	18.5	24.4	22.8	23.5
25	8.6	6.9	7.5	16.3	14.5	15.5	20.1	17.2	18.4	23.5	22.0	23.0
26	9.6	6.8	7.8	18.1	16.0	17.0	20.3	18.6	19.4	22.1	21.7	21.8
27	10.7	6.2	8.1	18.3	17.4	17.7	20.2	18.3	19.1	22.8	21.1	21.9
28	10.4	7.0	8.7	17.5	14.1	15.7	20.6	19.4	19.9	24.9	21.2	22.8
29	11.0	8.9	9.7	16.8	15.1	15.9	20.2	18.9	19.4	24.7	22.0	23.2
30	---	---	---	16.7	14.5	15.6	20.0	18.9	19.5	25.4	22.5	23.7
31	---	---	---	16.2	13.7	14.9	---	---	---	23.9	20.3	22.1
MONTH	11.7	1.7	5.7	18.3	9.2	13.0	20.7	12.6	17.4	25.4	16.5	21.3
		JUNE			JULY			AUGUST			SEPTEMBER	
1	22.8	19.8	21.4	21.6	19.8	20.6	24.0	22.6	23.1	25.1	22.5	23.7
2	22.2	19.0	20.6	22.1	17.2	19.8	25.1	23.5	24.4	24.6	22.3	23.6
3	21.5	18.9	20.0	24.4	21.8	22.7	25.5	23.8	24.8	25.0	22.2	23.6
4	20.8	19.1	20.0	23.8	21.9	22.8	26.0	24.5	25.3	25.8	23.1	24.4
5	20.1	18.7	19.3	23.6	21.7	22.5	25.3	23.7	24.7	26.4	24.0	25.2
6	22.3	18.9	20.4	23.0	21.9	22.5	23.7	21.6	22.7	25.8	23.6	24.7
7	22.0	20.5	21.4	23.0	22.0	22.5	23.1	21.3	22.0	24.1	21.7	22.9
8	22.9	20.8	21.8	24.0	21.8	22.6	22.3	21.3	21.8	23.1	20.3	21.7
9	21.8	20.9	21.3	21.9	18.5	20.6	23.3	20.8	21.9	23.0	19.7	21.3
10	21.0	20.3	20.6	23.2	20.5	21.8	24.3	22.1	23.1	23.2	19.8	21.6
11	22.2	21.0	21.6	23.9	21.1	22.3	23.2	20.6	21.7	23.7	20.3	22.0
12	24.1	22.2	23.3	24.0	21.7	22.9	21.0	19.8	20.4	24.4	21.5	22.9
13	24.3	22.6	23.3	24.5	22.8	23.8	21.1	19.3	20.1	25.0	22.2	23.6
14	25.0	22.1	23.3	25.1	23.6	24.3	21.9	19.8	20.6	25.5	23.5	24.5
15	25.1	23.2	24.0	26.0	23.7	24.6	21.6	20.2	20.8	26.4	24.5	25.4
16	24.6	23.2	23.7	24.6	22.8	24.0	22.5	20.4	21.3	26.9	25.1	25.9
17	24.7	22.2	23.4	23.9	21.9	22.7	23.8	21.6	22.5	27.1	24.2	25.6
18	24.2	22.1	23.2	23.4	21.3	22.1	24.8	22.6	23.5	27.4	25.0	26.2
19	23.3	20.7	21.6	23.9	20.1	21.8	24.1	23.2	23.6	26.5	24.2	25.4
20	21.2	19.5	20.3	24.9	20.8	22.7	23.2	21.8	22.6	25.4	23.0	24.4
21	20.4	18.0	19.3	25.5	21.9	23.6	22.5	21.1	21.7	25.2	22.6	23.9
22	21.9	18.6	20.3	24.6	22.3	23.6	23.7	21.5	22.5	24.9	22.4	23.7
23	22.6	20.3	21.3	25.6	23.4	24.2	25.1	22.9	24.0	24.6	23.0	23.9
24	23.2	21.9	22.5	24.3	19.6	22.7	26.7	24.3	25.4	25.7	23.5	24.4
25	23.5	22.1	22.6	24.1	21.4	22.5	27.1	25.3	26.1	24.9	22.1	23.6
26	23.4	21.5	22.3	21.6	20.2	20.9	28.1	24.9	26.4	25.0	22.3	23.6
27	23.1	20.6	21.7	21.7	20.2	21.1	28.2	25.5	26.8	24.1	21.6	23.0
28	22.2	20.5	21.3	21.7	19.9	20.8	27.2	24.9	25.7	23.9	21.3	22.6
29	22.2	20.0	21.0	20.5	18.4	19.2	25.6	23.1	24.3	23.9	21.8	22.7
30	21.7	20.3	21.0	21.5	20.5	21.0	24.7	21.8	23.3	23.2	20.8	22.1
31	---	---	---	23.3	20.8	21.7	25.1	22.0	23.5	---	---	---
MONTH	25.1	18.0	21.6	26.0	17.2	22.3	28.2	19.3	23.2	27.4	19.7	23.7

07185000 NEOSHO RIVER NEAR COMMERCE, OK

LOCATION.--Lat 36°55'43", long 94°57'26", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.5, T.28 N., R.22 E., Ottawa County, Hydrologic Unit 11070206, on downstream side of right pier of county road bridge, 1.3 mi upstream from Mud Creek, 2.2 mi downstream from Four Mile Creek, 4.5 mi west of Commerce, and at mile 153.4.

DRAINAGE AREA.--5,876 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1939 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 748.97 ft above sea level (U.S. Army Corps of Engineers' datum). Since February 1989, supplementary water-stage recorder 1000 ft to the left at same datum used when flow exceeds 21 ft GH.

REMARKS.--Records good except for estimated periods which are poor. Flow regulated to some extent since 1963 by John Redmond Reservoir in Kansas, 190 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 7	0300	*38,600	*19.97	Jun 14	1530	24,800	16.58
Mar 29	1700	22,300	15.19	Jul 4	1800	23,900	16.08
Apr 26	1600	35,600	19.45	Jul 7	0000	20,300	14.06
May 14	2300	22,300	15.17				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	268	256	1,040	1,030	2,080	4,280	6,400	1,510	11,400	8,670	306
2	211	268	195	809	801	1,920	3,910	5,660	1,370	12,200	8,550	281
3	226	272	203	680	621	2,240	4,310	4,080	1,280	16,600	8,330	269
4	221	265	379	602	e572	11,500	4,290	2,930	971	22,200	8,610	331
5	190	214	556	643	e567	31,200	4,180	2,420	551	17,600	9,160	489
6	157	153	637	624	e605	36,500	4,020	1,670	368	18,200	8,790	450
7	129	115	960	586	e646	37,000	3,880	1,040	332	19,300	7,070	364
8	108	96	667	566	e584	34,000	3,770	1,180	330	13,800	3,790	353
9	128	153	674	889	549	30,700	3,690	1,270	330	10,200	3,130	329
10	368	311	2,420	1,000	579	17,700	3,660	1,210	326	12,200	3,000	280
11	270	331	4,330	1,080	629	13,100	3,180	1,160	923	15,300	2,910	264
12	173	333	2,070	984	713	13,900	2,280	1,110	5,430	13,200	2,800	261
13	676	328	1,100	665	781	14,100	1,730	1,680	12,500	10,600	2,830	241
14	3,170	327	800	443	855	13,600	1,510	17,400	24,100	10,000	2,620	188
15	3,500	323	1,020	342	1,350	13,200	1,360	16,700	17,600	10,200	1,430	142
16	3,320	323	7,000	319	1,330	12,800	1,280	6,110	6,730	10,700	725	117
17	2,910	331	5,910	2,630	1,220	12,700	1,190	3,270	2,600	10,400	548	96
18	1,560	960	2,210	10,900	1,290	12,400	1,120	2,210	3,460	9,410	498	81
19	873	2,710	1,390	9,830	1,250	11,800	1,090	1,790	8,920	8,050	480	142
20	514	1,370	1,150	5,770	1,490	11,000	1,090	6,930	10,700	7,540	488	229
21	369	720	956	3,320	2,380	9,500	1,230	5,140	9,800	7,050	514	229
22	324	433	892	2,190	3,150	7,530	4,180	3,100	9,960	6,520	531	226
23	307	330	7,430	1,960	3,080	6,880	5,210	2,530	10,700	5,320	645	222
24	289	274	10,100	1,980	2,770	6,470	19,800	1,850	11,500	3,770	690	221
25	309	217	3,880	2,370	2,580	5,900	31,800	1,460	12,500	2,510	675	178
26	597	204	1,940	2,790	2,480	4,920	34,700	1,350	12,600	2,470	689	134
27	652	199	1,290	3,430	2,420	3,670	21,700	1,410	12,100	3,130	696	111
28	447	174	5,260	3,870	2,370	10,700	4,970	2,910	11,800	3,800	773	95
29	315	195	5,930	2,510	2,310	21,500	3,260	3,730	13,300	7,210	736	85
30	276	303	2,730	1,740	---	17,000	2,780	2,510	13,100	8,170	527	79
31	277	---	1,490	1,370	---	6,760	---	1,780	---	8,510	367	---
TOTAL	23,101	12,500	75,825	67,932	41,002	434,270	185,450	113,990	217,691	317,560	91,272	6,793
MEAN	745	417	2,446	2,191	1,414	14,010	6,182	3,677	7,256	10,240	2,944	226
MAX	3,500	2,710	10,100	10,900	3,150	37,000	34,700	17,400	24,100	22,200	9,160	489
MIN	108	96	195	319	549	1,920	1,090	1,040	326	2,470	367	79
AC-FT	45,820	24,790	150,400	134,700	81,330	861,400	367,800	226,100	431,800	629,900	181,000	13,470

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

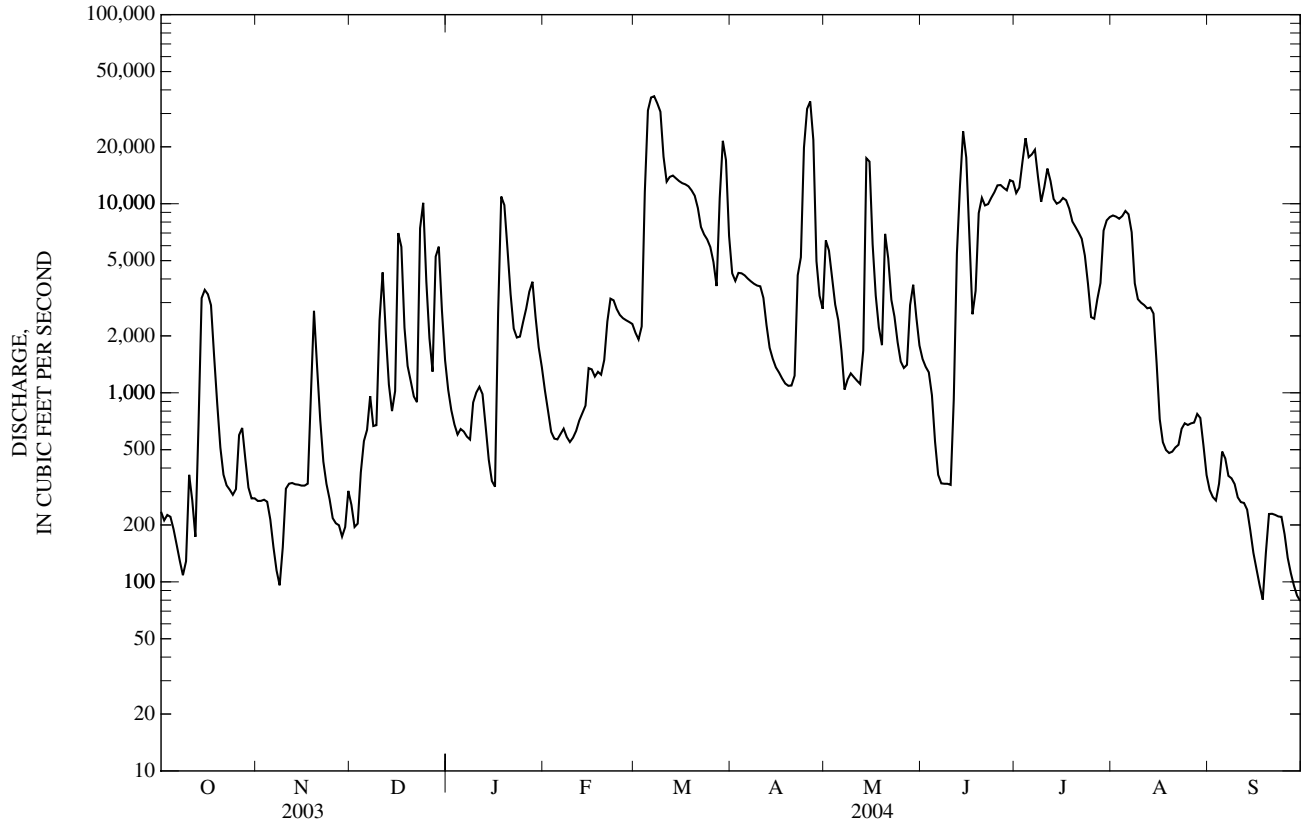
MEAN	3,189	3,225	2,208	1,891	2,547	4,520	5,528	6,111	6,667	4,871	1,671	2,634
MAX	33,400	22,280	17,280	10,090	13,980	21,630	23,270	29,560	27,950	53,350	11,680	16,930
(WY)	(1987)	(1999)	(1993)	(1973)	(1985)	(1973)	(1945)	(1961)	(1995)	(1951)	(1993)	(1951)
MIN	0.00	1.60	6.33	8.60	24.9	11.9	62.6	395	290	21.1	0.00	1.52
(WY)	(1957)	(1940)	(1940)	(1957)	(1954)	(1956)	(1981)	(1956)	(1980)	(1954)	(1954)	(1953)

e Estimated

07185000 NEOSHO RIVER NEAR COMMERCE, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	690,713		1,587,386			
ANNUAL MEAN	1,892		4,337		3,756	
HIGHEST ANNUAL MEAN					11,140	1993
LOWEST ANNUAL MEAN					246	1953
HIGHEST DAILY MEAN	20,300	May 18	37,000	Mar 7	251,000	Jul 15, 1951
LOWEST DAILY MEAN	22	Aug 26	79	Sep 30	a0.00	Aug 21, 1953
ANNUAL SEVEN-DAY MINIMUM	25	Aug 22	129	Sep 24	0.00	Sep 27, 1953
MAXIMUM PEAK FLOW			38,600	Mar 7	b267,000	Jul 15, 1951
MAXIMUM PEAK STAGE			19.97	Mar 7	c34.03	Jul 16, 1951
ANNUAL RUNOFF (AC-FT)	1,370,000		3,149,000		2,721,000	
10 PERCENT EXCEEDS	5,750		12,400		11,200	
50 PERCENT EXCEEDS	514		1,500		922	
90 PERCENT EXCEEDS	55		228		60	

a In 1953-54 and 1956.
b Computed by flood-routing method from hydrograph defined at Miami, mile 144.2, by several discharge measurements, gage height record, and by comparison with computed inflow into Lake O' the Cherokees.
c From floodmark.



07185000 NEOSHO RIVER NEAR COMMERCE, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948 to 1954, 1960 to 1973; June 1988 to June 1989; February 2004 to current year.

REMARKS.--Event samples were collected by the U.S. Geological Survey. Water samples were analyzed by the Oklahoma Department of Environmental Quality and bed sediment samples were analyzed by the U.S. Geological Survey. Specific conductance, pH, water temperature, dissolved oxygen, and turbidity were determined in the field.

COOPERATION.--Sampling beginning in 2004 is in cooperation with the Oklahoma Department of Environmental Quality.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
MAR											
05...	0909	1028	1028	18.49	31,000	737	9.5	6.8	168	10.3	15.0
05...	0913	1028	1028	18.49	31,000	737	9.8	6.6	172	10.3	75.0
05...	0917	1028	1028	18.49	31,000	737	9.6	6.8	174	10.2	135
05...	0922	1028	1028	18.49	31,000	737	10.0	6.8	174	10.2	195
05...	0926	1028	1028	18.49	31,000	737	9.6	6.8	175	10.2	255
05...	0929	1028	1028	18.49	31,000	737	9.2	6.8	229	9.7	315
05...	0931	1028	1028	18.49	31,000	737	9.4	6.8	208	9.8	375
29...	1138	1028	1028	15.06	22,100	750	7.3	7.0	231	14.2	10.0
29...	1141	1028	1028	15.06	22,100	750	7.1	7.3	231	14.2	70.0
29...	1143	1028	1028	15.06	22,100	750	7.2	7.3	229	14.2	100
29...	1145	1028	1028	15.06	22,100	750	7.2	7.4	225	14.2	130
29...	1147	1028	1028	15.06	22,100	750	7.2	7.4	223	14.2	160
29...	1149	1028	1028	15.06	22,100	750	7.3	7.4	228	14.2	190
29...	1151	1028	1028	15.06	22,100	750	7.2	7.4	228	14.2	220
29...	1152	1028	1028	15.06	22,100	750	7.1	7.4	230	14.2	250
29...	1154	1028	1028	15.06	22,100	750	7.1	7.5	232	14.3	280
JUN											
14...	1614	1028	1028	16.49	24,700	740	6.0	7.1	158	22.6	320
14...	1620	1028	1028	16.49	24,700	740	6.0	7.2	161	22.6	230
14...	1625	1028	1028	16.49	24,700	740	6.0	7.2	160	22.6	140
SEP											
21...	1128	1028	1028	2.60	231	764	7.9	8.2	466	23.7	30.0
21...	1130	1028	1028	2.60	231	764	7.9	8.2	467	23.7	50.0
21...	1132	1028	1028	2.60	231	764	7.9	8.1	466	23.8	70.0
21...	1135	1028	1028	2.60	231	764	7.9	8.1	466	23.8	90.0
21...	1145	1028	1028	2.60	231	764	7.9	8.1	466	23.8	110
21...	1150	1028	1028	2.60	231	764	7.9	8.1	465	23.9	130

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)
MAR													
05...	0930	1028	84017	31,000	--	737	9.6	88	6.8	174	8.5	10.2	4
29...	1245	1028	84017	22,100	.3	750	7.2	71	7.4	229	--	14.2	--
JUN													
14...	1650	1028	84017	24,700	78	740	6.0	72	7.2	160	29.5	22.6	--
SEP													
21...	1125	1028	84017	231	22	764	7.9	93	8.1	466	21.6	23.8	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00918)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Sodium, water, unfltrd recoverable, mg/L (00929)	ANC, wat unf methyl orange end pt, mg/L as CaCO3 (00411)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)
MAR													
05...	56	16.0	26	4.00	9.0	4.00	8.0	.2	4.00	12	5.0	--	53
29...	93	26.0	32	5.00	9.0	4.00	8.0	.3	6.00	13	6.0	68	--
JUN													
14...	110	36.0	38	5.00	5.0	6.00	6.0	.3	8.00	13	8.0	69	--
SEP													
21...	210	63.0	58	13.0	13.0	5.00	6.0	.4	13.0	12	22.0	170	--

07185000 NEOSHO RIVER NEAR COMMERCE, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, unfltrd mg/L (99220)	Sulfate water unfltrd mg/L (00946)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Nitrate water, fltrd, mg/L as N (00618)	COD, high level, water, unfltrd mg/L (00340)	Aluminum, water, fltrd, ug/L (01106)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)
MAR													
05...	E64	E.0	--	--	--	--	--	--	<300	33,100	<10	<10	<10.0
29...	--	--	<10	31.9	147	<5	1.01	18	<300	25,800	<10	<10	<10.0
JUN													
14...	--	--	<10	52.1	174	110	1.42	15	<300	3,800	<10	<10	<10.0
SEP													
21...	--	--	<10	60.0	287	35	<.05	14	<300	1,600	<10	<10	<10.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recoverable, ug/L (01034)	Cobalt water, fltrd, ug/L (01035)	Cobalt water, unfltrd recoverable, ug/L (01037)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)
MAR													
05...	11	35.0	300	<5	<5	<5	<5	<5	33	<5	M	<5	20
29...	<10	52.0	200	<5	<5	<5	<5	<5	26	<5	M	<5	20
JUN													
14...	<10	53.0	M	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
SEP													
21...	<10	120	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recoverable, ug/L (01051)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recoverable, ug/L (01055)	Molybdenum, water, fltrd, ug/L (01060)	Molybdenum, water, unfltrd recoverable, ug/L (01062)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recoverable, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)
MAR													
05...	30	26,600	<10	M	20	670	<5	<5	<10	M	<10	<10	<5
29...	40	19,500	<10	M	<5	520	<5	<5	<10	M	<10	<10	<5
JUN													
14...	<20	3,210	<10	M	20	190	<5	<5	<10	<10	<10	<10	<5
SEP													
21...	<20	1,220	<10	<10.0	<5	80	<5	<5	<10	<10	<10	<10	<5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Silver, water, unfltrd recoverable, ug/L (01077)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR						
05...	<5.00	<5	90	92	1,180	98,400
29...	<5.00	<5	70	9	773	46,100
JUN						
14...	<5.00	20	210	96	520	34,600
SEP						
21...	<5.00	<5	M	95	82	51

07185080 NEOSHO RIVER AT MIAMI, OK

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

DRAINAGE AREA.--6,001 mi^2.

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 766.33 ft, June 12, 1995; minimum gage height, 740.44 ft, Oct. 7, 2000.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 16, 1951, reached a stage of 778.53 ft at site on old U.S. Highway 66 at Miami bridge currently Highway 169, .5 mi upstream from present site, and at same datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 758.36 ft, Mar. 7; minimum gage height, 741.19 ft, Oct. 9.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

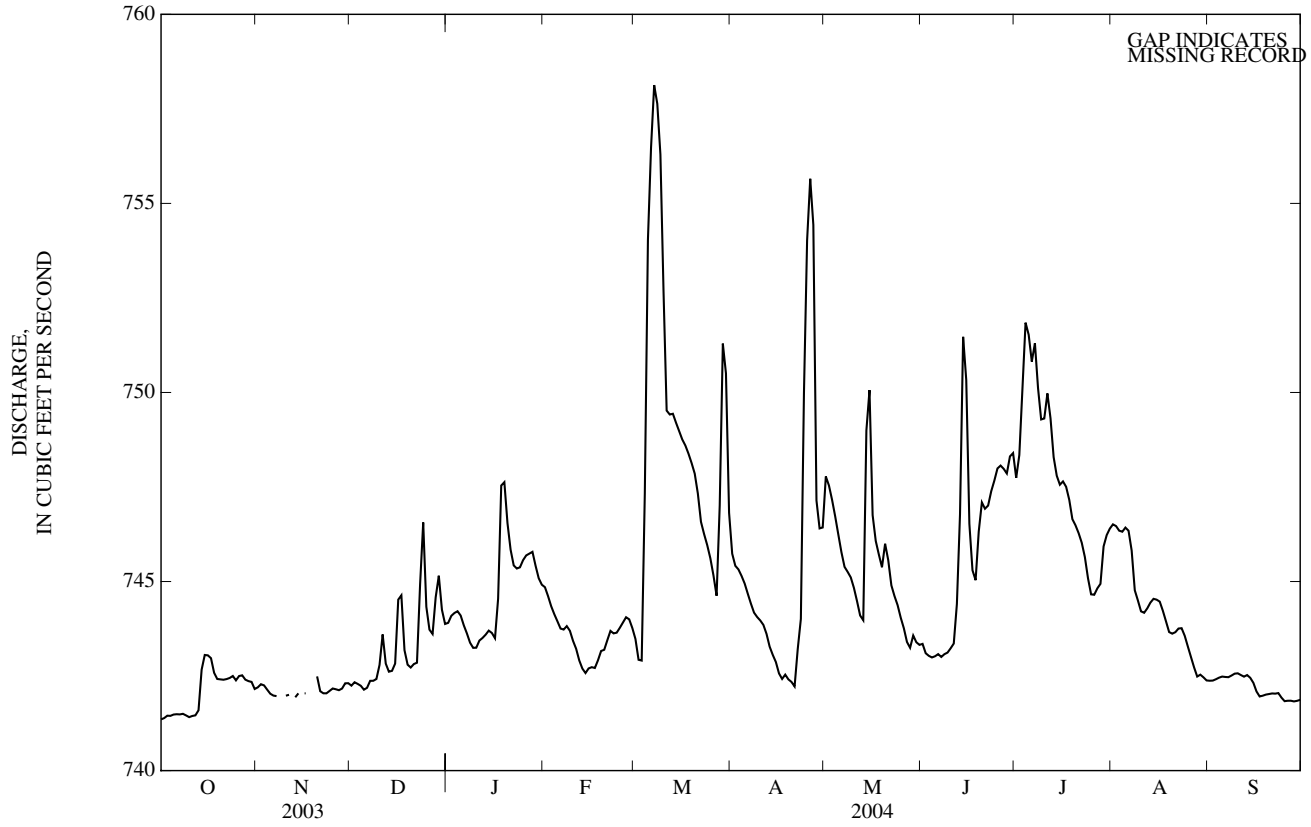
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	741.46	741.27	741.35	742.26	742.13	742.20	742.36	742.11	742.25	744.01	743.82	743.91
2	741.44	741.33	741.39	742.39	742.18	742.28	742.43	742.23	742.34	744.28	743.91	744.09
3	741.63	741.34	741.45	742.35	742.04	742.25	742.45	742.19	742.29	744.26	744.01	744.17
4	741.50	741.38	741.45	742.30	741.90	742.14	742.34	742.14	742.24	744.34	744.08	744.21
5	741.59	741.37	741.48	742.14	741.95	742.03	742.25	742.04	742.14	744.34	743.89	744.10
6	741.52	741.44	741.49	742.06	741.92	741.98	742.27	742.09	742.19	743.96	743.72	743.84
7	741.52	741.44	741.49	742.05	741.87	741.97	742.53	742.26	742.37	743.76	743.38	743.63
8	741.58	741.46	741.50	---	---	---	742.45	742.25	742.38	743.51	743.24	743.38
9	741.62	741.19	741.46	---	---	---	742.56	742.28	742.42	743.35	743.13	743.25
10	741.50	741.32	741.41	742.07	741.91	741.98	743.63	742.46	742.79	743.36	743.09	743.25
11	741.51	741.24	741.44	742.14	741.88	742.00	743.80	743.17	743.60	743.53	743.35	743.44
12	741.60	741.31	741.46	---	---	---	743.17	742.65	742.83	743.57	743.46	743.51
13	742.17	741.43	741.59	741.99	741.85	741.94	742.71	742.52	742.62	743.68	743.54	743.59
14	743.02	742.17	742.67	742.23	741.85	742.04	742.72	742.55	742.64	743.74	743.64	743.70
15	743.09	743.01	743.06	---	---	---	742.98	742.67	742.83	743.78	743.47	743.64
16	743.11	742.96	743.05	742.10	742.00	742.04	745.43	742.81	744.52	743.64	743.37	743.50
17	743.10	742.78	742.97	---	---	---	745.42	743.69	744.64	746.34	743.58	744.55
18	742.78	742.44	742.59	---	---	---	743.69	742.88	743.18	748.29	746.34	747.54
19	742.46	742.38	742.42	---	---	---	742.90	742.68	742.80	748.28	746.85	747.63
20	742.45	742.38	742.41	742.72	742.18	742.49	742.83	742.63	742.73	746.85	746.16	746.55
21	742.49	742.29	742.40	742.28	741.94	742.10	742.98	742.73	742.82	746.16	745.61	745.84
22	742.51	742.35	742.42	742.18	741.93	742.04	742.94	742.64	742.85	745.61	745.30	745.43
23	742.48	742.40	742.45	742.27	741.74	742.04	747.09	742.73	744.92	745.47	745.24	745.34
24	742.63	742.36	742.50	742.18	741.96	742.11	747.25	745.25	746.56	745.47	745.31	745.38
25	742.52	742.24	742.39	742.25	742.01	742.17	745.25	743.82	744.33	745.65	745.41	745.57
26	742.59	742.43	742.50	742.25	742.03	742.15	743.83	743.59	743.73	745.76	745.64	745.69
27	742.65	742.42	742.52	742.31	741.97	742.13	743.70	743.45	743.61	745.83	745.65	745.74
28	742.56	742.18	742.41	742.29	742.04	742.17	745.56	743.47	744.58	745.84	745.66	745.79
29	742.49	742.23	742.37	742.57	742.13	742.31	745.56	744.54	745.15	745.67	745.16	745.42
30	742.49	742.10	742.35	742.43	742.22	742.31	744.54	743.95	744.25	745.22	744.91	745.09
31	742.25	742.05	742.16	---	---	---	744.03	743.75	743.88	745.02	744.83	744.92
MONTH	743.11	741.19	742.08	742.72	741.74	742.12	747.25	742.04	743.31	748.29	743.09	744.70

07185080 NEOSHO RIVER AT MIAMI, OK—Continued

GAGE HEIGHT, FEET—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	744.98	744.65	744.85	743.71	743.17	743.48	746.04	745.54	745.74	748.22	746.33	747.78
2	744.79	744.45	744.61	743.18	742.69	742.93	745.54	745.34	745.42	747.73	747.36	747.54
3	744.49	744.18	744.35	743.82	742.65	742.91	745.42	745.23	745.32	747.41	746.91	747.16
4	744.23	744.00	744.14	752.25	743.82	747.33	745.23	745.07	745.15	746.91	746.41	746.72
5	744.12	743.81	743.95	755.29	752.25	754.04	745.08	744.80	744.95	746.42	745.98	746.25
6	743.84	743.64	743.76	757.56	755.29	756.48	744.80	744.54	744.68	745.99	745.50	745.78
7	743.79	743.68	743.73	758.36	757.53	758.13	744.54	744.29	744.42	745.54	745.20	745.39
8	743.96	743.71	743.82	758.28	756.94	757.63	744.29	744.07	744.18	745.37	745.10	745.25
9	743.88	743.54	743.70	756.94	755.40	756.29	744.12	743.95	744.06	745.20	744.89	745.11
10	743.54	743.32	743.43	755.43	749.96	752.67	744.04	743.88	743.97	745.01	744.59	744.83
11	743.35	742.97	743.22	749.96	749.37	749.52	743.95	743.78	743.85	744.63	744.27	744.48
12	742.99	742.83	742.91	749.48	749.37	749.42	743.81	743.38	743.62	744.30	743.87	744.10
13	742.84	742.55	742.70	749.49	749.33	749.44	743.48	743.13	743.28	745.11	743.60	743.98
14	742.71	742.49	742.58	749.34	749.07	749.20	743.18	742.88	743.06	751.14	745.11	749.00
15	742.79	742.55	742.70	749.08	748.88	748.98	742.99	742.60	742.87	751.27	747.70	750.06
16	742.84	742.65	742.74	748.88	748.65	748.76	742.69	742.30	742.57	747.70	746.26	746.76
17	742.83	742.64	742.71	748.67	748.50	748.60	742.56	742.27	742.42	746.26	745.82	746.07
18	743.04	742.78	742.92	748.52	748.25	748.38	742.67	742.35	742.54	745.84	745.47	745.71
19	743.32	742.98	743.16	748.25	748.01	748.13	742.65	742.25	742.41	745.55	745.13	745.38
20	743.40	742.96	743.20	748.02	747.69	747.85	742.57	742.12	742.35	746.37	745.15	746.00
21	743.62	743.30	743.45	747.69	746.88	747.33	742.30	742.10	742.23	746.07	745.05	745.57
22	743.82	743.59	743.69	746.88	746.37	746.58	743.58	742.27	743.21	745.05	744.64	744.90
23	743.71	743.54	743.63	746.37	746.05	746.26	744.51	743.33	744.01	744.78	744.36	744.62
24	743.75	743.57	743.65	746.08	745.80	745.96	753.11	744.51	749.99	744.49	744.23	744.38
25	743.89	743.69	743.78	745.80	745.36	745.62	755.00	753.08	754.02	744.27	743.85	744.04
26	743.99	743.83	743.92	745.36	744.87	745.16	756.26	754.90	755.65	743.92	743.63	743.76
27	744.12	743.99	744.06	744.87	744.34	744.62	756.25	749.69	754.43	743.63	743.14	743.40
28	744.12	743.82	744.00	750.35	744.30	747.01	749.69	746.34	747.14	743.62	742.99	743.25
29	743.91	743.53	743.77	751.77	750.35	751.29	746.50	746.30	746.40	743.67	743.41	743.57
30	---	---	---	751.76	748.33	750.50	746.54	746.28	746.43	743.77	743.16	743.39
31	---	---	---	748.33	746.04	746.82	---	---	---	743.41	743.24	743.33
MONTH	744.98	742.49	743.56	758.36	742.65	748.95	756.26	742.10	745.35	751.27	742.99	745.41
		JUNE			JULY			AUGUST			SEPTEMBER	
1	743.44	743.15	743.35	748.00	747.58	747.74	746.55	746.48	746.51	742.45	742.20	742.38
2	743.41	742.89	743.10	749.22	747.84	748.35	746.51	746.41	746.47	742.49	742.28	742.38
3	743.19	742.94	743.04	750.92	749.22	750.10	746.41	746.28	746.34	742.48	742.33	742.42
4	743.07	742.83	742.99	752.70	750.92	751.85	746.40	746.26	746.32	742.53	742.36	742.46
5	743.10	742.91	743.02	752.77	750.39	751.53	746.47	746.38	746.43	742.58	742.34	742.49
6	743.16	742.97	743.08	751.31	750.41	750.82	746.43	746.22	746.34	742.73	742.36	742.48
7	743.08	742.88	743.01	751.46	750.94	751.30	746.24	745.16	745.82	742.62	742.30	742.47
8	743.21	742.89	743.08	750.94	749.60	750.11	745.16	744.50	744.77	742.61	742.45	742.51
9	743.23	742.96	743.12	749.91	748.97	749.29	744.58	744.32	744.50	742.61	742.52	742.56
10	743.48	743.04	743.23	749.87	748.98	749.31	744.36	744.03	744.21	742.63	742.47	742.57
11	743.69	743.18	743.36	750.05	749.84	749.97	744.30	744.04	744.17	742.64	742.37	742.53
12	744.59	743.69	744.41	749.86	748.67	749.32	744.36	744.23	744.29	742.60	742.30	742.48
13	750.50	744.16	746.78	748.67	748.01	748.29	744.51	744.34	744.44	742.61	742.45	742.53
14	751.92	750.50	751.47	748.01	747.60	747.80	744.58	744.50	744.54	742.56	742.32	742.45
15	751.91	747.74	750.33	747.62	747.52	747.56	744.54	744.49	744.52	742.48	742.13	742.32
16	747.74	745.68	746.53	747.70	747.60	747.65	744.58	744.21	744.47	742.33	741.91	742.09
17	745.68	745.02	745.30	747.62	747.41	747.51	744.40	743.96	744.23	742.04	741.91	741.96
18	745.48	744.87	745.04	747.41	746.84	747.16	744.10	743.63	743.94	742.26	741.80	741.98
19	746.89	745.48	746.32	746.84	746.52	746.65	743.85	743.45	743.66	742.16	741.89	742.01
20	747.20	746.89	747.09	746.55	746.38	746.49	743.78	743.50	743.62	742.16	741.96	742.02
21	747.11	746.75	746.92	746.39	746.12	746.28	743.73	743.59	743.66	742.12	741.97	742.04
22	747.23	746.74	747.01	746.13	745.87	746.03	743.83	743.70	743.76	742.10	741.97	742.04
23	747.54	747.23	747.39	745.87	745.22	745.65	743.92	743.49	743.77	742.13	741.96	742.05
24	747.86	747.53	747.67	745.32	744.77	745.09	743.82	743.23	743.56	742.07	741.70	741.93
25	748.08	747.86	747.99	744.79	744.57	744.66	743.48	742.89	743.28	741.91	741.76	741.84
26	748.10	748.01	748.07	744.77	744.60	744.65	743.25	742.72	743.00	741.90	741.78	741.85
27	748.03	747.88	747.98	744.91	744.68	744.82	742.91	742.38	742.73	741.92	741.79	741.85
28	747.92	747.81	747.86	745.46	744.68	744.94	742.60	742.41	742.49	741.98	741.69	741.83
29	748.57	747.91	748.31	746.15	745.46	745.93	742.60	742.50	742.54	741.97	741.74	741.84
30	748.58	748.00	748.40	746.31	746.14	746.23	742.61	742.24	742.47	741.97	741.80	741.87
31	---	---	---	746.51	746.29	746.40	742.47	742.29	742.38	---	---	---
MONTH	751.92	742.83	745.84	752.77	744.57	747.73	746.55	742.24	744.30	742.73	741.69	742.21

07185080 NEOSHO RIVER AT MIAMI, OK—Continued



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07185090 TAR CREEK NEAR COMMERCE, OK.

LOCATION.--Lat 36°56'06", long 94°51'11", in SW 1/4, SE 1/4, sec 6, T.29 N., R.22 E., Ottawa County, Hydrologic Unit 11070206, at U.S. Highway 69 bridge, 1.0 mi east of Commerce, Ok.

PERIOD OF RECORD.--March 2000 to September 2000, July 2004 to current year.

REMARKS.--Event samples were collected by the U.S. Geological Survey. Water samples were analyzed by the Oklahoma Department of Environmental Quality and bed sediment samples were analyzed by the U.S. Geological Survey. Specific conductance, pH, water temperature, dissolved oxygen, and turbidity were determined in the field.

COOPERATION.--Sampling beginning in 2004 is in cooperation with the Oklahoma Department of Environmental Quality.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
MAR											
04...	1123	1028	1028	14.32	1,030	735	10.2	6.6	172	9.7	10.0
04...	1126	1028	1028	14.32	1,030	735	10.2	6.4	350	9.6	30.0
04...	1129	1028	1028	14.32	1,030	735	9.6	6.3	808	10.2	50.0
04...	1131	1028	1028	14.32	1,030	735	9.4	6.3	816	10.2	70.0
04...	1133	1028	1028	14.32	1,030	735	9.5	6.3	820	10.2	90.0
04...	1135	1028	1028	14.32	1,030	735	9.4	6.3	820	10.3	110
04...	1137	1028	1028	14.32	1,030	735	9.4	6.3	821	10.3	130
04...	1139	1028	1028	14.32	1,030	735	9.4	6.3	821	10.3	150
04...	1141	1028	1028	14.32	1,030	735	9.3	6.4	826	10.2	170
28...	1440	1028	1028	12.96	650	740	9.1	6.6	207	16.3	20.0
28...	1442	1028	1028	12.96	650	740	9.9	6.5	678	16.1	40.0
28...	1444	1028	1028	12.96	650	740	11.0	6.7	675	16.1	60.0
28...	1446	1028	1028	12.96	650	740	11.2	6.7	675	16.1	80.0
28...	1448	1028	1028	12.96	650	740	11.3	6.8	673	16.1	100
28...	1450	1028	1028	12.96	650	740	11.5	6.8	666	16.1	120
28...	1452	1028	1028	12.96	650	740	11.5	6.8	673	16.1	140
JUL											
09...	1318	1028	1028	12.25	578	745	4.8	7.0	142	22.3	10.0
09...	1320	1028	1028	12.25	578	745	5.0	6.5	604	21.5	20.0
09...	1322	1028	1028	12.25	578	745	5.4	6.5	868	21.3	30.0
09...	1323	1028	1028	12.25	578	745	5.4	6.5	896	21.2	40.0
09...	1324	1028	1028	12.25	578	745	5.4	6.5	905	21.2	50.0
09...	1326	1028	1028	12.25	578	745	5.9	6.5	905	21.2	60.0
09...	1328	1028	1028	12.25	578	745	5.5	6.5	890	21.2	70.0
09...	1330	1028	1028	12.25	578	745	6.1	6.5	900	21.2	95.0
09...	1332	1028	1028	12.25	578	745	5.2	6.5	902	21.2	105
09...	1334	1028	1028	12.25	578	745	5.3	6.5	897	21.2	115

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)
MAR													
04...	1230	1028	84017	1,030	--	735	9.4	87	6.3	820	18.0	10.2	250
28...	1522	1028	84017	650	1.6	740	11.2	117	6.7	673	--	16.1	--
JUL													
09...	1410	1028	84017	578	52	745	5.4	63	6.5	896	20.7	21.2	390
SEP													
09...	1220	1028	84017	2.1	40	744	7.7	87	6.8	2,060	27.8	19.4	1,100
09...	2010	1028	84017	1.9	25	744	6.7	77	6.8	2,080	18.0	20.8	1,100
10...	0425	1028	84017	2.0	19	744	6.5	72	6.8	2,100	11.7	18.5	1,100

07185090 TAR CREEK NEAR COMMERCE, OK.—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00918)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Sodium, water, unfltrd recoverable, mg/L (00929)	ANC, wat unf methyl orange end pt, mg/L as CaCO3 (00411)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)
MAR													
04...	300	99.0	110	13.0	15.0	4.00	5.0	.2	9.00	6	11.0	--	53
28...	300	92.0	92	12.0	13.0	4.00	4.0	.3	11.0	8	11.0	58	--
JUL													
09...	470	153	150	18.0	19.0	4.00	4.0	.2	9.00	4	10.0	53	65
SEP													
09...	1,400	424	420	38.0	38.0	3.00	3.0	.2	16.0	3	16.0	92	91
09...	1,400	414	410	38.0	38.0	3.00	3.0	.2	16.0	3	16.0	93	86
10...	1,400	419	420	38.0	39.0	3.00	3.0	.2	16.0	3	16.0	92	78

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, unfltrd mg/L (99220)	Sulfate water unfltrd mg/L (00946)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Nitrate water, fltrd, mg/L as N (00618)	COD, high level, water, unfltrd mg/L (00340)	Aluminum, water, fltrd, ug/L (01106)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)
MAR													
04...	E64	E.0	--	--	--	--	--	--	<300	3,000	<10	<10	<10.0
28...	--	--	<10	236	453	5	.20	27	<300	2,500	<10	<10	<10.0
JUL													
09...	79	E.0	<10	396	712	59	.08	24	<300	1,000	<10	<10	<10.0
SEP													
09...	110	.0	<10	996	1,860	13	<.05	6	<300	<300	<10	<10	<10.0
09...	104	.0	<10	1,000	1,880	11	<.05	10	<300	<300	<10	<10	<10.0
10...	95	.0	<10	1,000	1,970	9	<.05	7	<300	<300	<10	<10	<10.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recoverable, ug/L (01034)	Cobalt water, fltrd, ug/L (01035)	Cobalt water, unfltrd recoverable, ug/L (01037)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)
MAR													
04...	<10	26.0	M	<5	<5	<5	M	<5	<5	M	M	<5	M
28...	<10	37.0	M	<5	<5	<5	20	<5	<5	<5	M	<5	10
JUL													
09...	<10	22.0	M	<5	<5	<5	M	<5	<5	M	10	<5	M
SEP													
09...	<10	12.0	M	<5	<5	10	10	<5	<5	10	10	<5	<5
09...	<10	12.0	M	<5	<5	10	10	<5	<5	10	10	<5	<5
10...	<10	12.0	M	<5	<5	M	10	<5	<5	10	10	<5	<5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recoverable, ug/L (01051)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recoverable, ug/L (01055)	Molybdenum, water, fltrd, ug/L (01060)	Molybdenum, water, unfltrd recoverable, ug/L (01062)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recoverable, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)
MAR													
04...	5,390	11,600	<10	M	300	380	<5	<5	M	M	<10	<10	<5
28...	2,420	11,300	<10	200	400	520	<5	<5	M	M	<10	<10	<5
JUL													
09...	7,160	15,000	<10	M	380	400	<5	<5	M	M	<10	<10	<5
SEP													
09...	2,080	3,670	<10	<10	1,190	1,190	<5	<5	M	M	<10	<10	<5
09...	1,590	2,990	<10	<10	1,160	1,160	<5	<5	M	M	<10	<10	<5
10...	590	2,020	<10	<10	1,190	1,200	<5	<5	M	M	<10	<10	<5

07185090 TAR CREEK NEAR COMMERCE, OK.—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Silver, water, unfltrd recover -able, ug/L (01077)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover -able, ug/L (01092)	Alum- inum, bed sedimnt recover -able, ug/g (01108)	Arsenic bed sedimnt total, ug/g (01003)	Barium, bed sedimnt recover -able, ug/g (01008)	Beryll- ium, bed sedimnt recover -able, ug/g (01013)	Cadmium bed sedimnt recover -able, ug/g (01028)	Chrom- ium, bed sedimnt recover -able, ug/g (01029)	Cobalt bed sedimnt recover -able, ug/g (01038)	Copper, bed sedimnt recover -able, ug/g (01043)	Iron, bed sedimnt total, ug/g (01170)	Lead, bed sedimnt recover -able, ug/g (01052)
MAR													
04...	<5.00	1,910	2,620	290	<10	<40	<1	10	<2.0	<10	6	15,000	140
28...	<5.00	1,600	3,420	1,400	<12	M	<2	19	6.0	<100	11	25,000	260
JUL													
09...	<5.00	2,440	3,100	1,400	11	<40	<1	7.0	9.0	<10	5	24,000	170
SEP													
09...	<5.00	5,150	5,230	--	--	--	--	--	--	--	--	--	--
09...	<5.00	5,060	5,070	--	--	--	--	--	--	--	--	--	--
10...	<5.00	4,810	4,940	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Mangan- ese, bed sedimnt recover -able, ug/g (01053)	Molyb- denum, bed sedimnt recover -able, ug/g (01063)	Nickel, bed sedimnt recover -able, ug/g (01068)	Selen- ium, bed sedimnt total, ug/g (01148)	Silver, bed sedimnt recover -able, ug/g (01078)	Zinc, bed sedimnt recover -able, ug/g (01093)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
MAR									
04...	9	<10	<8.0	<12	<8	2,400	89	156	434
28...	65	<100	12	<14	2	5,400	82	193	339
JUL									
09...	38	<10	11	<12	<8	2,500	77	173	270
SEP									
09...	--	--	--	--	--	--	100	367	2.1
09...	--	--	--	--	--	--	100	389	2.0
10...	--	--	--	--	--	--	100	368	2.0

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07185095 TAR CREEK AT 22ND STREET BRIDGE AT MIAMI, OK.

LOCATION.--Lat 36°54'00", long 94°52'05", in NW 1/4, NE 1/4, sec 19, T.28 N., R.23 E., Ottawa County, Hydrologic Unit 11070206, at 22nd Street bridge in Miami, Ok, 0.5 mi east of intersection of Main and 22nd Street.

DRAINAGE AREA.--44.7 mi^2.

PERIOD OF RECORD.--June 1988 to May 1989, September 1989 to December 1992, March 2000 to September 2000, March 2004 to current year.

REMARKS.--Event samples were collected by the U.S. Geological Survey. Water samples were analyzed by the Oklahoma Department of Environmental Quality and bed sediment samples were analyzed by the U.S. Geological Survey. Specific conductance, pH, water temperature, dissolved oxygen, and turbidity were determined in the field.

COOPERATION.--Sampling beginning in 2004 is in cooperation with the Oklahoma Department of Environmental Quality.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
MAR											
04...	1655	1028	1028	10.26	1,370	735	9.2	6.7	600	13.1	7.00
04...	1658	1028	1028	10.26	1,370	735	9.4	6.6	620	12.0	26.0
04...	1659	1028	1028	10.26	1,370	735	9.7	6.6	698	11.7	31.0
04...	1701	1028	1028	10.26	1,370	735	9.3	6.5	699	11.7	38.0
04...	1703	1028	1028	10.26	1,370	735	9.4	6.5	699	11.7	45.0
04...	1704	1028	1028	10.26	1,370	735	9.4	6.5	700	11.7	48.0
04...	1705	1028	1028	10.26	1,370	735	9.4	6.6	700	11.7	59.0
04...	1707	1028	1028	10.26	1,370	735	9.5	6.6	700	11.7	66.0
04...	1709	1028	1028	10.26	1,370	735	9.4	6.5	697	11.7	73.0
04...	1710	1028	1028	10.26	1,370	735	9.3	6.5	694	11.6	80.0
28...	1850	1028	1028	8.51	915	741	13.8	6.9	572	16.8	40.0
28...	1851	1028	1028	8.51	915	741	13.8	6.9	572	16.7	46.0
28...	1852	1028	1028	8.51	915	741	13.8	6.9	577	16.7	52.0
28...	1853	1028	1028	8.51	915	741	13.9	6.9	577	16.7	58.0
28...	1854	1028	1028	8.51	915	741	13.8	6.9	577	16.7	64.0
28...	1855	1028	1028	8.51	915	741	13.9	6.9	577	16.7	70.0
28...	1856	1028	1028	8.51	915	741	13.9	6.9	578	16.7	76.0
28...	1857	1028	1028	8.51	915	741	13.8	6.9	578	16.7	82.0
28...	1859	1028	1028	8.51	915	741	13.8	6.9	578	16.7	88.0
28...	1900	1028	1028	8.51	915	741	13.8	6.9	578	16.7	94.0
JUN											
14...	1150	1028	1028	5.74	190	741	6.3	6.3	800	22.2	10.0
14...	1154	1028	1028	5.74	190	741	6.3	6.3	800	22.2	20.0
14...	1159	1028	1028	5.74	190	741	6.3	6.4	800	22.2	30.0
JUL											
09...	1103	1028	1028	8.00	649	760	5.2	7.4	715	21.6	5.00
09...	1105	1028	1028	8.00	649	760	5.3	7.4	730	21.6	15.0
09...	1109	1028	1028	8.00	649	760	5.3	7.3	733	21.6	25.0
09...	1110	1028	1028	8.00	649	760	5.3	7.3	733	21.6	35.0
09...	1112	1028	1028	8.00	649	760	5.3	7.2	733	21.6	45.0
09...	1115	1028	1028	8.00	649	760	5.3	7.2	732	21.6	55.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)
MAR													
04...	1630	1028	84017	1,370	--	735	9.4	90	6.6	698	--	11.7	240
28...	1840	1028	84017	915	.9	741	13.8	146	6.9	577	--	16.7	--
JUN													
14...	1220	1028	84017	190	61	741	6.3	75	6.3	800	32.0	22.2	--
JUL													
09...	1120	1028	84017	649	56	760	5.3	60	7.3	733	24.5	21.6	280
SEP													
09...	1348	1028	84017	2.3	4.7	744	7.5	86	7.2	1,730	30.1	21.0	830
09...	2137	1028	84017	2.6	8.1	--	7.8	--	7.3	1,780	18.4	20.9	880
10...	0552	1028	84017	2.4	2.5	--	6.9	--	7.2	1,780	12.2	20.0	880

07185095 TAR CREEK AT 22ND STREET BRIDGE AT MIAMI, OK.—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00918)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Sodium, water, unfltrd recoverable, mg/L (00929)	ANC, wat unf methyl orange end pt, mg/L as CaCO3 (00411)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)
MAR													
04...	280	94.0	98	12.0	13.0	5.00	5.0	.2	9.00	6	10.0	--	48
28...	260	82.0	81	11.0	11.0	4.00	5.0	.3	10.0	8	10.0	53	--
JUN													
14...	390	125	130	16.0	15.0	5.00	5.0	.2	11.0	6	10.0	55	--
JUL													
09...	340	111	110	13.0	13.0	4.00	4.0	.2	8.00	5	8.0	48	55
SEP													
09...	1,000	301	310	38.0	39.0	8.00	8.0	.4	28.0	6	29.0	90	78
09...	1,000	320	310	39.0	39.0	8.00	8.0	.4	28.0	6	29.0	95	83
10...	1,000	319	320	39.0	40.0	8.00	8.0	.4	29.0	6	29.0	96	75

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, unfltrd mg/L (99220)	Sulfate water unfltrd mg/L (00946)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Nitrate water, fltrd, mg/L as N (00618)	COD, high level, water, unfltrd mg/L (00340)	Aluminum, water, fltrd, ug/L (01106)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)
MAR													
04...	E59	E.0	--	--	--	--	--	--	<300	3,600	<10	<10	<10.0
28...	--	--	<10	207	800	<5	.20	33	<300	2,500	<10	<10	<10.0
JUN													
14...	--	--	<10	356	589	38	.24	20	<300	1,000	<10	<10	<10.0
JUL													
09...	67	.0	<10	282	528	36	.08	23	<300	1,000	<10	<10	<10.0
SEP													
09...	95	.0	19	753	1,480	8	.25	24	<300	<300	<10	<10	<10.0
09...	100	.0	21	816	1,560	12	.25	20	<300	<300	<10	<10	<10.0
10...	91	.0	21	824	1,520	8	.25	24	<300	<300	<10	<10	<10.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recoverable, ug/L (01034)	Cobalt water, fltrd, ug/L (01035)	Cobalt water, unfltrd recoverable, ug/L (01037)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)
MAR													
04...	<10	30.0	M	<5	<5	<5	M	<5	<5	M	M	<5	M
28...	<10	33.0	M	<5	<5	<5	M	<5	<5	<5	<5	<5	M
JUN													
14...	<10	27.0	M	<5	<5	<5	<5	<5	<5	M	M	<5	<5
JUL													
09...	<10	26.0	M	<5	<5	<5	<5	<5	<5	<5	<5	<5	M
SEP													
09...	<10	18.0	M	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
09...	<10	18.0	M	<5	<5	<5	<5	<5	<5	<5	M	<5	<5
10...	<10	18.0	M	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

07185095 TAR CREEK AT 22ND STREET BRIDGE AT MIAMI, OK.—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover -able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover -able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover -able, ug/L (01055)	Molyb- denum, water, fltrd, ug/L (01060)	Molyb- denum, water, unfltrd recover -able, ug/L (01062)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover -able, ug/L (01067)	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)
MAR													
04...	3,650	11,100	<10	M	308	358	<5	<5	40.0	50	<10	<10	<5.0
28...	740	8,580	<10	M	350	390	<5	<5	M	M	<10	<10	<5
JUN													
14...	890	7,210	<10	M	380	380	<5	<5	M	M	<10	<10	<5
JUL													
09...	1,170	7,400	<10	M	300	320	<5	<5	M	M	<10	<10	<5
SEP													
09...	<20	1,010	<10	<10	580	590	<5	<5	M	M	<10	<10	<5
09...	<20	1,620	<10	<10	550	620	<5	<5	M	M	<10	<10	<5
10...	20	960	<10	<10	540	540	<5	<5	M	M	<10	<10	<5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Silver, water, unfltrd recover -able, ug/L (01077)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover -able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
MAR						
04...	<5.00	1,870	2,520	82	191	707
28...	<5.00	1,380	2,250	90	126	311
JUN						
14...	<5.00	2,040	2,290	93	120	62
JUL						
09...	<5.00	1,720	2,080	93	107	187
SEP						
09...	<5.00	1,920	2,060	99	297	1.9
09...	<5.00	2,020	2,160	94	289	2.0
10...	<5.00	1,980	2,090	99	318	2.1

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07185190 NEOSHO RIVER NEAR WYANDOTTE, OK.

LOCATION.--Lat 36°47'52", long 94°45'15", in SW 1/4, SW 1/4, sec 20, T.27 N., R.24 E., Ottawa County, Hydrologic Unit 11070207.

PERIOD OF RECORD.--August to September 1982, January 2004 to current year. Prior to January 2004, this site was named Neosho River below Spring near Twin Bridges (site number 364752094451501).

REMARKS.-Event samples were collected by the U.S. Geological Survey. Water samples were analyzed by the Oklahoma Department of Environmental Quality and bed sediment samples were analyzed by the U.S. Geological Survey. Specific conductance, pH, water temperature, dissolved oxygen, and turbidity were determined in the field.

COOPERATION.--Sampling beginning in 2004 is in cooperation with the Seneca-Cayuga Tribe of Oklahoma and the Oklahoma Department of Environmental Quality.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
JAN										
18...	1526	1028	1028	12,600	743	11.7	7.9	308	7.1	370
18...	1527	1028	1028	12,600	743	10.8	7.7	307	7.1	330
18...	1528	1028	1028	12,600	743	10.6	7.6	306	7.1	290
18...	1529	1028	1028	12,600	743	10.6	7.5	306	7.1	250
18...	1530	1028	1028	12,600	743	10.6	7.5	306	7.1	210
18...	1531	1028	1028	12,600	743	10.6	7.4	306	7.1	170
18...	1532	1028	1028	12,600	743	10.6	7.4	306	7.1	130
18...	1533	1028	1028	12,600	743	10.5	7.4	306	7.1	90.0
18...	1534	1028	1028	12,600	743	10.5	7.4	306	7.2	50.0
MAR										
05...	1737	1028	1028	33,000	739	9.3	6.6	203	10.6	50.0
05...	1738	1028	1028	33,000	739	8.8	6.5	203	10.6	100
05...	1740	1028	1028	33,000	739	9.0	6.6	201	10.6	150
05...	1742	1028	1028	33,000	739	9.2	6.6	201	10.6	200
05...	1744	1028	1028	33,000	739	8.6	6.7	201	10.6	250
05...	1746	1028	1028	33,000	739	8.5	6.7	201	10.6	300
05...	1748	1028	1028	33,000	739	9.0	6.7	202	10.6	350
05...	1750	1028	1028	33,000	739	9.1	6.7	202	10.6	400
05...	1752	1028	1028	33,000	739	8.6	6.7	202	10.6	450
30...	1240	1028	1028	21,400	746	8.4	6.9	258	14.2	25.0
30...	1242	1028	1028	21,400	746	8.2	7.2	258	14.2	75.0
30...	1244	1028	1028	21,400	746	8.1	7.3	258	14.2	125
30...	1245	1028	1028	21,400	746	8.0	7.3	258	14.2	175
30...	1246	1028	1028	21,400	746	8.0	7.4	258	14.1	225
30...	1248	1028	1028	21,400	746	7.9	7.4	258	14.2	275
30...	1250	1028	1028	21,400	746	7.9	7.5	258	14.1	325
30...	1252	1028	1028	21,400	746	7.9	7.4	258	14.2	375
30...	1254	1028	1028	21,400	746	7.9	7.5	257	14.2	425
30...	1256	1028	1028	21,400	746	7.8	7.5	263	14.3	475
30...	1258	1028	1028	21,400	746	6.5	7.4	291	14.2	525

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)
JAN													
18...	1630	1028	84017	12,600	--	743	10.6	90	7.5	306	--	7.1	56
MAR													
05...	1800	1028	84017	33,000	--	739	9.0	83	6.7	202	9.0	10.6	32
30...	1400	1028	84017	21,400	.3	746	7.9	79	7.4	258	--	14.2	--
JUN													
15...	1305	1028	84017	21,300	230	760	5.4	63	7.3	179	28.1	23.0	--

07185190 NEOSHO RIVER NEAR WYANDOTTE, OK.—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00918)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Sodium, water, unfltrd recoverable, mg/L (00929)	ANC, wat unf methyl orange end pt, mg/L as CaCO3 (00411)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)
JAN													
18...	120	38.0	--	7.00	--	6.00	--	.3	8.00	12	--	--	67
MAR													
05...	78	23.0	30	5.00	9.0	4.00	8.0	.2	5.00	12	5.0	--	46
30...	110	31.0	36	6.00	9.0	5.00	7.0	.3	7.00	12	7.0	80	--
JUN													
15...	72	23.0	25	4.00	6.0	5.00	7.0	.2	4.00	10	4.0	33	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Chloride, water, unfltrd mg/L (99220)	Sulfate water, fltrd, mg/L (00945)	Sulfate water unfltrd mg/L (00946)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Nitrate water, fltrd, mg/L as N (00618)	COD, high level, water, unfltrd mg/L (00340)	Aluminum, water, fltrd, ug/L (01106)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Antimony, water, fltrd, ug/L (01095)
JAN													
18...	82	.0	<10.0	--	63.7	--	202	<5	.70	54	<300	--	<10
MAR													
05...	E57	E.0	--	--	--	--	--	--	--	--	<300	28,900	<10
30...	--	--	--	<10	--	38.9	167	<5	.80	36	<300	17,900	<10
JUN													
15...	--	--	--	<10	--	90.4	165	288	.72	26	<300	14,300	<10

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Antimony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recoverable, ug/L (01034)	Cobalt water, fltrd, ug/L (01035)	Cobalt water, unfltrd recoverable, ug/L (01037)
JAN													
18...	--	<10.0	--	55	--	<5	--	<5	--	<5	--	<5	--
MAR													
05...	<10	<10.0	<10	49.0	300	<5	<5	<5	<5	<5	28	<5	M
30...	<10	<10.0	<10	58.0	200	<5	<5	<5	<5	<5	17	<5	<5
JUN													
15...	<10	<10.0	<10	50.0	100	<5	<5	<5	<5	<5	14	<5	<5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recoverable, ug/L (01051)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recoverable, ug/L (01055)	Molybdenum, water, fltrd, ug/L (01060)	Molybdenum, water, unfltrd recoverable, ug/L (01062)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recoverable, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)
JAN													
18...	<5	--	100	--	<10	--	130	--	<5	--	<10	--	<10
MAR													
05...	<5	20	60	24,200	<10	M	210	750	<5	<5	<10	M	<10
30...	<5	10	30	13,500	<10	M	10	420	<5	<5	<10	M	<10
JUN													
15...	<5	M	30	11,000	<10	<10	20	280	<5	<5	<10	M	<10

07185190 NEOSHO RIVER NEAR WYANDOTTE, OK.—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Selenium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recoverable, ug/L (01077)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recoverable, ug/L (01092)	Aluminum, bed sedimnt recoverable, ug/g (01108)	Arsenic bed sedimnt total, ug/g (01003)	Barium, bed sedimnt recoverable, ug/g (01008)	Beryllium, bed sedimnt recoverable, ug/g (01013)	Cadmium bed sedimnt recoverable, ug/g (01028)	Chromium, bed sedimnt recoverable, ug/g (01029)	Cobalt bed sedimnt recoverable, ug/g (01038)	Copper, bed sedimnt recoverable, ug/g (01043)
JAN													
18...	--	<5	--	90	--	--	--	--	--	--	--	--	--
MAR													
05...	<10	<5	<5.00	20	290	8,000	<10	80	<1	<1.0	10	<10	7
30...	<10	<5	<5.00	<5	100	16,000	<12	100	<2	<1.0	18	<100	8
JUN													
15...	<10	<5	<5.00	<5	70	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Iron, bed sedimnt total, ug/g (01170)	Lead, bed sedimnt recoverable, ug/g (01052)	Manganese, bed sedimnt recoverable, ug/g (01053)	Molybdenum, bed sedimnt recoverable, ug/g (01063)	Nickel, bed sedimnt recoverable, ug/g (01068)	Selenium, bed sedimnt total, ug/g (01148)	Silver, bed sedimnt recoverable, ug/g (01078)	Zinc, bed sedimnt recoverable, ug/g (01093)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
JAN											
18...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	11,000	15	540	<10	10	<12	<8	140	92	1,160	104,000
30...	11,000	<10	290	<100	11	<14	<2	120	90	683	39,500
JUN											
15...	--	--	--	--	--	--	--	--	93	378	21,700

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07188000 SPRING RIVER NEAR QUAPAW, OK

LOCATION.--Lat 36°56'04", long 94°44'46", in NE $^1/_4$ SW $^1/_4$ sec.5, T.28 N., R.24 E., Ottawa County, Hydrologic Unit 11070207, near downstream right abutment of county road bridge, 0.1 mi upstream from Rock Creek, 3.0 mi southeast of Quapaw, and at mile 13.9. Records include flow of Rock Creek.

DRAINAGE AREA.--2,510 mi^2, includes that of Rock Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1939 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 746.25 ft above sea level. Nonrecording gage on right bank at same datum used May 20 to Nov. 16, 1943.

REMARKS.--Records good except for estimated periods which are poor. Occasional releases from floodgates at old Riverton Hydroelectric plant, 15 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 5	0700	*37,900	*21.66	Apr 25	1130	33,300	20.36
Mar 28	2130	19,800	16.12	Jul 4	1800	21,300	16.65

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	297	216	450	1,990	1,640	892	4,080	7,880	1,550	3,390	1,030	804
2	309	223	423	1,800	1,610	914	3,390	7,880	1,400	9,770	961	684
3	309	219	538	1,660	1,600	1,100	2,980	6,040	1,310	11,300	882	620
4	288	218	704	1,610	1,540	15,000	2,710	4,570	1,220	15,900	828	577
5	276	217	747	1,830	1,550	36,100	2,470	3,800	1,150	10,500	783	552
6	264	208	716	2,260	1,600	31,000	2,290	3,290	1,100	5,270	738	647
7	254	218	655	1,920	1,530	16,400	2,150	2,930	1,050	3,790	706	610
8	245	232	582	1,670	1,460	6,840	2,010	2,640	1,010	e3,460	679	549
9	296	227	602	1,540	1,430	4,590	1,920	2,440	992	e3,570	659	511
10	352	225	2,920	1,450	1,540	3,870	2,020	2,260	1,020	7,920	636	490
11	301	228	4,440	1,340	1,670	3,360	2,240	2,080	1,010	4,520	626	476
12	287	223	2,940	1,300	1,870	3,020	2,180	1,950	986	3,150	608	463
13	268	214	2,160	1,240	1,900	2,780	1,970	3,020	6,580	2,570	587	448
14	364	218	1,860	1,190	1,670	2,640	1,780	14,100	8,210	2,220	570	429
15	379	225	1,970	1,140	1,530	2,530	1,640	10,500	4,160	1,970	557	418
16	355	226	6,580	1,170	1,440	2,430	1,550	6,580	2,450	1,790	546	413
17	306	233	5,580	6,540	1,390	2,340	1,460	3,610	3,080	1,670	538	404
18	290	876	3,090	17,400	1,370	2,210	1,390	2,630	2,900	1,560	525	408
19	291	1,390	2,090	11,500	1,390	2,070	1,330	2,260	2,580	1,450	520	380
20	273	1,610	1,710	6,690	1,390	1,930	1,350	2,030	1,860	1,360	1,030	364
21	258	1,240	1,470	3,930	1,350	1,810	1,370	1,870	1,620	1,270	690	353
22	243	930	1,390	3,170	1,230	1,670	1,610	1,700	2,180	1,190	600	349
23	233	801	6,630	2,790	1,140	1,540	2,860	1,590	4,640	1,110	562	342
24	230	743	8,160	2,540	1,080	1,470	23,000	3,350	2,820	1,760	532	345
25	224	693	4,450	2,360	1,050	1,420	31,600	4,460	2,060	1,550	505	340
26	220	643	2,630	2,330	1,020	1,980	22,200	2,780	1,670	1,250	489	333
27	220	601	2,060	2,510	977	2,740	10,100	2,140	1,430	1,120	469	328
28	228	549	3,910	2,260	938	10,600	5,320	1,890	1,440	1,030	477	317
29	224	507	4,940	1,990	932	16,500	4,010	2,800	1,430	1,020	459	311
30	217	476	3,210	1,860	---	9,140	3,650	2,370	1,300	1,040	1,570	311
31	212	---	2,370	1,740	---	6,040	---	1,720	---	1,050	1,240	---
TOTAL	8,513	14,829	81,977	94,720	40,837	196,926	148,630	119,160	66,208	110,520	21,602	13,576
MEAN	275	494	2,644	3,055	1,408	6,352	4,954	3,844	2,207	3,565	697	453
MAX	379	1,610	8,160	17,400	1,900	36,100	31,600	14,100	8,210	15,900	1,570	804
MIN	212	208	423	1,140	932	892	1,330	1,590	986	1,020	459	311
AC-FT	16,890	29,410	162,600	187,900	81,000	390,600	294,800	236,400	131,300	219,200	42,850	26,930
CFSM	0.11	0.20	1.05	1.22	0.56	2.53	1.97	1.53	0.88	1.42	0.28	0.18
IN.	0.13	0.22	1.21	1.40	0.61	2.92	2.20	1.77	0.98	1.64	0.32	0.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

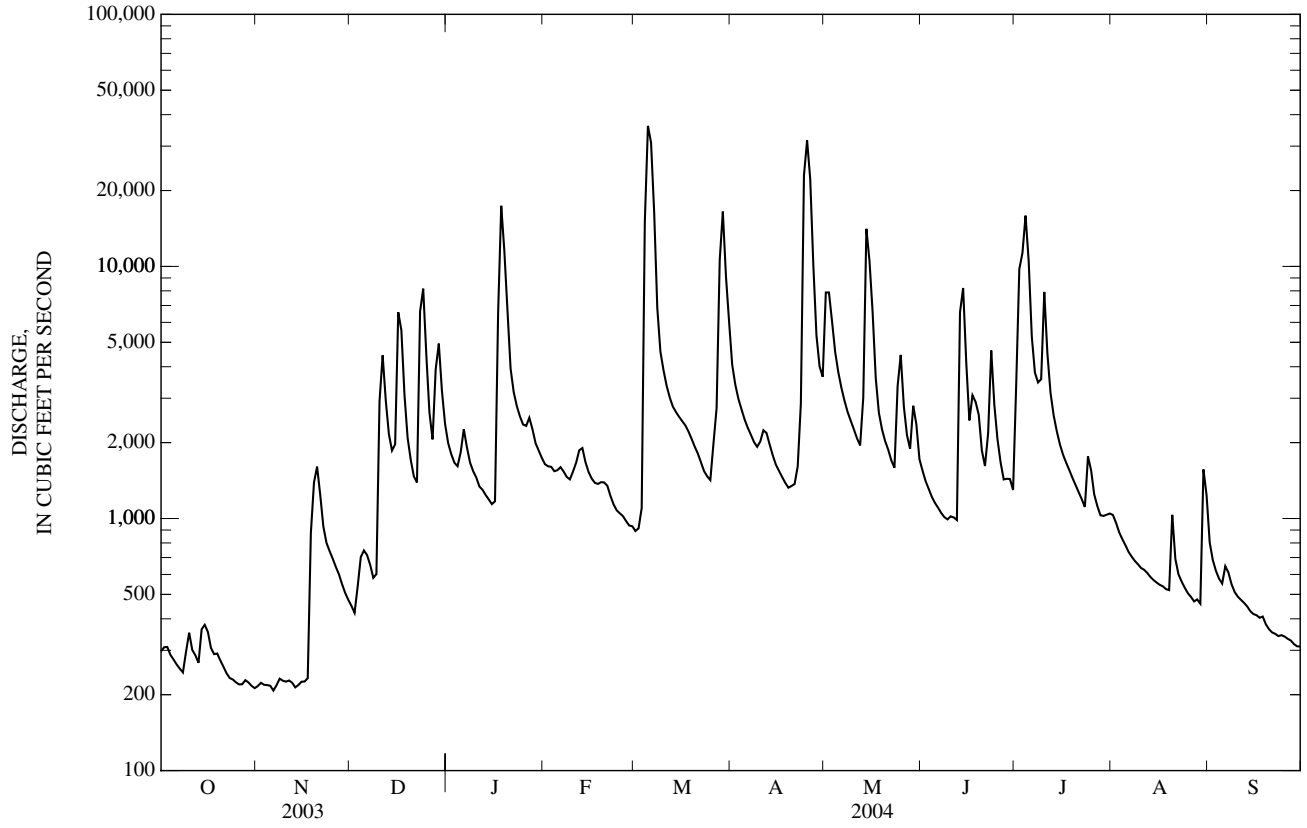
MEAN	1,620	2,219	1,708	1,559	2,122	2,956	3,360	3,718	2,970	1,773	767	1,359
MAX	14,880	14,810	10,720	6,495	13,300	12,050	15,100	26,940	12,780	10,140	8,622	18,390
(WY)	(1987)	(1986)	(1993)	(1973)	(1985)	(1973)	(1945)	(1943)	(1995)	(1976)	(1950)	(1993)
MIN	75.8	111	116	116	129	123	169	481	233	34.3	29.3	76.0
(WY)	(1957)	(1954)	(1964)	(1964)	(1954)	(1954)	(1954)	(1964)	(1954)	(1954)	(1954)	(1953)

e Estimated

07188000 SPRING RIVER NEAR QUAPAW, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	353,942		917,498			
ANNUAL MEAN	970		2,507		2,175	
HIGHEST ANNUAL MEAN					6,623	1993
LOWEST ANNUAL MEAN					191	1954
HIGHEST DAILY MEAN	8,160	Dec 24	36,100	Mar 5	210,000	Sep 26, 1993
LOWEST DAILY MEAN	112	Aug 28	208	Nov 6	5.8	Jul 8, 1954
ANNUAL SEVEN-DAY MINIMUM	124	Aug 22	216	Oct 31	7.3	Sep 12, 1954
MAXIMUM PEAK FLOW			37,900	Mar 5	230,000	Sep 26, 1993
MAXIMUM PEAK STAGE			21.66	Mar 5	a46.60	Sep 26, 1993
ANNUAL RUNOFF (AC-FT)	702,000		1,820,000		1,576,000	
ANNUAL RUNOFF (CFSM)	0.386		0.999		0.866	
ANNUAL RUNOFF (INCHES)	5.25		13.60		11.77	
10 PERCENT EXCEEDS	2,150		5,040		4,310	
50 PERCENT EXCEEDS	582		1,440		845	
90 PERCENT EXCEEDS	221		289		215	

a From floodmark.



07188000 SPRING RIVER NEAR QUAPAW, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-58, 1960-63, 1976-80, 1986, June 1988 to May 1989, March 2000 to September 2000, February 2004 to current year.

REMARKS.-Event samples were collected by the U.S. Geological Survey. Water samples were analyzed by the Oklahoma Department of Environmental Quality and bed sediment samples were analyzed by the U.S. Geological Survey. Specific conductance, pH, water temperature, dissolved oxygen, and turbidity were determined in the field.

COOPERATION.--Sampling beginning in 2004 is in cooperation with the Oklahoma Department of Environmental Quality.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
MAR											
29...	1605	1028	1028	14.20	14,600	750	8.2	6.6	213	14.5	270
29...	1606	1028	1028	14.20	14,600	750	8.1	6.9	213	14.5	240
29...	1607	1028	1028	14.20	14,600	750	8.1	7.1	212	14.5	210
29...	1608	1028	1028	14.20	14,600	750	8.0	7.2	212	14.5	180
29...	1609	1028	1028	14.20	14,600	750	8.0	7.2	212	14.5	150
29...	1610	1028	1028	14.20	14,600	750	8.0	7.2	212	14.6	120
29...	1611	1028	1028	14.20	14,600	750	8.0	7.3	212	14.6	90.0
29...	1612	1028	1028	14.20	14,600	750	8.0	7.3	212	14.6	60.0
29...	1614	1028	1028	14.20	14,600	750	8.0	7.3	212	14.6	30.0
JUN											
14...	1345	1028	1028	11.52	8,340	740	7.9	7.5	272	22.8	100
14...	1350	1028	1028	11.52	8,340	740	7.9	7.5	273	22.8	200
14...	1354	1028	1028	11.52	8,340	740	7.9	7.5	271	22.8	280
AUG											
20...	1153	1028	1028	6.85	1,160	743	6.3	7.9	327	23.8	10.0
20...	1156	1028	1028	6.85	1,160	743	6.3	7.9	334	24.0	30.0
20...	1158	1028	1028	6.85	1,160	743	6.3	7.9	336	24.1	50.0
20...	1200	1028	1028	6.85	1,160	743	6.2	7.9	337	24.1	70.0
20...	1203	1028	1028	6.85	1,160	743	6.2	7.9	339	24.2	90.0
20...	1205	1028	1028	6.85	1,160	743	6.2	8.0	340	24.2	110
20...	1208	1028	1028	6.85	1,160	743	6.2	8.0	340	24.2	130
20...	1210	1028	1028	6.85	1,160	743	6.2	8.0	341	24.3	150
20...	1213	1028	1028	6.85	1,160	743	6.2	8.0	341	24.3	170
20...	1215	1028	1028	6.85	1,160	743	6.3	8.0	340	24.3	190
20...	1218	1028	1028	6.85	1,160	743	6.2	8.0	339	24.2	210
20...	1219	1028	1028	6.85	1,160	743	6.2	8.0	338	24.2	230
20...	1220	1028	1028	6.85	1,160	743	6.2	8.0	336	24.2	250

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)
MAR													
04...	1830	1028	84017	21,500	--	735	12.0	110	7.0	259	--	9.9	29
29...	1652	1028	84017	14,600	.5	750	8.0	80	7.2	212	--	14.5	--
JUN													
14...	1430	1028	84017	8,340	340	740	7.9	95	7.5	272	29.5	22.8	--
AUG													
20...	1235	1028	84017	1,160	16	743	6.2	77	8.0	339	--	24.2	--
31...	1100	1028	84017	1,200	14	763	7.4	90	8.1	414	29.6	25.6	--

07188000 SPRING RIVER NEAR QUAPAW, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Calcium water unfltrd recoverable, mg/L (00918)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Potassium, water, unfltrd recoverable, mg/L (00937)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Sodium, water, unfltrd recoverable, mg/L (00929)	ANC, wat unf methyl orange end pt, mg/L as CaCO3 (00411)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)
MAR													
04...	84	27.0	33	4.00	5.0	4.00	6.0	.4	8.00	16	9.0	--	55
29...	86	27.0	28	4.00	4.0	5.00	6.0	.3	6.00	13	6.0	60	--
JUN													
14...	74	21.0	25	4.00	6.0	5.00	7.0	.3	5.00	13	4.0	36	--
AUG													
20...	140	47.0	48	4.00	4.0	3.00	4.0	.3	8.00	11	8.0	120	135
31...	180	66.0	66	5.00	5.0	3.00	3.0	.3	10.0	10	10.0	150	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, unfltrd mg/L (99220)	Sulfate water unfltrd mg/L (00946)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Nitrate water, fltrd, mg/L as N (00618)	COD, high level, water, unfltrd mg/L (00340)	Aluminum, water, fltrd, ug/L (01106)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)
MAR													
04...	E67	E.0	--	--	--	--	--	--	<300	11,800	<10	<10	<10.0
29...	--	--	<10	29.3	141	<5	1.20	30	<300	6,800	<10	<10	<10.0
JUN													
14...	--	--	<10	104	174	436	.77	20	<300	19,200	<10	<10	<10.0
AUG													
20...	163	.0	<10	24.5	190	47	1.43	<5	<300	1,100	<10	<10	<10.0
31...	--	--	11	26.5	225	46	1.78	8	<300	<300	<10	<10	<10.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recoverable, ug/L (01034)	Cobalt water, fltrd, ug/L (01035)	Cobalt water, unfltrd recoverable, ug/L (01037)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)
MAR													
04...	<10	43.0	200	<5	<5	<5	M	<5	11	<5	M	<5	10
29...	<10	45.0	M	<5	<5	<5	<5	<5	7	<5	<5	<5	M
JUN													
14...	<10	49.0	200	<5	<5	<5	<5	<5	18	<5	<5	<5	10
AUG													
20...	<10	55.0	M	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
31...	<10	69.0	M	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recoverable, ug/L (01051)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recoverable, ug/L (01055)	Molybdenum, water, fltrd, ug/L (01060)	Molybdenum, water, unfltrd recoverable, ug/L (01062)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recoverable, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)
MAR													
04...	40	10,400	<10	M	50	640	<5	<5	<10	M	<10	<10	<5
29...	70	4,790	<10	M	30	230	<5	<5	<10	<10	<10	<10	<5
JUN													
14...	20	14,900	<10	M	<5	370	<5	<5	<10	M	<10	<10	<5
AUG													
20...	<20	860	<10	<10	20	140	<5	<5	<10	<10	<10	<10	<5
31...	<20	440	<10	<10	20	190	<5	<5	<10	<10	<10	<10	<5

07188000 SPRING RIVER NEAR QUAPAW, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Silver, water, unfltrd recover -able, ug/L (01077)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover -able, ug/L (01092)	Alum- inum, bed sedimnt recover -able, ug/g (01108)	Arsenic bed sedimnt total, ug/g (01003)	Barium, bed sedimnt recover -able, ug/g (01008)	Beryll- ium, bed sedimnt recover -able, ug/g (01013)	Cadmium bed sedimnt recover -able, ug/g (01028)	Chrom- ium, bed sedimnt recover -able, ug/g (01029)	Cobalt bed sedimnt recover -able, ug/g (01038)	Copper, bed sedimnt recover -able, ug/g (01043)	Iron, bed sedimnt total, ug/g (01170)	Lead, bed sedimnt recover -able, ug/g (01052)
MAR													
04...	<5.00	60	960	4,600	<10	50	<1	3.0	24	<10	5	20,000	40
29...	<5.00	40	200	3,400	<12	40	<2	2.0	48	<100	8	33,000	41
JUN													
14...	<5.00	<5	60	--	--	--	--	--	--	--	--	--	--
AUG													
20...	<5.00	10	130	3,900	<10	--	--	2.0	32	--	6	27,000	34
31...	<5.00	M	160	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Mangan- ese, bed sedimnt recover -able, ug/g (01053)	Molyb- denum, bed sedimnt recover -able, ug/g (01063)	Nickel, bed sedimnt recover -able, ug/g (01068)	Selen- ium, bed sedimnt total, ug/g (01148)	Silver, bed sedimnt recover -able, ug/g (01078)	Zinc, bed sedimnt recover -able, ug/g (01093)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
MAR									
04...	510	<10	15	<12	<8	630	78	593	34,400
29...	420	<100	20	<14	<2	710	90	193	7,610
JUN									
14...	--	--	--	--	--	--	86	145	3,270
AUG									
20...	530	--	18	--	--	590	90	76	238
31...	--	--	--	--	--	--	86	93	301

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07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'53", long 94°35'12", in NE $^1/_4$ NE $^1/_4$ sec.22, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, near right abutment of bridge on State Highway 43, 0.8 mi downstream from Blackfoot Branch, 2.8 mi upstream from Buffalo Creek, 3.0 mi southeast of Tiff City, and at mile 15.8.

DRAINAGE AREA.--872 mi^2.

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 927: 1940. WSP 1117: Drainage area.

GAGE.--Water stage recorder. Datum of gage is 750.61 ft above sea level (levels by U.S. Army Corps of Engineers). Sept. 6, 1960 to Aug. 25, 1961, at site 100 ft downstream.

REMARKS.--Records good except for estimated periods which are poor. U.S. Army Corps of Engineers' satellite telemeter at station.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 5	0030	11,900	13.06	Apr 24	1615	*23,900	*18.26

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	85	189	397	519	281	1,710	2,460	411	288	791	136
2	79	87	178	380	513	273	1,370	4,170	393	327	616	134
3	81	88	175	369	507	363	1,150	e3,230	383	4,600	509	131
4	86	87	174	370	500	7,180	1,010	e2,450	369	3,370	443	128
5	89	107	173	694	507	10,600	888	1,980	354	2,400	402	125
6	88	113	168	915	544	5,780	798	1,620	344	1,540	374	133
7	87	138	162	742	588	3,340	730	1,360	332	1,120	347	129
8	84	150	159	629	613	2,300	674	1,170	324	921	320	128
9	94	141	165	559	619	1,740	625	1,010	314	954	294	124
10	102	133	244	499	612	1,420	635	893	320	2,420	275	121
11	118	127	515	453	587	1,220	722	802	328	1,750	282	115
12	119	122	575	408	564	1,060	782	751	327	1,180	287	112
13	112	118	524	370	536	934	766	840	342	929	288	110
14	114	117	485	340	513	839	720	2,430	533	787	262	106
15	117	118	467	314	496	747	676	1,980	483	677	240	105
16	122	119	469	297	479	686	643	1,460	433	592	227	101
17	121	128	495	560	457	629	e606	1,210	448	534	214	99
18	116	186	517	1,650	439	579	e564	1,020	427	482	204	98
19	111	362	479	1,930	424	532	510	898	381	447	193	96
20	105	470	426	1,480	407	502	498	803	350	413	222	92
21	100	430	379	1,160	394	478	500	711	334	383	243	89
22	96	364	343	958	379	453	1,510	626	341	363	236	88
23	92	325	314	832	362	431	4,470	572	396	346	222	87
24	87	300	308	742	347	417	18,900	593	388	342	200	87
25	84	289	319	692	332	407	15,000	550	355	355	185	85
26	83	276	298	682	317	403	5,660	497	330	500	175	83
27	83	254	274	663	301	401	3,470	476	314	414	165	81
28	82	228	301	625	291	2,060	2,520	455	302	368	161	80
29	82	213	348	597	286	6,720	1,950	434	293	353	155	80
30	80	199	404	569	---	3,550	1,600	423	289	464	148	81
31	79	---	412	545	---	2,320	---	425	---	923	141	---
TOTAL	2,972	5,874	10,439	21,421	13,433	58,645	71,657	38,299	10,938	30,542	8,821	3,164
MEAN	95.9	196	337	691	463	1,892	2,389	1,235	365	985	285	105
MAX	122	470	575	1,930	619	10,600	18,900	4,170	533	4,600	791	136
MIN	79	85	159	297	286	273	498	423	289	288	141	80
AC-FT	5,890	11,650	20,710	42,490	26,640	116,300	142,100	75,970	21,700	60,580	17,500	6,280
CFSM	0.11	0.22	0.39	0.79	0.53	2.17	2.74	1.42	0.42	1.13	0.33	0.12
IN.	0.13	0.25	0.45	0.91	0.57	2.50	3.06	1.63	0.47	1.30	0.38	0.13

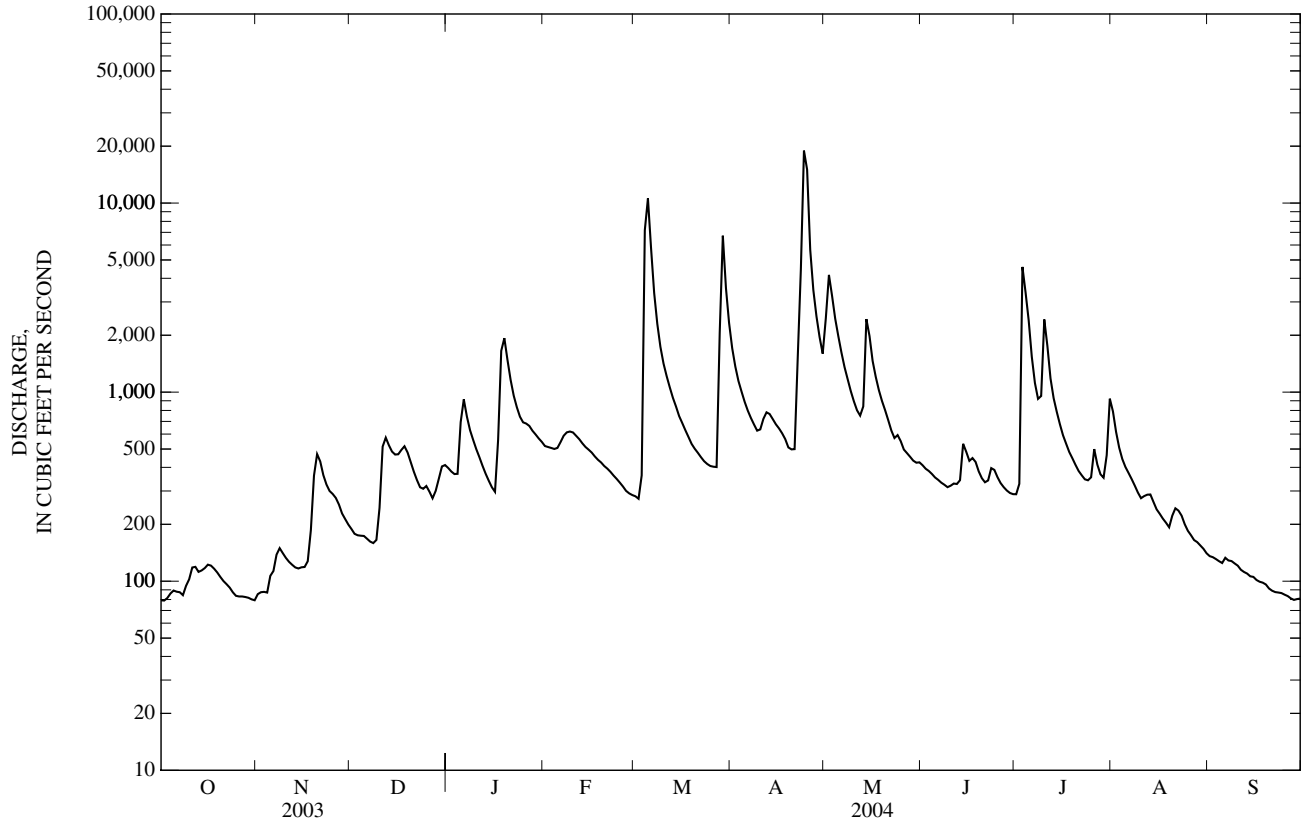
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	408	704	757	680	881	1,337	1,584	1,516	967	490	258	286
MAX	2,938	4,094	3,651	2,509	2,971	5,020	6,119	8,964	4,245	2,565	2,418	2,164
(WY)	(1942)	(1975)	(1993)	(1985)	(1951)	(1945)	(1945)	(1943)	(1995)	(1976)	(1950)	(1993)
MIN	25.7	49.8	58.5	55.9	70.7	75.7	145	227	78.6	14.3	12.0	30.9
(WY)	(1957)	(1964)	(1964)	(1964)	(1954)	(1956)	(1956)	(1964)	(1954)	(1954)	(1954)	(1953)

e Estimated

07189000 ELK RIVER NEAR TIFF CITY, MO—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	128,432		276,205			
ANNUAL MEAN	352		755		821	
HIGHEST ANNUAL MEAN					1,881	1993
LOWEST ANNUAL MEAN					135	1954
HIGHEST DAILY MEAN	5,770	May 17	18,900	Apr 24	68,600	Apr 19, 1941
LOWEST DAILY MEAN	55	Aug 26	79	Oct 1	5.1	Sep 5, 1954
ANNUAL SEVEN-DAY MINIMUM	59	Aug 21	82	Oct 25	5.6	Sep 2, 1954
MAXIMUM PEAK FLOW			23,900	Apr 24	137,000	Apr 19, 1941
MAXIMUM PEAK STAGE			18.26	Apr 24	28.40	Apr 19, 1941
ANNUAL RUNOFF (AC-FT)	254,700		547,900		594,900	
ANNUAL RUNOFF (CFSM)	0.404		0.865		0.942	
ANNUAL RUNOFF (INCHES)	5.48		11.78		12.80	
10 PERCENT EXCEEDS	682		1,490		1,720	
50 PERCENT EXCEEDS	207		390		342	
90 PERCENT EXCEEDS	87		99		88	



07189540 CAVE SPRINGS BRANCH NEAR SOUTHWEST CITY, MO

LOCATION.--Lat 36°32'52", long 94°37'04", in SE $^1/_4$ NE $^1/_4$ sec.22, T.24 N., R.25 E., Delaware County, Hydrologic Unit 11070206, on right bank of downstream side of bridge on Stateline Highway 5, 2.5 mi northwest of Southwest City, Mo, 4.7 mi upstream from Honey Springs, and at mile 4.7.

DRAINAGE AREA.--7.9 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water stage recorder. Datum of gage is 922.86 ft above sea level.

REMARKS.--No estimated daily discharge. Records good. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

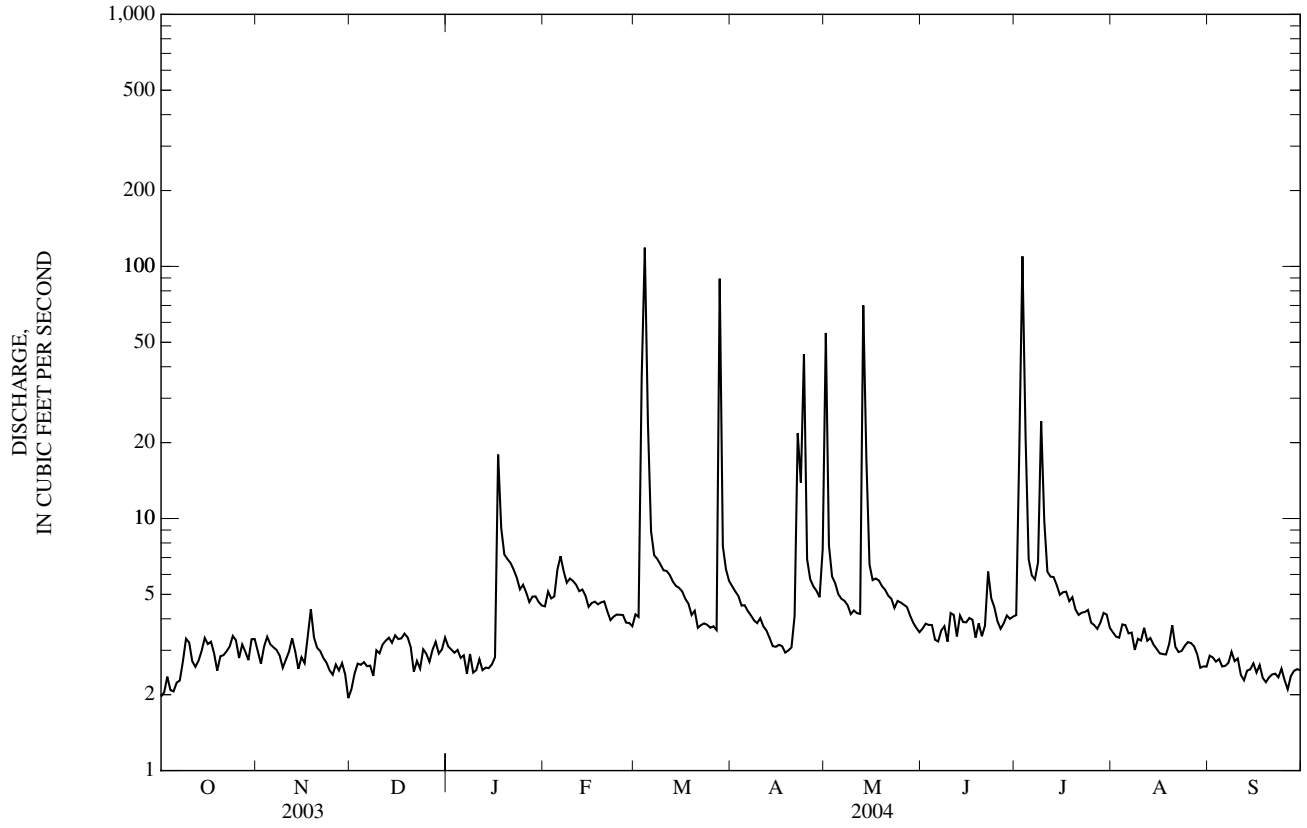
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	3.0	2.1	3.1	4.5	4.2	5.4	54	3.7	4.1	3.5	2.9
2	2.0	2.7	2.4	3.0	5.1	4.1	5.1	7.8	3.8	19	3.4	2.8
3	2.4	3.1	2.7	2.9	4.8	36	4.9	5.9	3.8	110	3.4	2.7
4	2.1	3.4	2.6	3.0	4.9	119	4.5	5.5	3.8	21	3.8	2.8
5	2.1	3.2	2.7	2.8	6.3	24	4.5	5.0	3.3	6.9	3.8	2.6
6	2.2	3.1	2.6	2.9	7.1	8.9	4.3	4.8	3.3	6.0	3.5	2.6
7	2.3	3.0	2.6	2.4	6.2	7.2	4.1	4.7	3.6	5.7	3.5	2.7
8	2.7	2.9	2.4	2.9	5.6	6.9	3.9	4.5	3.7	6.7	3.0	3.0
9	3.3	2.6	3.0	2.4	5.8	6.6	3.8	4.2	3.2	24	3.3	2.7
10	3.2	2.8	2.9	2.5	5.6	6.2	4.0	4.3	4.2	9.8	3.3	2.8
11	2.7	3.0	3.2	2.8	5.5	6.2	3.7	4.2	4.1	6.2	3.7	2.4
12	2.6	3.4	3.3	2.5	5.1	6.0	3.6	4.2	3.4	5.9	3.3	2.3
13	2.7	3.0	3.4	2.6	5.2	5.6	3.4	70	4.1	5.9	3.4	2.5
14	3.0	2.5	3.2	2.6	4.9	5.4	3.1	17	3.9	5.4	3.2	2.5
15	3.4	2.8	3.4	2.6	4.5	5.3	3.1	6.6	3.9	5.0	3.0	2.7
16	3.2	2.7	3.3	2.8	4.6	5.1	3.2	5.7	4.0	5.1	2.9	2.4
17	3.2	3.4	3.3	18	4.7	4.8	3.1	5.8	4.0	5.1	2.9	2.6
18	2.9	4.4	3.5	9.1	4.6	4.6	2.9	5.7	3.4	4.7	2.9	2.3
19	2.5	3.4	3.4	7.2	4.6	4.1	3.0	5.4	3.8	4.9	3.2	2.2
20	2.8	3.1	3.1	6.9	4.7	4.3	3.1	5.2	3.4	4.4	3.8	2.3
21	2.9	3.0	2.5	6.7	4.3	3.7	4.1	4.9	3.8	4.1	3.1	2.4
22	3.0	2.8	2.7	6.3	4.0	3.8	22	4.8	6.2	4.2	3.0	2.4
23	3.1	2.7	2.5	5.8	4.1	3.8	14	4.4	4.8	4.3	3.0	2.3
24	3.4	2.5	3.0	5.2	4.2	3.8	45	4.7	4.4	4.3	3.1	2.5
25	3.3	2.4	2.9	5.5	4.2	3.7	6.9	4.6	3.9	3.9	3.2	2.3
26	2.8	2.6	2.7	5.1	4.1	3.7	5.7	4.5	3.7	3.8	3.2	2.1
27	3.2	2.5	3.0	4.7	3.9	3.6	5.4	4.5	3.8	3.6	3.1	2.4
28	3.0	2.7	3.2	4.9	3.8	89	5.2	4.1	4.1	3.9	2.9	2.5
29	2.7	2.4	2.9	4.9	3.7	7.8	4.9	3.9	4.0	4.2	2.6	2.5
30	3.3	1.9	3.0	4.7	---	6.3	7.6	3.7	4.1	4.2	2.6	2.5
31	3.3	---	3.4	4.5	---	5.7	---	3.5	---	3.7	2.6	---
TOTAL	87.3	87.0	90.9	143.3	140.6	409.4	197.5	278.1	117.2	310.0	99.2	75.7
MEAN	2.82	2.90	2.93	4.62	4.85	13.2	6.58	8.97	3.91	10.0	3.20	2.52
MAX	3.4	4.4	3.5	18	7.1	119	45	70	6.2	110	3.8	3.0
MIN	2.0	1.9	2.1	2.4	3.7	3.6	2.9	3.5	3.2	3.6	2.6	2.1
AC-FT	173	173	180	284	279	812	392	552	232	615	197	150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2004, BY WATER YEAR (WY)

MEAN	4.95	3.12	3.76	5.99	6.85	8.18	5.41	9.39	7.14	6.42	2.51	2.76
MAX	16.6	4.19	6.17	15.5	19.6	14.5	11.2	16.3	21.7	11.3	3.56	5.36
(WY)	(1999)	(2001)	(1998)	(1998)	(2001)	(1999)	(1999)	(2002)	(1999)	(2000)	(2000)	(2001)
MIN	2.03	1.91	2.59	2.35	3.29	4.32	2.46	2.20	1.93	1.54	1.67	2.03
(WY)	(2000)	(2000)	(2003)	(2000)	(2000)	(2000)	(2001)	(2001)	(1998)	(1998)	(1998)	(2002)

07189540 CAVE SPRINGS BRANCH NEAR SOUTHWEST CITY, MO—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1998 - 2004	
ANNUAL TOTAL	1,545.4		2,036.2			
ANNUAL MEAN	4.23		5.56		5.54	
HIGHEST ANNUAL MEAN					9.25	1999
LOWEST ANNUAL MEAN					4.13	2003
HIGHEST DAILY MEAN	219	May 16	119	Mar 4	344	Feb 24, 2001
LOWEST DAILY MEAN	1.6	Aug 24	1.9	Nov 30	0.79	Aug 29, 1999
ANNUAL SEVEN-DAY MINIMUM	1.8	Aug 18	2.2	Oct 1	1.5	Jan 28, 2000
MAXIMUM PEAK FLOW			494	Jul 3	1,360	Oct 5, 1998
MAXIMUM PEAK STAGE			7.85	Jul 3	12.08	Oct 5, 1998
ANNUAL RUNOFF (AC-FT)	3,070		4,040		4,010	
10 PERCENT EXCEEDS	5.2		6.2		6.8	
50 PERCENT EXCEEDS	3.0		3.7		3.3	
90 PERCENT EXCEEDS	2.0		2.5		1.9	



07189540 CAVE SPRINGS BRANCH NEAR SOUTHWEST CITY, MO—Continued

WATER-QUALITY RECORDS

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
NOV										
18...	1147	1028	1028	5.49	4.8	6.8	7.0	1,480	16.7	4.00
18...	1148	1028	1028	5.49	4.8	6.8	7.1	1,500	16.8	11.0
18...	1149	1028	1028	5.49	4.8	6.8	7.1	1,490	16.7	18.0
FEB										
24...	0845	1028	1028	5.32	4.3	8.4	7.2	1,310	11.0	1.00
24...	0847	1028	1028	5.32	4.3	8.3	7.2	1,310	11.1	8.00
24...	0849	1028	1028	5.32	4.3	8.3	7.2	1,320	11.0	17.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)
OCT													
29...	1045	1028	80020	5.30	2.6	750	9.0	92	8.2	2,140	20.5	15.5	137
NOV													
18...	1155	1028	80020	5.49	4.8	730	6.8	74	7.1	1,490	18.1	16.7	125
DEC													
09...	1220	1028	80020	5.40	2.9	749	10.0	98	7.3	1,960	16.4	13.3	114
JAN													
26...	1020	1028	80020	5.36	5.0	752	9.2	83	7.0	1,090	-1.7	9.9	95
FEB													
24...	0910	1028	80020	5.32	4.3	--	8.3	--	7.2	1,310	--	11.0	143
MAR													
30...	1045	1028	80020	5.49	6.4	762	10.3	102	6.8	649	12.3	14.8	82
APR													
27...	1150	1028	80020	5.50	5.6	762	10.5	109	6.7	707	20.9	17.2	84
MAY													
18...	1050	1028	80020	5.49	6.2	739	8.9	98	6.9	810	25.5	18.0	88
JUN													
23...	1420	1028	80020	5.42	4.8	658	8.4	119	7.4	1,420	26.4	25.1	106
JUL													
27...	1130	1028	80020	5.34	3.6	741	9.4	111	7.2	1,300	--	21.9	91
AUG													
25...	0928	1028	80020	5.33	3.3	735	6.1	76	7.3	1,820	--	24.5	151
SEP													
28...	1050	1028	80020	5.28	2.3	760	8.4	95	7.4	2,040	20.2	20.8	92

07189540 CAVE SPRINGS BRANCH NEAR SOUTHWEST CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)
OCT													
29...	166	.0	3.1	1.84	1.43	60.7	13.7	14.0	1.03	.313	1.7	.083	.027
NOV													
18...	153	.0	1.8	.25	.198	19.9	4.50	4.95	1.49	.452	1.6	.166	.054
DEC													
09...	138	.0	3.9	2.73	2.12	8.04	1.82	2.17	1.14	.348	1.8	--	E.003
JAN													
26...	E115	E.0	1.1	.18	.136	17.3	3.91	3.94	.089	.027	.98	.077	.025
FEB													
24...	E173	E.0	1.5	.54	.418	11.7	2.65	2.71	.197	.060	1.0	.034	.011
MAR													
30...	100	.0	1.1	.34	.265	18.6	4.21	4.25	.118	.036	.79	.212	.069
APR													
27...	103	.0	1.1	.42	.329	15.2	3.44	3.52	.279	.085	.74	.178	.058
MAY													
18...	107	.0	.81	.07	.055	31.8	7.18	7.21	.099	.030	.75	.135	.044
JUN													
23...	129	.0	1.3	.16	.122	11.5	2.60	2.65	.168	.051	1.1	.163	.053
JUL													
27...	110	.0	1.2	.26	.200	28.1	6.35	6.46	.365	.111	1.0	.150	.049
AUG													
25...	182	.0	3.0	1.68	1.31	22.8	5.15	5.34	.628	.191	1.7	.239	.078
SEP													
28...	111	.0	1.6	.36	.282	15.6	3.53	3.61	.279	.085	1.3	.055	.018

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)
OCT						
29...	.053	.099	17	62	51	135
NOV						
18...	.082	.179	6.8	2,400	2,500	9,600
DEC						
09...	.018	.050	6.1	33	E23	38
JAN						
26...	.034	.049	5.1	E34	45	128
FEB						
24...	.024	.040	4.2	E57	E95	E4
MAR						
30...	.094	.124	5.3	46	E22	300
APR						
27...	.076	.094	4.6	300	240	140
MAY						
18...	.065	.077	8.0	210	170	221
JUN						
23...	.074	.095	3.9	80	20	436
JUL						
27...	.066	.095	7.7	160	340	214
AUG						
25...	.117	.188	8.3	240	280	900
SEP						
28...	.038	.061	5.2	20	E12	428

07189542 HONEY CREEK NEAR SOUTHWEST CITY, MO

LOCATION.--Lat 36°32'56", long 94°41'01", in SE ¼ NE ¼ sec.24, T.24 N., R.24 E., Delaware County, Hydrologic Unit 11070206, on downstream abutment of county road bridge, 0.4 mi downstream from Cave Springs Creek, 2.3 mi southeast of Dodge, Ok, and 5.1 mi above Grand Lake and at mile 5.1.

DRAINAGE AREA.--48.2 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water stage recorder. Datum of gage is 789 ft above sea level from topographic map.

REMARKS.--No estimated daily discharge. Records good. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

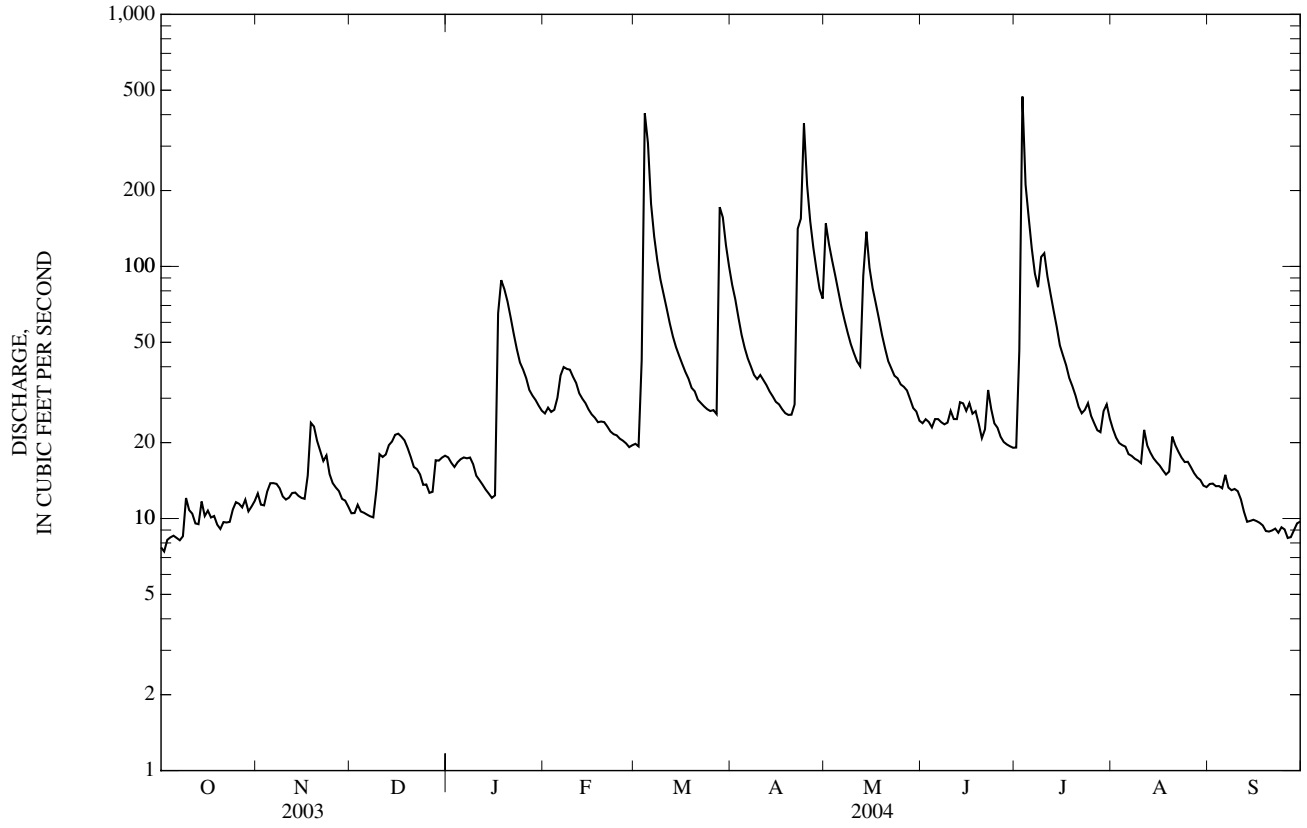
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	13	10	17	26	20	84	148	24	19	23	14
2	7.4	11	11	17	28	19	74	123	25	47	21	14
3	8.2	11	11	16	26	42	63	106	24	472	20	13
4	8.4	13	11	17	27	405	54	92	23	211	20	13
5	8.5	14	11	17	30	309	48	80	25	157	19	13
6	8.4	14	10	17	37	177	43	69	25	118	18	15
7	8.2	14	10	17	40	132	40	61	24	94	18	13
8	8.5	13	10	17	39	106	37	55	24	83	17	13
9	12	12	13	16	39	89	36	49	24	109	17	13
10	11	12	18	15	36	78	37	45	27	113	17	13
11	10	12	18	14	34	68	35	42	25	91	22	12
12	9.6	13	18	14	31	59	34	40	25	78	19	11
13	9.5	13	20	13	30	53	32	92	29	67	18	9.7
14	12	12	20	13	29	48	30	137	29	58	17	9.8
15	10	12	21	12	27	44	29	99	27	49	17	9.9
16	11	12	22	12	26	41	28	82	29	44	16	9.8
17	10	15	21	65	25	38	27	72	26	41	16	9.6
18	10	24	20	88	24	36	26	62	27	36	15	9.4
19	9.5	23	19	81	24	33	26	54	24	33	15	8.9
20	9.1	20	18	73	24	32	26	47	21	31	21	8.9
21	9.7	19	16	63	23	30	28	42	23	28	20	9.0
22	9.6	17	16	54	22	29	141	39	32	26	18	9.1
23	9.7	18	15	47	22	28	155	37	27	27	17	8.8
24	11	15	14	42	21	27	369	36	24	29	17	9.2
25	12	14	14	39	21	27	210	34	23	26	17	9.1
26	11	13	13	36	20	27	151	33	21	24	16	8.4
27	11	13	13	32	20	26	119	32	20	22	15	8.4
28	12	12	17	31	19	172	97	30	20	22	15	9.0
29	11	12	17	30	20	156	81	27	19	27	14	9.6
30	11	11	17	28	---	121	75	27	19	28	14	9.7
31	12	---	18	27	---	100	---	24	---	25	13	---
TOTAL	309.0	427	482	980	790	2,572	2,235	1,916	735	2,235	542	323.3
MEAN	9.97	14.2	15.5	31.6	27.2	83.0	74.5	61.8	24.5	72.1	17.5	10.8
MAX	12	24	22	88	40	405	369	148	32	472	23	15
MIN	7.4	11	10	12	19	19	26	24	19	19	13	8.4
AC-FT	613	847	956	1,940	1,570	5,100	4,430	3,800	1,460	4,430	1,080	641

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2004, BY WATER YEAR (WY)

MEAN	21.9	16.6	25.0	39.3	46.5	60.1	42.1	57.7	39.8	37.8	12.0	11.6
MAX	75.9	28.7	41.8	128	139	105	78.4	98.1	124	111	17.7	18.5
(WY)	(1999)	(1999)	(1998)	(1998)	(2001)	(1999)	(1999)	(1999)	(1999)	(1999)	(1999)	(2001)
MIN	8.56	11.1	13.5	12.0	18.2	28.3	17.4	17.0	12.6	9.76	7.91	7.49
(WY)	(2003)	(2003)	(2003)	(2000)	(2000)	(2000)	(2000)	(2001)	(1998)	(1998)	(2001)	(2002)

07189542 HONEY CREEK NEAR SOUTHWEST CITY, MO—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1998 - 2004	
ANNUAL TOTAL	7,950.3		13,546.3			
ANNUAL MEAN	21.8		37.0		34.2	
HIGHEST ANNUAL MEAN					64.1	1999
LOWEST ANNUAL MEAN					21.2	2003
HIGHEST DAILY MEAN	414	May 16	472	Jul 3	1,460	Feb 24, 2001
LOWEST DAILY MEAN	5.8	Aug 20	7.4	Oct 2	3.6	Sep 5, 1998
ANNUAL SEVEN-DAY MINIMUM	6.2	Aug 19	8.1	Oct 1	3.7	Sep 4, 1998
MAXIMUM PEAK FLOW			1,260	Jul 3	6,140	Jun 30, 1999
MAXIMUM PEAK STAGE			8.77	Jul 3	12.98	Jun 30, 1999
ANNUAL RUNOFF (AC-FT)	15,770		26,870		24,770	
10 PERCENT EXCEEDS	36		81		63	
50 PERCENT EXCEEDS	14		22		19	
90 PERCENT EXCEEDS	7.7		10		8.6	



07189542 HONEY CREEK NEAR SOUTHWEST CITY, MO—Continued

WATER-QUALITY RECORDS

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
NOV										
18...	1350	1028	1028	4.68	26	5.6	7.5	625	14.9	45.0
18...	1351	1028	1028	4.68	26	6.5	7.5	622	14.9	25.0
18...	1354	1028	1028	4.68	26	6.8	7.5	616	14.9	5.00
FEB										
24...	1205	1028	1028	4.54	22	8.3	7.2	466	9.6	1.00
24...	1209	1028	1028	4.54	22	8.3	7.2	467	9.6	13.0
24...	1212	1028	1028	4.54	22	8.3	7.2	467	9.6	25.0
MAY										
18...	1205	1028	1028	4.93	63	9.8	7.6	335	17.5	40.0
18...	1207	1028	1028	4.93	63	9.9	7.6	335	17.5	25.0
18...	1208	1028	1028	4.93	63	9.8	7.6	335	17.5	10.0
JUL										
27...	1255	1028	1028	4.61	22	9.3	7.8	459	20.8	38.0
27...	1257	1028	1028	4.61	22	9.2	7.8	459	20.9	24.0
27...	1300	1028	1028	4.61	22	9.3	7.8	458	21.0	10.0
AUG										
25...	1025	1028	1028	4.54	17	7.1	7.5	569	23.1	26.0
25...	1028	1028	1028	4.54	17	7.1	7.5	570	23.0	17.0
25...	1032	1028	1028	4.54	17	7.2	7.5	569	23.1	9.00

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)
OCT													
29...	1145	1028	80020	4.49	12	750	8.9	89	8.1	786	23.0	14.6	132
NOV													
18...	1352	1028	80020	4.68	26	730	6.6	68	7.5	622	16.7	14.9	130
DEC													
09...	1335	1028	80020	4.50	12	749	10.5	98	7.8	671	14.8	11.5	120
JAN													
26...	1130	1028	80020	4.69	36	752	10.1	88	7.0	439	-1.6	8.5	103
FEB													
24...	1208	1028	80020	4.54	22	--	8.3	--	7.2	467	--	9.6	131
MAR													
30...	1215	1028	80020	5.29	120	762	10.5	101	7.1	270	14.3	13.7	78
APR													
27...	1300	1028	80020	5.27	117	762	10.3	104	7.2	275	21.9	15.7	79
MAY													
18...	1220	1028	80020	4.93	63	744	9.8	106	7.6	335	23.0	17.5	107
JUN													
23...	1550	1028	80020	4.63	27	658	8.2	109	7.8	453	25.8	21.9	113
JUL													
27...	1310	1028	80020	4.61	22	750	9.3	106	7.8	459	--	20.9	119
AUG													
25...	1045	1028	80020	4.54	17	735	7.1	86	7.5	569	--	23.1	138
SEP													
28...	1150	1028	80020	4.43	9.7	760	8.1	88	7.7	654	23.0	19.2	115

07189542 HONEY CREEK NEAR SOUTHWEST CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)
OCT 29...	160	.0	.25	--	E.008	14.3	3.23	3.23	.007	.002	--	.175	.057
NOV 18...	159	.0	.35	--	E.007	11.7	2.65	2.65	.007	.002	--	.187	.061
DEC 09...	146	.0	.24	.02	.016	--	--	2.21	--	E.001	.23	.129	.042
JAN 26...	125	.0	.25	--	E.008	17.1	3.86	3.86	.007	.002	--	.120	.039
FEB 24...	158	.0	.20	--	E.008	12.4	2.79	2.79	.010	.003	--	.092	.030
MAR 30...	95	.0	.29	--	E.008	14.8	3.34	3.35	.013	.004	--	.150	.049
APR 27...	96	.0	.27	--	E.005	13.7	3.10	3.11	.016	.005	--	.159	.052
MAY 18...	129	.0	.19	--	E.008	13.9	3.14	3.14	.010	.003	--	.159	.052
JUN 23...	137	.0	.15	--	E.005	--	--	2.29	--	E.001	--	.187	.061
JUL 27...	144	.0	.14	--	E.007	--	--	3.49	--	E.001	--	.181	.059
AUG 25...	167	.0	.24	--	<.010	12.0	2.71	2.71	.007	.002	--	.190	.062
SEP 28...	140	.0	.22	--	E.006	--	--	2.17	--	E.001	--	.190	.062

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)
OCT 29...	.069	.074	3.5	E2	E1	119
NOV 18...	.076	.082	3.0	3,000	2,600	6,400
DEC 09...	.051	.053	2.5	350	250	573
JAN 26...	.045	.049	4.1	57	60	42
FEB 24...	.034	.040	3.0	52	100	E10
MAR 30...	.065	.079	3.6	E23	E9	268
APR 27...	.061	.071	3.4	230	140	113
MAY 18...	.061	.067	3.3	120	130	130
JUN 23...	.072	.074	2.4	66	E1	190
JUL 27...	.069	.068	3.6	75	64	128
AUG 25...	.075	.077	3.0	110	150	E535
SEP 28...	.072	.075	2.4	22	E4	202

07190000 LAKE O' THE CHEROKEES AT LANGLEY, OK

LOCATION.--Lat 36°28'07", long 95°02'28", in SW ¼ SW ¼ sec.14, T.23 N., R.21 E., Mayes County, Hydrologic Unit 11070206, on upstream side of pier at intake structure near right end of Pensacola Dam on Neosho River at Langley, 9.9 mi upstream from Big Cabin Creek, and at mile 77.0.

DRAINAGE AREA.--10,298 mi^2.

PERIOD OF RECORD.--March 1940 to current year. Prior to October 1940, published as Grand Lake at Langley.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.10 ft above sea level (U.S. Army Corps of Engineers' benchmark). Prior to Nov. 14, 1941, nonrecording gage at same site and datum.

REMARKS.--No estimated record. Reservoir is formed by multiple-arch concrete dam, with tops of taintor-type spillway gates at gage height 755.0 ft. Storage began Mr. 21, 1940; power-pool was first filled Apr. 19, 1941. Capacity between gage heights 682.0 ft, sill of powerhouse penstock, and 745.0 ft, maximum power pool is 1,492,000 acre-ft. Capacity between gage heights 745.0 ft and 755.0 ft is 525,200 acre-ft, and is reserved for flood control. Dead storage below gage height 682.0 ft is 180,200 acre-ft. Figures given herein represent total contents. Reservoir is utilized for power development and flood control. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,213,000 acre-ft, May 25, 1957, gage height, 755.27 ft; minimum since power-pool was first filled, 642,900 acre-ft, Sept. 28, 1954, gage height, 713.41 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,826,000 acre-ft, Mar. 8, gage height, 748.19 ft; minimum, 1,502,000 acre-ft, Oct. 1, 9, gage height, 741.19.

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

730	1,086,000	745	1,672,000
735	1,257,000	750	1,917,000
740	1,452,000	755	2,198,000

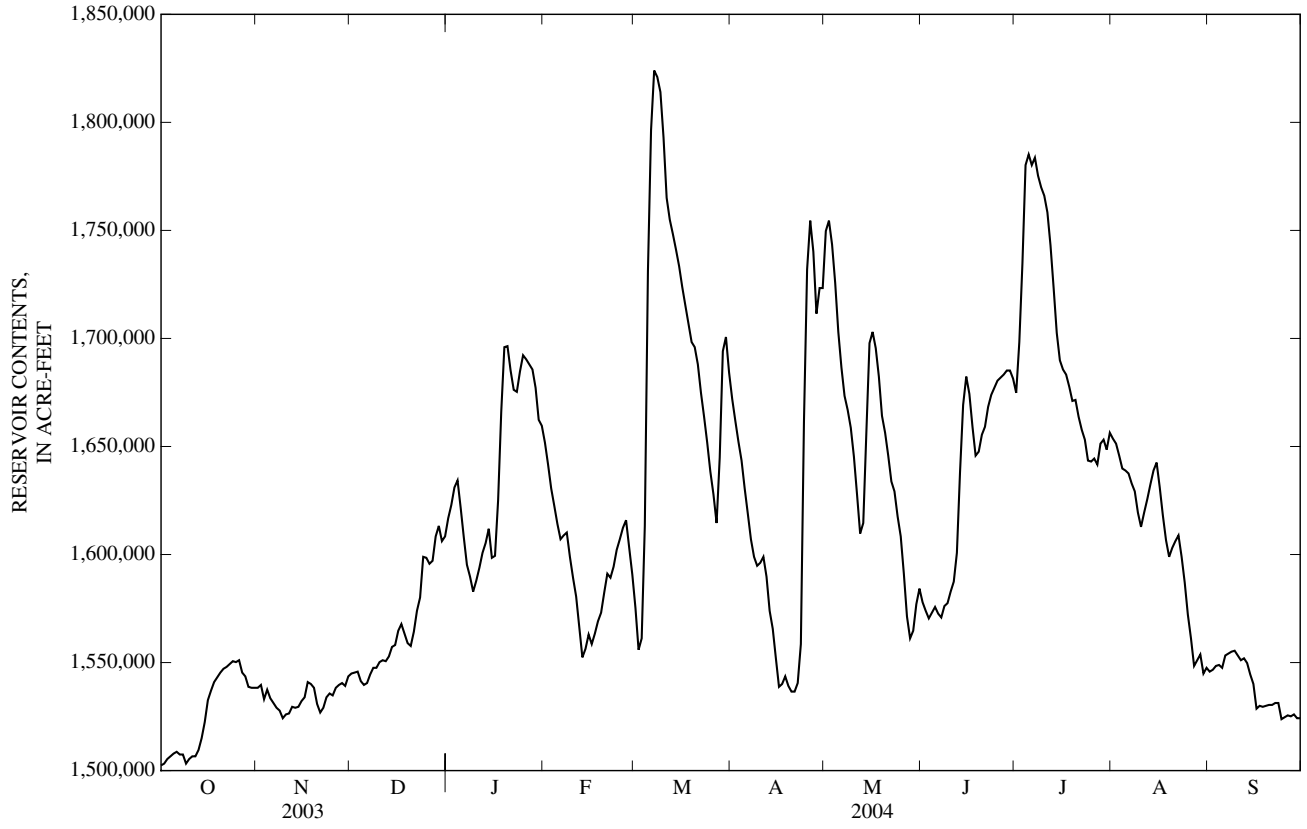
RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,502,000	1,538,000	1,545,000	1,617,000	1,652,000	1,575,000	1,672,000	1,750,000	1,578,000	1,675,000	1,654,000	1,546,000
2	1,503,000	1,540,000	1,545,000	1,623,000	1,642,000	1,556,000	1,662,000	1,755,000	1,574,000	1,698,000	1,651,000	1,547,000
3	1,505,000	1,533,000	1,546,000	1,631,000	1,631,000	1,561,000	1,652,000	1,743,000	1,570,000	1,735,000	1,646,000	1,548,000
4	1,507,000	1,537,000	1,541,000	1,634,000	1,622,000	1,613,000	1,643,000	1,726,000	1,573,000	1,780,000	1,640,000	1,549,000
5	1,508,000	1,533,000	1,540,000	1,622,000	1,614,000	1,731,000	1,631,000	1,703,000	1,576,000	1,785,000	1,639,000	1,548,000
6	1,509,000	1,531,000	1,541,000	1,608,000	1,607,000	1,796,000	1,619,000	1,687,000	1,573,000	1,780,000	1,638,000	1,553,000
7	1,507,000	1,529,000	1,544,000	1,595,000	1,609,000	1,824,000	1,607,000	1,673,000	1,571,000	1,784,000	1,633,000	1,554,000
8	1,507,000	1,528,000	1,548,000	1,590,000	1,610,000	1,821,000	1,599,000	1,667,000	1,576,000	1,775,000	1,629,000	1,555,000
9	1,503,000	1,524,000	1,548,000	1,583,000	1,599,000	1,814,000	1,595,000	1,659,000	1,577,000	1,770,000	1,619,000	1,555,000
10	1,505,000	1,526,000	1,550,000	1,588,000	1,589,000	1,793,000	1,596,000	1,645,000	1,583,000	1,766,000	1,613,000	1,553,000
11	1,507,000	1,526,000	1,551,000	1,594,000	1,581,000	1,765,000	1,599,000	1,628,000	1,587,000	1,758,000	1,619,000	1,551,000
12	1,507,000	1,530,000	1,551,000	1,601,000	1,566,000	1,755,000	1,590,000	1,610,000	1,601,000	1,743,000	1,626,000	1,552,000
13	1,510,000	1,529,000	1,553,000	1,605,000	1,552,000	1,748,000	1,574,000	1,615,000	1,638,000	1,723,000	1,632,000	1,550,000
14	1,515,000	1,530,000	1,557,000	1,612,000	1,556,000	1,741,000	1,566,000	1,657,000	1,669,000	1,703,000	1,639,000	1,544,000
15	1,522,000	1,532,000	1,558,000	1,598,000	1,563,000	1,733,000	1,552,000	1,698,000	1,682,000	1,690,000	1,643,000	1,540,000
16	1,533,000	1,534,000	1,565,000	1,599,000	1,559,000	1,724,000	1,539,000	1,703,000	1,674,000	1,686,000	1,631,000	1,529,000
17	1,537,000	1,541,000	1,568,000	1,625,000	1,563,000	1,715,000	1,540,000	1,696,000	1,659,000	1,683,000	1,618,000	1,530,000
18	1,541,000	1,540,000	1,563,000	1,666,000	1,569,000	1,707,000	1,544,000	1,682,000	1,646,000	1,678,000	1,607,000	1,530,000
19	1,543,000	1,538,000	1,559,000	1,696,000	1,573,000	1,698,000	1,539,000	1,664,000	1,648,000	1,671,000	1,599,000	1,530,000
20	1,545,000	1,531,000	1,558,000	1,696,000	1,582,000	1,696,000	1,537,000	1,656,000	1,655,000	1,672,000	1,603,000	1,530,000
21	1,547,000	1,527,000	1,564,000	1,685,000	1,591,000	1,688,000	1,537,000	1,646,000	1,659,000	1,664,000	1,606,000	1,530,000
22	1,548,000	1,529,000	1,574,000	1,676,000	1,589,000	1,675,000	1,541,000	1,634,000	1,668,000	1,658,000	1,609,000	1,531,000
23	1,549,000	1,534,000	1,580,000	1,675,000	1,594,000	1,664,000	1,559,000	1,629,000	1,674,000	1,653,000	1,599,000	1,531,000
24	1,551,000	1,536,000	1,599,000	1,685,000	1,602,000	1,652,000	1,661,000	1,618,000	1,677,000	1,643,000	1,587,000	1,524,000
25	1,550,000	1,535,000	1,598,000	1,692,000	1,607,000	1,638,000	1,732,000	1,608,000	1,680,000	1,643,000	1,572,000	1,525,000
26	1,551,000	1,538,000	1,596,000	1,690,000	1,612,000	1,628,000	1,755,000	1,591,000	1,682,000	1,644,000	1,561,000	1,526,000
27	1,545,000	1,540,000	1,597,000	1,688,000	1,616,000	1,615,000	1,740,000	1,571,000	1,683,000	1,642,000	1,548,000	1,525,000
28	1,544,000	1,541,000	1,608,000	1,686,000	1,603,000	1,645,000	1,711,000	1,561,000	1,685,000	1,651,000	1,551,000	1,526,000
29	1,539,000	1,539,000	1,613,000	1,677,000	1,591,000	1,694,000	1,723,000	1,565,000	1,685,000	1,653,000	1,554,000	1,524,000
30	1,538,000	1,544,000	1,606,000	1,662,000	---	1,701,000	1,723,000	1,577,000	1,681,000	1,649,000	1,545,000	1,524,000
31	1,538,000	---	1,608,000	1,660,000	---	1,684,000	---	1,584,000	---	1,656,000	1,548,000	---
MAX	1,551,000	1,544,000	1,613,000	1,696,000	1,652,000	1,824,000	1,755,000	1,755,000	1,685,000	1,785,000	1,654,000	1,555,000
MIN	1,502,000	1,524,000	1,540,000	1,583,000	1,552,000	1,556,000	1,537,000	1,561,000	1,570,000	1,642,000	1,545,000	1,524,000
(‡)	742.05	742.15	743.60	744.73	743.21	745.26	746.09	743.07	745.20	744.66	742.24	741.71
(‡‡)	+34000	+6000	+64000	+52000	-69000	+93000	+39000	-139000	+97000	-25000	-108000	-24000

CAL YR 2003 MAX 1703000 MIN 1468000 (‡‡) +86000
WTR YR 2004 MAX 1824000 MIN 1502000 (‡‡) +20000

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

07190000 LAKE O' THE CHEROKEES AT LANGLEY, OK—Continued



07190500 NEOSHO RIVER NEAR LANGLEY, OK

LOCATION.--Lat 36°26'20", long 95°02'54", in SW ¼, SE ¼ sec.27, T.23 N., R.21 E., Mayes County, Hydrologic Unit 11070209, in concrete stilling well on left bank, 0.5 mi upstream from bridge on State Highway 82, 1.5 mi south of Langley, 3.6 mi down- stream from Pensacola Dam, 6.3 mi upstream from Big Cabin Creek, and at mile 73.4.

DRAINAGE AREA.--10,335 mi^2.

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 607.65 ft above sea level (U.S. Army Corps of Engineers bench mark). Prior to Feb. 16, 1940, nonrecording gage at site 0.1 mi upstream at same datum. Feb. 10, 1954 to Sept. 30, 1963, water-stage recorder at site 0.5 mi downstream at same datum. Auxiliary water-stage recorders at sites 2.0 and 3.0 mi upstream at same datum.

REMARKS.--Records fair. Low flow values of 25 ft^3/s consist of estimated base flow (since July 1964). Flow regulated since 1940 by Lake O' The Cherokees (station 0719000).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	230	217	54	7,920	10,700	18,400	10,500	7,160	16,700	12,000	1,880
2	e25	61	600	51	9,170	13,300	13,500	17,700	6,600	14,700	12,000	580
3	70	3,760	1,560	30	9,000	7,050	14,500	21,200	4,650	15,000	12,000	e25
4	e25	729	2,770	2,650	7,690	12,600	14,000	19,900	1,500	16,900	13,600	837
5	e25	1,760	3,130	9,600	8,290	20,700	13,700	20,100	804	30,900	11,600	616
6	670	869	404	10,400	6,450	42,200	13,200	16,600	2,940	24,100	9,920	e25
7	563	1,570	203	10,700	2,320	50,500	12,600	13,000	2,510	20,400	10,800	e25
8	805	489	464	5,970	2,320	51,300	10,800	9,760	420	24,500	6,940	e25
9	5,390	1,430	1,850	6,800	9,310	45,200	9,480	9,580	e25	26,000	8,840	592
10	e25	83	5,120	e25	8,520	40,300	8,070	12,600	774	26,100	8,900	946
11	e25	75	8,710	e25	8,950	31,300	4,530	13,600	e25	26,200	111	1,780
12	e25	e25	6,870	e25	9,650	23,500	10,400	14,300	e25	25,800	e25	521
13	37	e25	3,820	e25	10,900	22,000	11,100	14,600	94	24,900	e25	1,100
14	67	31	905	151	1,520	20,900	8,640	13,900	15,700	24,000	91	3,360
15	e25	e25	4,390	8,090	1,500	21,100	10,600	14,400	18,000	19,200	91	2,190
16	e25	e25	8,730	2,620	6,260	20,900	9,420	14,400	15,100	14,900	6,840	6,520
17	e25	30	12,100	5,130	332	20,300	3,170	12,900	14,400	14,400	7,600	e25
18	e25	3,130	9,600	13,000	32	20,000	1,250	13,500	13,900	14,300	7,540	e25
19	e25	6,990	6,300	12,600	112	17,200	6,550	14,700	9,880	12,200	5,380	e25
20	e25	6,870	4,330	15,600	53	15,500	5,940	14,200	9,510	9,060	422	e25
21	e25	5,010	55	16,300	817	16,400	5,390	14,000	11,400	12,700	e25	e25
22	e25	31	1,980	13,500	6,210	15,900	7,040	11,800	12,500	11,200	e25	e25
23	e25	576	7,940	6,690	2,990	14,800	8,980	9,780	13,300	10,200	6,210	e25
24	e25	e25	12,000	2,140	e25	14,700	15,000	11,800	13,300	13,100	7,520	4,260
25	448	1,400	10,200	2,270	521	14,700	41,900	12,300	14,000	4,410	8,820	e25
26	e25	231	7,190	6,720	1,340	13,800	51,600	13,600	13,600	2,920	6,180	e25
27	2,530	e25	5,080	8,320	1,750	14,500	52,800	13,700	12,500	6,090	7,550	e25
28	2,390	247	3,030	8,030	10,400	13,200	25,300	12,100	13,300	324	467	e25
29	2,420	56	10,700	11,300	10,000	20,400	4,270	4,470	13,900	8,370	e25	482
30	2,180	e25	9,110	11,100	---	31,900	8,830	626	14,900	12,000	6,420	e25
31	e25	---	4,620	4,420	---	25,600	---	74	---	6,860	297	---
TOTAL	18,098	35,833	153,978	194,336	144,352	702,450	420,960	395,690	256,717	488,434	178,264	26,064
MEAN	584	1,194	4,967	6,269	4,978	22,660	14,030	12,760	8,557	15,760	5,750	869
MAX	5,390	6,990	12,100	16,300	10,900	51,300	52,800	21,200	18,000	30,900	13,600	6,520
MIN	25	25	55	25	25	7,050	1,250	74	25	324	25	25
AC-FT	35,900	71,070	305,400	385,500	286,300	1,393,000	835,000	784,900	509,200	968,800	353,600	51,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

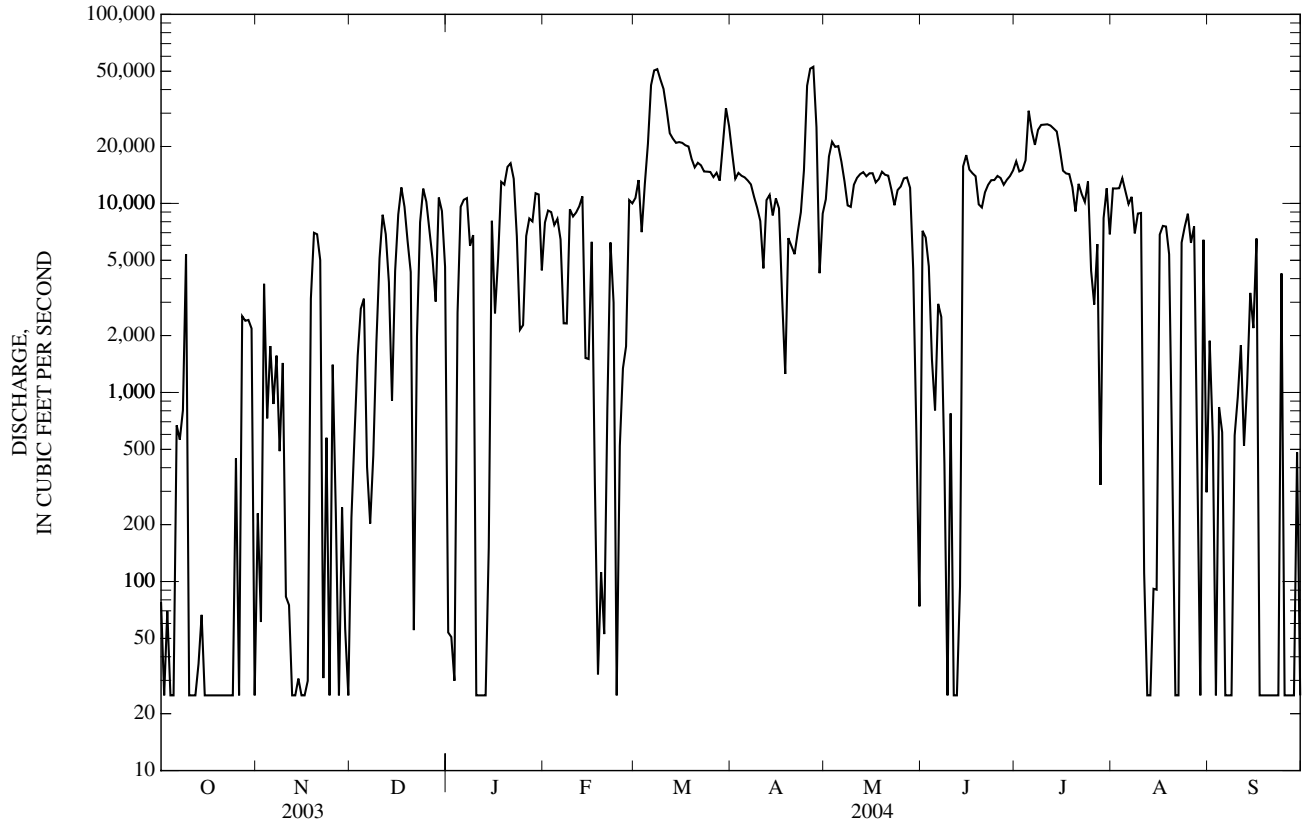
MEAN	5,939	6,672	5,620	4,844	6,064	8,899	11,120	12,070	11,130	8,910	4,354	4,866
MAX	51,120	38,870	35,580	21,440	23,460	33,250	50,780	77,710	43,540	67,920	20,910	30,350
(WY)	(1987)	(1986)	(1993)	(1993)	(1949)	(1973)	(1945)	(1943)	(1995)	(1951)	(1950)	(1993)
MIN	37.5	63.0	40.9	144	243	321	38.1	71.4	33.1	26.5	25.6	77.1
(WY)	(1981)	(1957)	(1981)	(1954)	(1981)	(1967)	(1971)	(1940)	(1940)	(1940)	(1940)	(1953)

e Estimated

07190500 NEOSHO RIVER NEAR LANGLEY, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	1,376,199		3,015,176			
ANNUAL MEAN	3,770		8,238		7,542	
HIGHEST ANNUAL MEAN					21,710	1993
LOWEST ANNUAL MEAN					210	1940
HIGHEST DAILY MEAN	23,400	May 19	52,800	Apr 27	287,000	May 20, 1943
LOWEST DAILY MEAN	25	at times	25	at times	a9.0	Mar 25, 1940
ANNUAL SEVEN-DAY MINIMUM	25	Oct 15	25	Oct 15	15	Apr 11, 1971
MAXIMUM PEAK FLOW			53,700	Apr 26	b300,000	May 20, 1943
MAXIMUM PEAK STAGE			23.74	Apr 26	c45.50	May 20, 1943
ANNUAL RUNOFF (AC-FT)	2,730,000		5,981,000		5,464,000	
10 PERCENT EXCEEDS	10,200		18,100		16,800	
50 PERCENT EXCEEDS	1,940		6,700		3,900	
90 PERCENT EXCEEDS	29		25		105	

a Caused by closure of Pensacola Dam.
b From computation of overflow from Lake O' the Cherokees.
c From floodmark.



07191000 BIG CABIN CREEK NEAR BIG CABIN, OK

LOCATION.--Lat 36°34'06", long 95°09'07", in NE $^1/_4$, NE $^1/_4$ sec.15, T.24 N., R.20 E., Craig County, Hydrologic Unit 11070209, near downsstream side of right bank end of county road bridge, 4.9 mi northeast of Big Cabin, 0.9 mi downstream from White Oak Creek, 6.8 mi upstsream from Mustang Creek, and at mile 13.0.

DRAINAGE AREA.--450 mi^2.

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 622.00 ft above sea level (U.S. Army Corps of Engineers bench mark). Prior to Sept. 30, 1972, water-stage recorder at site 4.5 mi downstream at same datum.

REMARKS.--Records fair except for estimated periods which are poor. Low flow sustained in part by sewage from city of Vinita. U.S. Army Corps of Engineer's satellite telemeter at station.

EXTREMES FOR OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1943, reached a stage of 34.96 ft at former site; discharge, 63,000 ft^3/s, by slope-area measurement of peak flow.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan 17	2230	9,350	28.71	Apr 24	1900	9,090	28.43
Mar 5	0730	*14,800	*33.87	May 14	0630	11,900	31.27
Mar 28	2100	10,800	30.26				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	13	34	162	72	45	246	4,620	19	19	81	1.3
2	4.6	12	30	146	101	52	187	1,490	16	647	52	1.1
3	5.1	11	44	141	139	750	151	415	17	3,100	38	0.94
4	5.4	9.7	199	141	109	11,000	126	245	17	2,770	30	0.56
5	7.8	10	144	165	126	13,400	107	171	16	2,520	25	0.59
6	8.8	8.8	89	119	398	1,870	96	129	15	377	21	1.6
7	8.2	8.0	66	84	260	583	88	100	14	190	18	2.1
8	8.3	8.0	56	74	138	365	81	82	14	198	15	1.6
9	59	8.1	149	76	123	271	77	69	14	5,570	13	1.4
10	432	7.9	834	75	272	210	174	59	24	4,000	11	1.1
11	129	8.0	348	70	248	171	360	52	51	544	12	0.86
12	68	9.3	195	70	178	145	222	46	48	263	13	0.68
13	48	12	186	68	123	130	135	1,880	865	161	11	0.54
14	164	11	429	66	95	133	97	9,220	654	115	9.8	0.46
15	247	11	456	62	88	132	79	882	173	88	8.7	0.41
16	107	11	657	65	79	124	68	375	84	72	7.7	0.45
17	57	11	276	4,680	70	114	60	223	52	61	6.5	1.1
18	37	564	164	5,550	64	104	53	153	72	53	5.2	1.3
19	27	1,400	124	e1,410	61	90	49	119	53	45	4.5	1.3
20	21	294	98	478	57	82	48	95	35	39	5.5	1.1
21	17	144	83	269	e50	72	1,160	75	34	36	4.9	0.86
22	14	91	82	215	e44	62	1,590	61	1,570	32	5.5	0.64
23	12	90	2,600	170	40	58	2,700	51	655	31	6.9	0.47
24	11	167	780	142	42	54	7,480	44	181	41	7.7	0.47
25	12	128	320	137	53	52	2,960	39	86	56	6.8	0.72
26	12	83	207	145	49	53	555	38	53	53	5.0	0.79
27	10	65	165	125	42	54	325	35	38	40	3.4	0.91
28	9.0	54	2,060	93	37	5,740	218	32	28	31	2.5	0.89
29	9.6	46	784	90	37	4,480	165	30	23	48	2.3	0.84
30	9.7	39	338	83	---	611	155	26	21	305	1.7	0.93
31	12	---	214	73	---	354	---	22	---	172	1.6	---
TOTAL	1,577.9	3,334.8	12,211	15,244	3,195	41,361	19,812	20,878	4,942	21,677	436.2	28.01
MEAN	50.9	111	394	492	110	1,334	660	673	165	699	14.1	0.93
MAX	432	1,400	2,600	5,550	398	13,400	7,480	9,220	1,570	5,570	81	2.1
MIN	4.6	7.9	30	62	37	45	48	22	14	19	1.6	0.41
AC-FT	3,130	6,610	24,220	30,240	6,340	82,040	39,300	41,410	9,800	43,000	865	56
CFSM	0.11	0.25	0.88	1.09	0.24	2.96	1.47	1.50	0.37	1.55	0.03	0.00
IN.	0.13	0.28	1.01	1.26	0.26	3.42	1.64	1.73	0.41	1.79	0.04	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2004, BY WATER YEAR (WY)

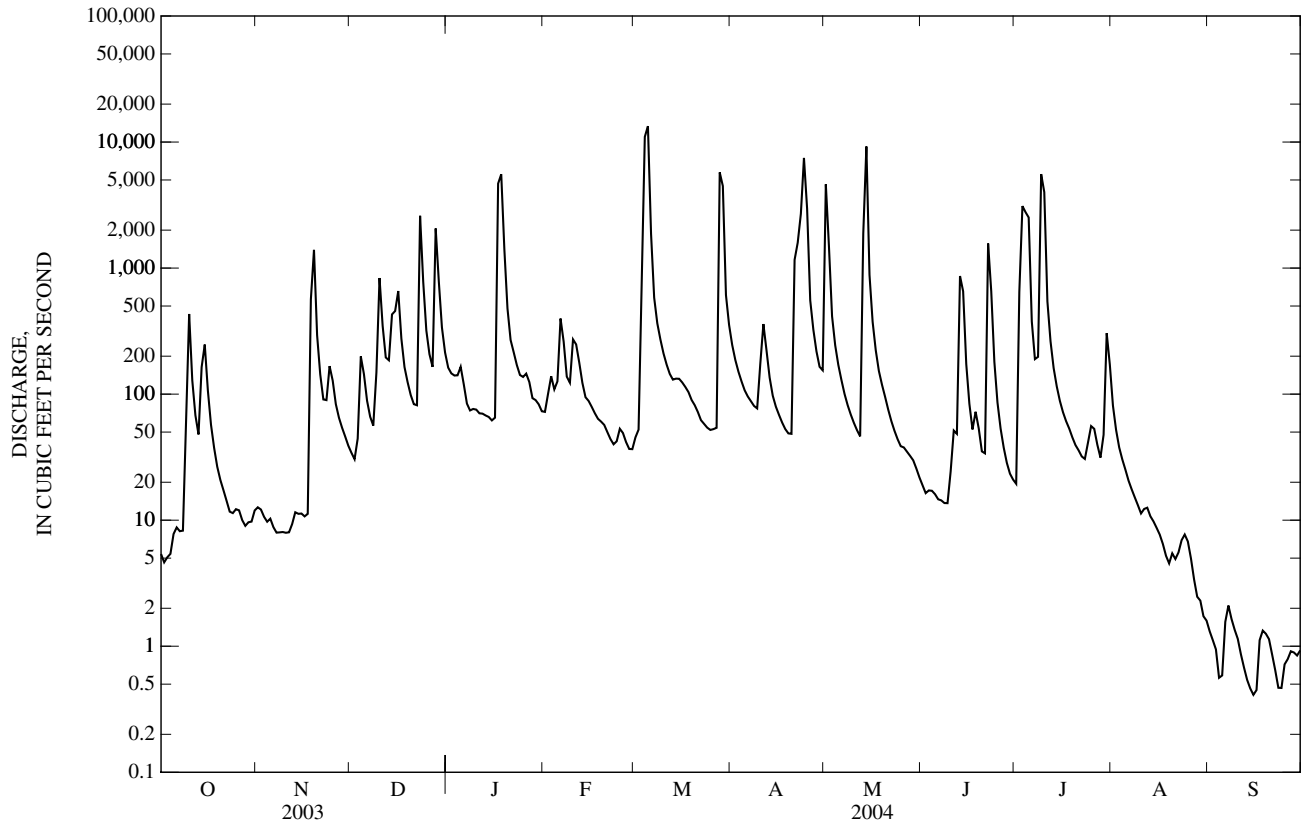
MEAN	255	404	290	237	320	583	497	656	477	211	80.5	203
MAX	4,250	2,844	2,552	1,157	2,940	2,621	2,285	3,580	2,817	1,947	1,757	1,891
(WY)	(1960)	(1986)	(1993)	(1973)	(1985)	(1990)	(1999)	(1961)	(1948)	(1958)	(1948)	(1961)
MIN	0.22	0.89	1.52	1.29	1.50	1.37	30.0	20.3	2.47	0.53	0.41	0.22
(WY)	(1957)	(1956)	(1956)	(1954)	(1954)	(1956)	(1954)	(1963)	(1988)	(1954)	(1954)	(1954)

e Estimated

07191000 BIG CABIN CREEK NEAR BIG CABIN, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1948 - 2004	
ANNUAL TOTAL	58,197.59		144,696.91			
ANNUAL MEAN	159		395		351	
HIGHEST ANNUAL MEAN					1,044	1993
LOWEST ANNUAL MEAN					37.9	1956
HIGHEST DAILY MEAN	4,010	May 16	13,400	Mar 5	46,300	Oct 3, 1959
LOWEST DAILY MEAN	0.21	Jul 28	0.41	Sep 15	0.10	Oct 4, 1954
ANNUAL SEVEN-DAY MINIMUM	0.49	Jul 26	0.64	Sep 10	0.11	Sep 11, 1956
MAXIMUM PEAK FLOW			14,800	Mar 5	52,000	Oct 3, 1959
MAXIMUM PEAK STAGE			33.87	Mar 5	a46.65	Feb 23, 1985
ANNUAL RUNOFF (AC-FT)	115,400		287,000		254,100	
ANNUAL RUNOFF (CFSM)	0.354		0.879		0.780	
ANNUAL RUNOFF (INCHES)	4.81		11.96		10.59	
10 PERCENT EXCEEDS	294		622		504	
50 PERCENT EXCEEDS	36		65		33	
90 PERCENT EXCEEDS	2.9		4.6		1.6	

a Gage height, 34.55 ft at former site.



07191160 SPAVINAW CREEK NEAR MAYSVILLE, AR

LOCATION.--Lat 36°21'52", long 94°33'04", in SW 1/4 SE 1/4 sec.36, T.20 N., R.34 W., Benton County, Hydrologic Unit 11070209, on downstream left end of bridge on State Highway 102, 1 mi upstream from Columbia Hollow, 3.1 mi southeast of Maysville, Ar. and at mile 42.9.

DRAINAGE AREA.--88.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 938.40 ft above sea level.

REMARKS.--No estimated daily discharge. Records good. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	18	30	38	28	140	408	52	31	118	32
2	13	12	18	31	38	27	117	415	50	54	95	31
3	13	13	18	30	37	117	100	300	50	4,150	78	32
4	13	13	18	34	37	835	89	235	47	777	70	31
5	13	13	18	52	38	688	81	191	46	441	64	29
6	13	13	17	59	40	387	76	160	45	307	61	30
7	13	14	17	60	43	271	72	138	44	222	58	30
8	13	16	17	54	45	207	71	122	43	170	53	29
9	14	16	18	48	45	162	68	110	43	161	50	29
10	15	15	21	43	45	135	71	102	43	191	48	28
11	16	15	37	39	44	114	120	95	46	168	48	27
12	16	14	39	37	42	99	125	90	44	139	48	27
13	16	14	37	34	40	89	107	95	46	117	48	27
14	16	14	35	32	39	81	93	126	48	103	46	26
15	16	14	35	30	38	74	84	113	45	92	44	26
16	17	15	35	29	37	69	76	101	41	85	42	26
17	17	16	35	39	36	65	72	90	41	80	39	26
18	16	20	33	57	35	63	69	83	42	76	38	26
19	16	33	30	77	34	61	64	78	40	73	36	25
20	15	37	28	74	33	58	61	75	38	70	47	24
21	15	33	26	66	33	53	63	72	39	65	49	24
22	14	29	25	62	32	50	270	68	40	62	46	24
23	14	27	24	56	31	47	510	66	43	59	43	24
24	13	26	24	52	31	46	1,820	63	41	63	41	23
25	13	26	23	49	30	44	744	61	39	65	39	23
26	13	25	22	47	29	43	416	59	37	67	37	23
27	13	24	21	45	29	42	301	57	35	63	36	23
28	13	22	23	43	28	175	236	55	33	60	34	23
29	13	21	26	41	28	307	192	53	32	65	34	22
30	13	19	31	40	---	231	163	54	31	128	33	22
31	13	---	31	39	---	176	---	55	---	143	32	---
TOTAL	441	581	800	1,429	1,055	4,844	6,471	3,790	1,264	8,347	1,555	792
MEAN	14.2	19.4	25.8	46.1	36.4	156	216	122	42.1	269	50.2	26.4
MAX	17	37	39	77	45	835	1,820	415	52	4,150	118	32
MIN	13	12	17	29	28	27	61	53	31	31	32	22
AC-FT	875	1,150	1,590	2,830	2,090	9,610	12,840	7,520	2,510	16,560	3,080	1,570

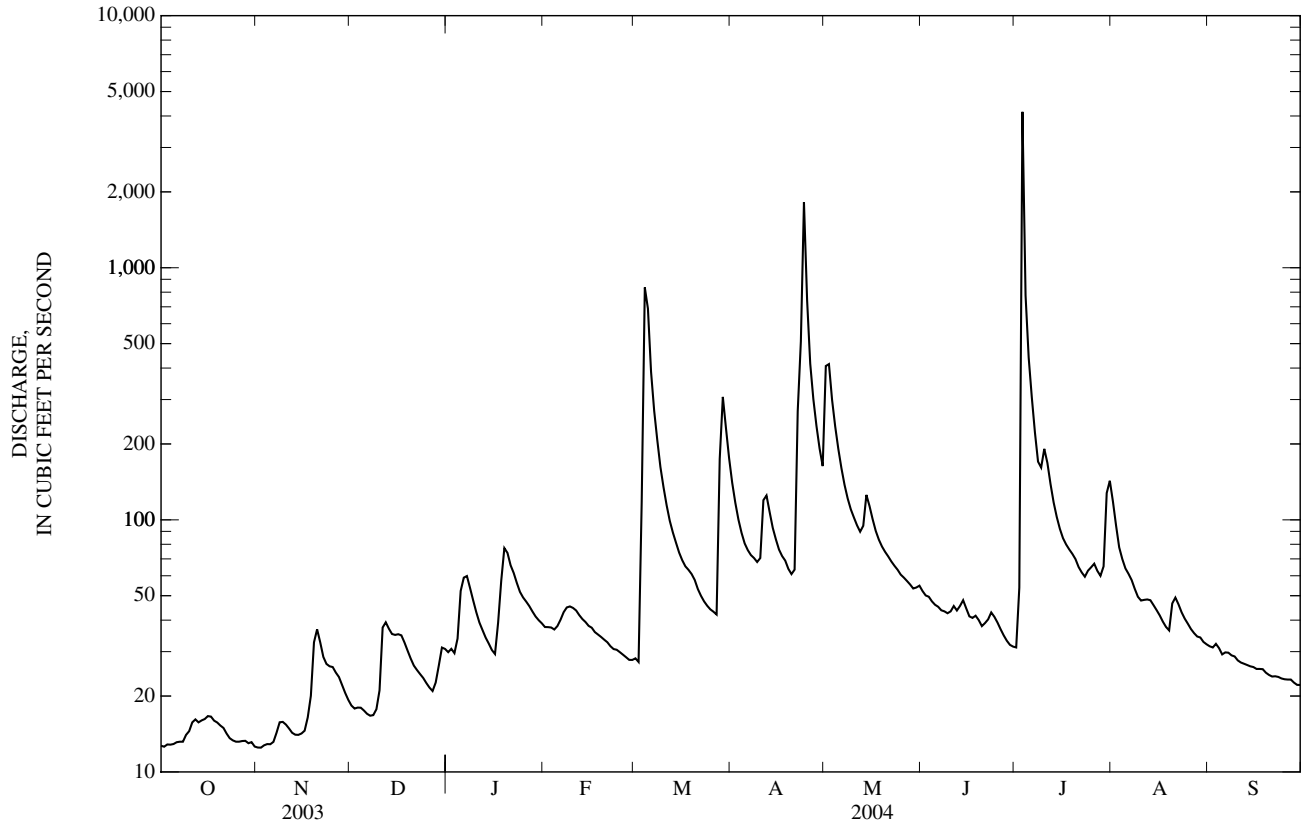
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

MEAN	23.5	26.2	52.7	36.7	48.0	97.0	123	126	50.8	111	29.9	20.0
MAX	39.1	41.2	113	46.1	76.4	156	216	177	70.6	269	50.2	26.4
(WY)	(2002)	(2002)	(2002)	(2004)	(2002)	(2004)	(2004)	(2002)	(2002)	(2004)	(2004)	(2004)
MIN	14.2	17.9	19.3	22.7	31.7	54.2	38.0	80.2	39.6	27.4	13.4	16.4
(WY)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)

07191160 SPAVINAW CREEK NEAR MAYSVILLE, AR—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2002 - 2004	
ANNUAL TOTAL	11,664		31,369			
ANNUAL MEAN	32.0		85.7		62.3	
HIGHEST ANNUAL MEAN					85.7	2004
LOWEST ANNUAL MEAN					31.5	2003
HIGHEST DAILY MEAN	261	May 21	4,150	Jul 3	4,150	Jul 3, 2004
LOWEST DAILY MEAN	11	Aug 21,23-28	12	Nov 1,2	a11	Aug 21, 2003
ANNUAL SEVEN-DAY MINIMUM	11	Aug 21	13	Oct 27	11	Aug 21, 2003
MAXIMUM PEAK FLOW			9,330	Jul 3	9,330	Jul 3, 2004
MAXIMUM PEAK STAGE			18.49	Jul 3	18.49	Jul 3, 2004
INSTANTANEOUS LOW FLOW			12	Nov 1		
ANNUAL RUNOFF (AC-FT)	23,140		62,220		45,150	
10 PERCENT EXCEEDS	59		139		103	
50 PERCENT EXCEEDS	24		41		36	
90 PERCENT EXCEEDS	13		16		16	

a Also occurred Aug. 23-28, 2003.



07191160 SPAVINAW CREEK NEAR MAYSVILLE, AR—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-December 2001 to current year.

REMARKS.--Six event samples were collected by USGS. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
NOV										
19...	1055	1028	1028	6.43	33	7.6	8.0	346	16.3	40.0
19...	1056	1028	1028	6.43	33	7.6	8.0	346	16.3	36.0
19...	1057	1028	1028	6.43	33	7.6	8.0	346	16.3	32.0
19...	1058	1028	1028	6.43	33	7.6	7.9	346	16.4	28.0
19...	1059	1028	1028	6.43	33	7.6	7.9	346	16.5	24.0
19...	1100	1028	1028	6.43	33	7.6	7.8	346	16.5	20.0
19...	1101	1028	1028	6.43	33	7.7	7.8	346	16.5	16.0
19...	1102	1028	1028	6.43	33	7.7	7.8	347	16.5	12.0
19...	1103	1028	1028	6.43	33	7.7	7.7	347	16.5	8.00
19...	1104	1028	1028	6.43	33	7.6	7.7	347	16.5	4.00
MAR										
04...	1154	1028	1028	9.22	809	9.7	7.5	225	11.5	70.0
04...	1155	1028	1028	9.22	809	9.6	7.5	225	11.5	64.0
04...	1156	1028	1028	9.22	809	9.7	7.5	225	11.5	56.0
04...	1157	1028	1028	9.22	809	9.8	7.5	225	11.5	48.0
04...	1158	1028	1028	9.22	809	9.7	7.4	226	11.5	40.0
04...	1159	1028	1028	9.22	809	9.8	7.4	226	11.5	34.0
04...	1200	1028	1028	9.22	809	9.7	7.4	226	11.5	26.0
04...	1201	1028	1028	9.22	809	9.6	7.4	226	11.5	18.0
04...	1202	1028	1028	9.22	809	9.5	7.4	226	11.5	10.0
04...	1203	1028	1028	9.22	809	9.5	7.4	226	11.5	6.00
JUL										
03...	1045	1028	1028	13.42	3,970	8.0	--	160	19.0	8.00
03...	1049	1028	1028	13.42	3,970	7.9	--	159	19.0	40.0
03...	1051	1028	1028	13.42	3,970	7.9	--	160	19.0	72.0
03...	1054	1028	1028	13.42	3,970	7.9	--	158	19.0	104
03...	1056	1028	1028	13.42	3,970	7.9	--	159	19.0	136
03...	1059	1028	1028	13.42	3,970	7.8	--	157	19.9	168

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
NOV													
19...	1111	1028	99999	6.43	33	740	4.3	7.6	80	7.9	346	--	16.5
MAR													
04...	1125	1028	99999	9.22	809	750	5.5	9.7	90	7.4	226	19.2	11.5
29...	1110	1028	99999	7.89	307	765	7.0	9.4	87	7.4	252	17.5	12.3
APR													
23...	1040	1028	99999	8.23	419	737	4.7	13.3	135	7.6	237	17.3	14.5
24...	1435	1028	99999	11.25	2,110	757	20	9.4	93	6.8	185	19.5	15.0
JUL													
03...	1100	1028	99999	13.42	3,970	758	--	7.9	86	--	159	22.5	19.0

07191160 SPAVINAW CREEK NEAR MAYSVILLE, AR—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Ammonia water unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Organic nitrogen, water, unfltrd mg/L (00605)	Ortho-phosphate, water, fltrd, mg/L (00660)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)
NOV													
19...	170	--	<.040	2.74	2.70	<.010	.36	.067	.022	.024	.029	99	19
MAR													
04...	71	--	<.038	4.77	4.79	<.033	1.0	.297	.097	.110	.140	81	98
29...	89	--	<.038	4.39	4.40	<.033	<.24	.123	.040	.039	.054	88	27
APR													
23...	89	--	--	3.42	3.43	<.033	<.24	--	--	.026	.046	88	25
24...	67	.06	.046	3.56	3.58	<.033	2.1	.429	.140	.150	.800	89	548
JUL													
03...	66	--	<.038	--	2.81	--	2.8	.644	.210	.240	.920	87	711

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Suspended sediment discharge, tons/d (80155)
NOV	
19...	1.7
MAR	
04...	214
29...	22
APR	
23...	28
24...	3,120
JUL	
03...	7,620

07191179 SPAVINAW CREEK NEAR CHEROKEE, AR

LOCATION.--Lat 36°20'31", long 94°35'15", in NW ¼ SE ¼ sec.10, T.19 N., R.34 W., Benton County, Hydrologic Unit 11070209, on downstream left end of bridge on State Highway 43, 1.25 mi upstream from Coon Creek, 3.1 mi north of Cherokee, Ar. and at mile 39.3.

DRAINAGE AREA.--104 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 906.20 ft above sea level.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	20	32	49	35	160	635	65	44	147	39
2	16	17	19	32	48	35	129	575	62	89	123	36
3	17	17	20	30	47	148	109	428	61	5,180	105	36
4	17	18	20	39	47	1,010	97	325	60	973	94	35
5	17	20	20	64	49	876	87	257	58	531	86	33
6	17	19	19	79	54	484	82	207	57	353	82	35
7	16	20	18	79	57	340	80	172	55	262	76	35
8	17	21	19	70	60	254	78	147	55	207	71	33
9	21	20	22	63	61	193	77	131	55	195	66	33
10	21	20	29	57	59	153	83	118	57	222	62	32
11	22	19	42	52	58	127	126	108	59	200	63	32
12	23	19	46	49	55	109	136	101	57	168	63	30
13	22	19	45	47	52	98	118	108	60	140	60	29
14	24	19	41	46	50	87	104	160	62	122	55	29
15	24	19	41	45	48	79	93	147	60	108	53	28
16	23	18	41	47	46	72	85	127	57	99	51	28
17	23	24	40	74	44	68	81	111	56	93	49	28
18	22	29	38	110	43	66	77	99	57	87	48	28
19	20	39	34	138	42	63	73	91	55	83	48	28
20	19	43	30	129	41	60	70	86	53	78	65	26
21	18	37	28	108	40	56	74	81	55	73	67	e26
22	18	32	28	97	39	53	282	78	57	69	62	e26
23	18	30	26	85	39	51	538	76	59	66	56	e25
24	18	29	25	75	38	49	2,280	75	58	73	51	e25
25	e18	28	23	69	38	48	958	72	55	76	48	e25
26	e17	27	22	66	37	47	531	70	51	77	46	e25
27	e17	26	22	62	36	46	387	69	48	71	44	e25
28	18	24	27	58	35	213	297	67	46	67	42	e25
29	18	22	29	55	35	376	235	65	45	74	41	e24
30	18	21	33	52	---	282	193	67	44	132	41	e29
31	17	---	32	50	---	208	---	68	---	171	39	---
TOTAL	593	714	899	2,059	1,347	5,786	7,720	4,921	1,679	10,183	2,004	888
MEAN	19.1	23.8	29.0	66.4	46.4	187	257	159	56.0	328	64.6	29.6
MAX	24	43	46	138	61	1,010	2,280	635	65	5,180	147	39
MIN	16	17	18	30	35	35	70	65	44	44	39	24
AC-FT	1,180	1,420	1,780	4,080	2,670	11,480	15,310	9,760	3,330	20,200	3,970	1,760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

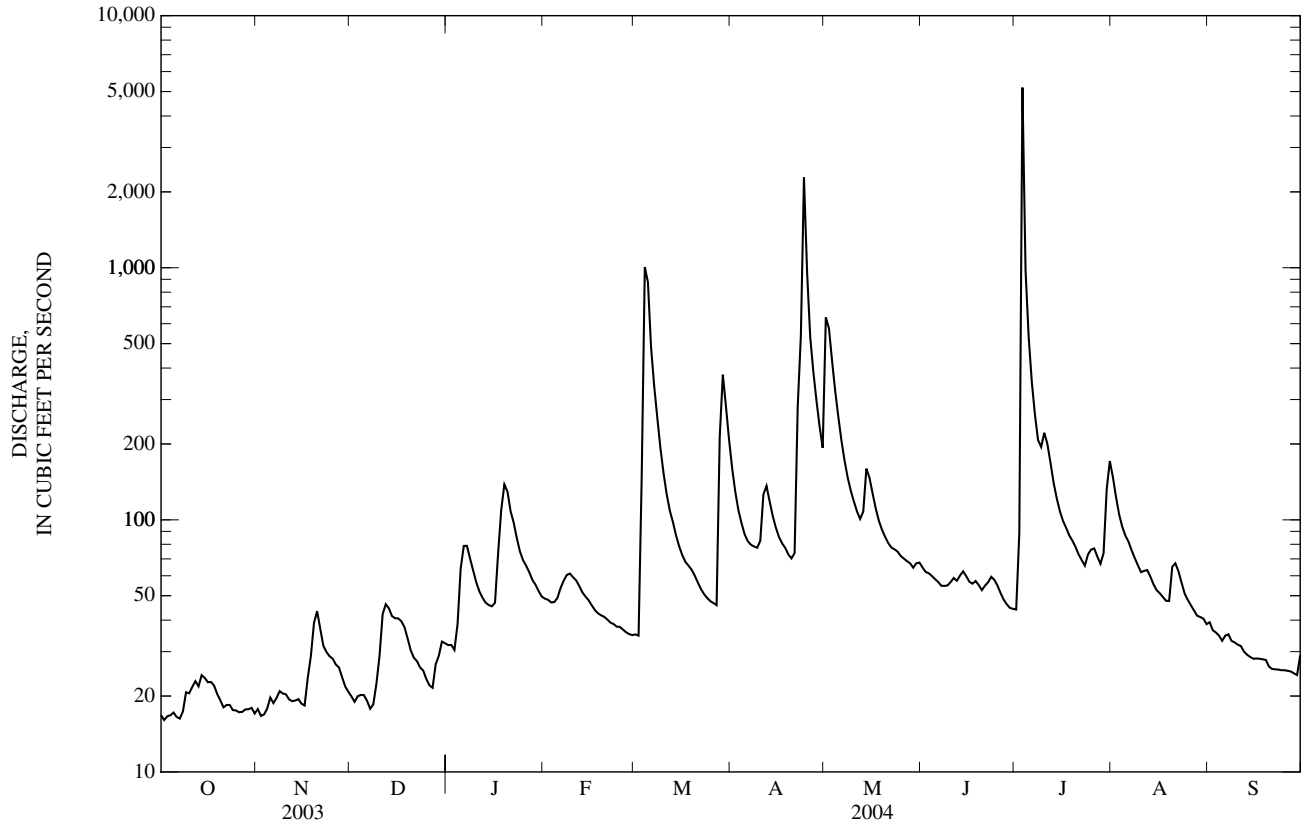
MEAN	26.3	28.7	56.8	47.7	58.6	117	148	148	61.7	134	35.9	22.7
MAX	40.8	40.4	120	66.4	94.2	187	257	198	88.8	328	64.6	29.6
(WY)	(2002)	(2002)	(2002)	(2004)	(2002)	(2004)	(2004)	(2002)	(2002)	(2004)	(2004)	(2004)
MIN	18.8	21.9	21.1	27.6	35.6	59.6	49.6	89.0	40.5	29.1	14.7	19.2
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)

e Estimated

07191179 SPAVINAW CREEK NEAR CHEROKEE, AR—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2002 - 2004	
ANNUAL TOTAL	13,299		38,793			
ANNUAL MEAN	36.4		106		74.1	
HIGHEST ANNUAL MEAN					106	2004
LOWEST ANNUAL MEAN					35.6	2003
HIGHEST DAILY MEAN	323	May 21	5,180	Jul 3	5,180	Jul 3, 2004
LOWEST DAILY MEAN	12	Aug 25-28	16	Oct 2	a12	Aug 25, 2003
ANNUAL SEVEN-DAY MINIMUM	12	Aug 22	17	Oct 1	12	Aug 22, 2003
MAXIMUM PEAK FLOW			12,100	Jul 3	12,100	Jul 3, 2004
MAXIMUM PEAK STAGE			18.81	Jul 3	18.81	Jul 3, 2004
ANNUAL RUNOFF (AC-FT)	26,380		76,950		53,650	
10 PERCENT EXCEEDS	66		169		123	
50 PERCENT EXCEEDS	27		53		43	
90 PERCENT EXCEEDS	17		20		18	

a Also Occurred Aug. 26-28, 2003



07191179 SPAVINAW CREEK NEAR CHEROKEE, AR—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 2001 to current year.

REMARKS.--Six event samples collected by USGS. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
NOV											
19...	1250	1028	1028	6.92	41	740	10.5	8.1	380	14.3	2.50
19...	1251	1028	1028	6.92	41	740	10.5	8.1	380	14.3	7.50
19...	1252	1028	1028	6.92	41	740	10.5	8.0	380	14.4	12.5
19...	1253	1028	1028	6.92	41	740	10.5	8.0	380	14.4	17.5
19...	1254	1028	1028	6.92	41	740	10.5	8.0	380	14.4	22.5
19...	1255	1028	1028	6.92	41	740	10.4	8.0	380	14.4	27.5
19...	1256	1028	1028	6.92	41	740	10.4	8.0	379	14.4	32.5
19...	1257	1028	1028	6.92	41	740	10.4	8.0	379	14.4	37.5
19...	1258	1028	1028	6.92	41	740	10.4	7.9	379	14.4	42.5
19...	1259	1028	1028	6.92	41	740	10.3	7.9	380	14.4	47.5
MAR											
04...	1530	1028	1028	8.71	912	750	9.8	7.4	235	12.3	9.00
04...	1531	1028	1028	8.71	912	750	9.7	7.3	236	12.3	18.0
04...	1532	1028	1028	8.71	912	750	9.7	7.4	236	12.3	27.0
04...	1533	1028	1028	8.71	912	750	9.7	7.4	235	12.3	36.0
04...	1534	1028	1028	8.71	912	750	9.5	7.3	236	12.3	45.0
04...	1535	1028	1028	8.71	912	750	9.3	7.3	236	12.3	54.0
04...	1536	1028	1028	8.71	912	750	9.3	7.3	236	12.3	72.0
04...	1538	1028	1028	8.71	912	750	9.3	7.3	237	12.3	81.0
04...	1540	1028	1028	8.71	912	750	9.2	7.3	237	12.3	90.0
JUL											
03...	0850	1028	1028	15.87	8,000	739	8.2	--	133	19.3	7.00
03...	0851	1028	1028	15.87	8,000	739	8.1	--	132	19.3	16.0
03...	0852	1028	1028	15.87	8,000	739	8.1	--	133	19.3	38.0
03...	0853	1028	1028	15.87	8,000	739	8.1	--	133	19.3	53.0
03...	0854	1028	1028	15.87	8,000	739	8.1	--	134	19.3	68.0
03...	0855	1028	1028	15.87	8,000	739	8.1	--	134	19.3	83.0
03...	0856	1028	1028	15.87	8,000	739	8.1	--	134	19.3	98.0
03...	0857	1028	1028	15.87	8,000	739	8.1	--	134	19.3	123
03...	0858	1028	1028	15.87	8,000	739	8.0	--	136	19.3	131
03...	0859	1028	1028	15.87	8,000	739	8.0	--	135	19.3	153

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
NOV													
19...	1236	1028	99999	6.92	41	740	3.0	10.4	105	8.0	380	--	14.4
MAR													
04...	1510	1028	99999	8.71	912	750	7.1	9.5	90	7.3	236	21.7	12.3
29...	1235	1028	99999	7.76	375	765	7.1	10.5	100	7.4	258	20.0	13.3
APR													
23...	1259	1028	99999	7.93	470	737	3.0	11.2	115	7.6	246	21.3	14.8
24...	1735	1028	99999	10.30	2,210	758	21	9.3	93	6.8	194	20.5	15.1
JUL													
03...	0926	1028	99999	15.87	8,000	739	--	8.1	90	--	134	22.8	19.3

07191179 SPAVINAW CREEK NEAR CHEROKEE, AR—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Ammonia water unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Organic nitrogen, water, unfltrd mg/L (00605)	Ortho-phosphate, water, fltrd, mg/L (00660)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)
NOV													
19...	150	--	<.040	3.83	3.80	<.010	.39	.767	.250	.220	.230	100	22
MAR													
04...	82	.06	.046	5.34	5.36	<.033	.92	.399	.130	.130	.180	94	70
29...	92	--	<.038	4.51	4.52	<.033	<.24	.264	.086	.088	.100	90	28
APR													
23...	63	.42	.330	3.85	3.87	<.033	<.24	--	--	.063	.082	93	25
24...	70	.10	.076	3.98	4.00	<.033	.99	.460	.150	.160	.640	89	308
JUL													
03...	55	.10	.081	--	1.98	--	.70	.951	.310	.380	1.30	89	1,250

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Suspended sediment discharge, tons/d (80155)
NOV	
19...	2.4
MAR	
04...	172
29...	28
APR	
23...	32
24...	1,840
JUL	
03...	27,000

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK

LOCATION.--Lat 36°20'05", long 94°38'29", in NE $^1/_4$ NW $^1/_4$ sec.4, T.21 N., R.25 E., Delaware County, Hydrologic Unit 11070209, on right bank 1.8 mi upstream from Cherokee Creek, 4.8 mi northeast of Row, 6.5 mi southeast of Sycamore, and at mile 35.0.

DRAINAGE AREA.--133 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 2121: 1965 (M).

GAGE.--Water-stage recorder. Datum of gage is 868.34 ft above sea level. Prior to Nov. 6, 2001, elevation published as 875 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated periods which are poor. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--According to local residents, a flood of approximately the same magnitude as the July 27, 1975 flood occurred in the early 1880's.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr 24	1200	3,260	9.33	Jul 3	0500	*16,100	*16.70

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e16	20	e31	50	58	44	199	1,120	79	48	256	61
2	e15	e18	e29	52	57	44	164	807	75	141	217	59
3	e16	e19	e28	53	56	268	140	574	73	6,300	185	57
4	e16	e20	e25	56	56	1,310	124	436	70	1,210	164	55
5	e16	22	e24	63	56	1,100	111	351	69	748	148	54
6	15	e20	e23	93	60	625	104	291	67	531	137	53
7	15	e21	e23	95	65	429	100	245	65	402	126	51
8	e16	e22	e21	86	70	321	97	209	62	323	117	51
9	e20	e23	e23	77	73	250	95	180	61	311	109	50
10	e23	e24	e30	69	73	206	100	160	62	345	104	49
11	e23	e25	e42	64	70	177	130	141	64	311	100	47
12	e26	e26	e48	59	67	156	150	128	64	266	99	46
13	e23	e24	52	55	65	141	136	152	65	228	97	45
14	e24	e24	55	53	63	130	122	275	69	200	93	44
15	e24	e23	56	51	61	122	110	223	68	178	89	43
16	e24	e22	56	49	58	113	103	189	67	163	85	42
17	e23	e26	56	88	57	108	98	162	64	151	83	41
18	e22	40	56	132	56	106	94	140	63	140	80	40
19	e21	46	55	148	54	104	89	125	63	134	79	39
20	e21	51	53	143	53	101	86	114	60	127	84	39
21	20	58	51	122	52	97	91	104	59	121	95	38
22	19	60	49	106	52	94	274	97	61	115	93	37
23	19	60	47	95	52	90	684	93	64	111	88	36
24	19	58	45	85	50	87	2,630	89	66	123	82	35
25	e20	55	e42	80	49	85	1,330	85	63	134	77	35
26	e19	52	e41	75	49	84	765	83	60	137	75	34
27	18	50	e39	72	47	83	555	81	56	131	71	33
28	18	e45	42	68	45	319	434	79	54	122	70	32
29	19	e40	43	65	45	476	349	76	51	138	66	31
30	19	e36	45	63	---	338	300	80	49	277	65	30
31	19	---	48	60	---	253	---	83	---	302	63	---
TOTAL	608	1,030	1,278	2,427	1,669	7,861	9,764	6,972	1,913	13,968	3,297	1,307
MEAN	19.6	34.3	41.2	78.3	57.6	254	325	225	63.8	451	106	43.6
MAX	26	60	56	148	73	1,310	2,630	1,120	79	6,300	256	61
MIN	15	18	21	49	45	44	86	76	49	48	63	30
AC-FT	1,210	2,040	2,530	4,810	3,310	15,590	19,370	13,830	3,790	27,710	6,540	2,590
CFSM	0.15	0.26	0.31	0.59	0.43	1.91	2.45	1.69	0.48	3.39	0.80	0.33
IN.	0.17	0.29	0.36	0.68	0.47	2.20	2.73	1.95	0.54	3.91	0.92	0.37

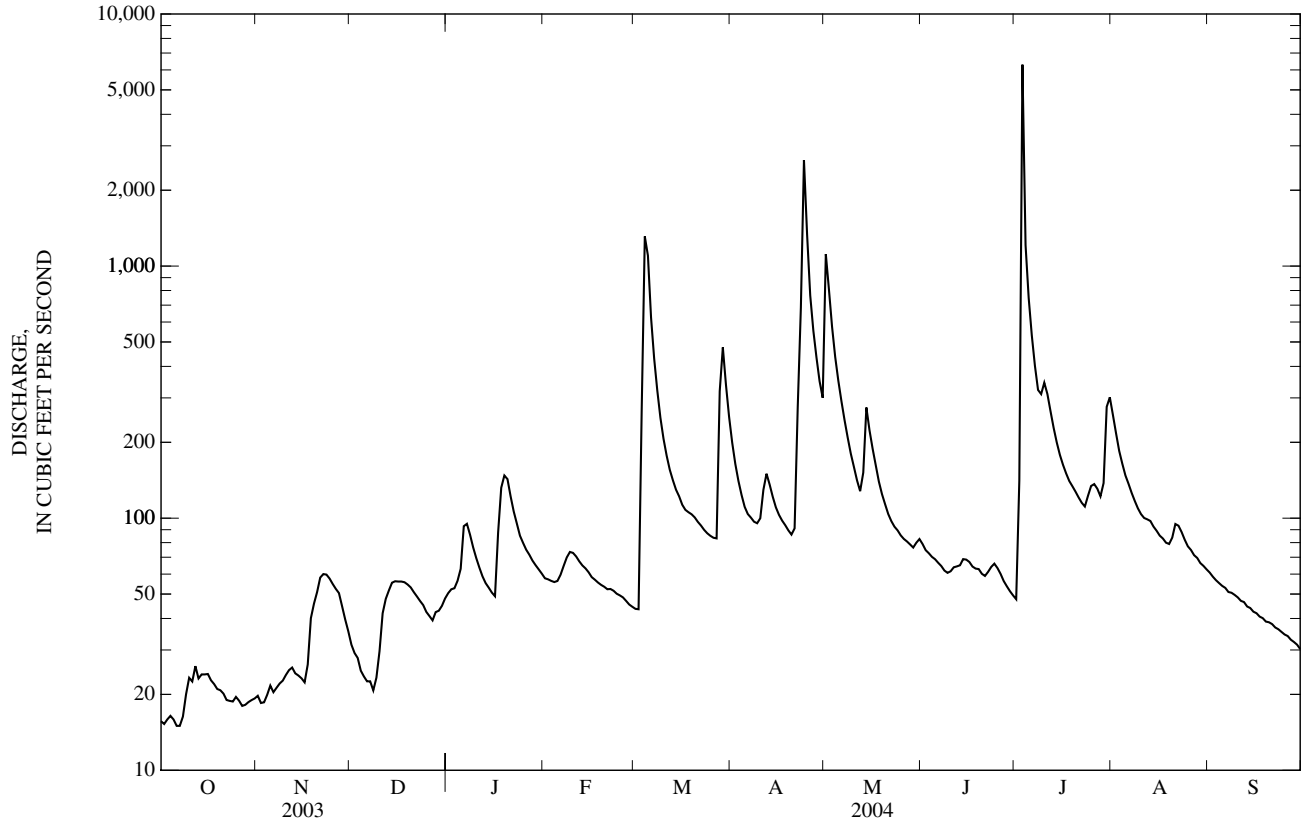
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2004, BY WATER YEAR (WY)

MEAN	56.1	109	123	104	128	188	197	154	151	75.2	32.9	49.1
MAX	382	683	585	328	480	563	600	550	880	483	106	248
(WY)	(1987)	(1974)	(1993)	(1998)	(2001)	(1973)	(1973)	(1990)	(1974)	(1975)	(2004)	(1986)
MIN	4.84	8.56	10.5	9.34	12.4	12.7	21.7	19.0	14.5	10.1	6.27	5.75
(WY)	(1964)	(1964)	(1967)	(1981)	(1964)	(1967)	(1981)	(1967)	(1972)	(1966)	(1980)	(1963)

e Estimated

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1962 - 2004	
ANNUAL TOTAL	16,577		52,094			
ANNUAL MEAN	45.4		142		114	
HIGHEST ANNUAL MEAN					265	1974
LOWEST ANNUAL MEAN					18.0	1967
HIGHEST DAILY MEAN	378	May 17	6,300	Jul 3	11,700	Jul 27, 1975
LOWEST DAILY MEAN	12	Aug 25,28	15	Oct 2,6,7	1.3	Aug 9, 1964
ANNUAL SEVEN-DAY MINIMUM	12	Aug 22	16	Oct 1	1.6	Aug 3, 1964
MAXIMUM PEAK FLOW			16,100	Jul 3	39,800	Jul 27, 1975
MAXIMUM PEAK STAGE			16.70	Jul 3	22.07	Jul 27, 1975
ANNUAL RUNOFF (AC-FT)	32,880		103,300		82,340	
ANNUAL RUNOFF (CFSM)	0.341		1.07		0.855	
ANNUAL RUNOFF (INCHES)	4.64		14.57		11.61	
10 PERCENT EXCEEDS	88		267		230	
50 PERCENT EXCEEDS	35		65		55	
90 PERCENT EXCEEDS	18		23		15	



07191220 SPAVINAW CREEK NEAR SYCAMORE, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1972 to April 1988, December 2001 to current year.

REMARKS.--Six event samples collected by USGS. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
MAR											
04...	1100	1028	1028	7.12	1,310	750	10.4	7.4	233	11.4	76.0
04...	1103	1028	1028	7.12	1,310	750	10.5	7.4	231	11.4	68.0
04...	1106	1028	1028	7.12	1,310	750	10.5	7.4	233	11.4	60.0
04...	1109	1028	1028	7.12	1,310	750	10.5	7.4	233	11.4	52.0
04...	1112	1028	1028	7.12	1,310	750	10.5	7.5	234	11.4	44.0
04...	1115	1028	1028	7.12	1,310	750	10.4	7.4	234	11.4	36.0
04...	1116	1028	1028	7.12	1,310	750	10.4	7.4	237	11.4	28.0
04...	1118	1028	1028	7.12	1,310	750	10.5	7.4	234	11.4	20.0
04...	1119	1028	1028	7.12	1,310	750	10.5	7.4	236	11.4	12.0
04...	1120	1028	1028	7.12	1,310	750	10.5	7.4	236	11.4	4.00
APR											
23...	1411	1028	1028	5.81	561	738	9.3	7.7	255	14.7	3.00
23...	1413	1028	1028	5.81	561	738	9.2	7.7	255	14.7	10.0
23...	1415	1028	1028	5.81	561	738	9.1	7.7	255	14.7	17.0
23...	1417	1028	1028	5.81	561	738	9.2	7.7	255	14.7	24.0
23...	1418	1028	1028	5.81	561	738	9.2	7.7	254	14.7	31.0
23...	1419	1028	1028	5.81	561	738	9.2	7.8	254	14.7	38.0
23...	1421	1028	1028	5.81	561	738	9.2	7.8	254	14.7	45.0
23...	1423	1028	1028	5.81	561	738	9.2	7.8	254	14.7	52.0
23...	1424	1028	1028	5.81	561	738	9.2	7.8	254	14.7	59.0
23...	1425	1028	1028	5.81	561	738	9.2	7.8	253	14.7	66.0
23...	1427	1028	1028	5.81	561	738	9.2	7.8	254	14.7	73.0
24...	1400	1028	1028	9.17	3,120	735	9.4	7.4	195	14.6	5.00
24...	1402	1028	1028	9.17	3,120	735	9.3	7.4	194	14.6	15.0
24...	1403	1028	1028	9.17	3,120	735	9.3	7.5	195	14.7	25.0
24...	1405	1028	1028	9.17	3,120	735	9.3	7.5	196	14.7	35.0
24...	1407	1028	1028	9.17	3,120	735	9.3	7.5	196	14.7	45.0
24...	1409	1028	1028	9.17	3,120	735	9.4	7.5	196	14.7	55.0
24...	1412	1028	1028	9.17	3,120	735	9.4	7.5	196	14.7	65.0
24...	1415	1028	1028	9.17	3,120	735	9.4	7.5	195	14.7	75.0
24...	1416	1028	1028	9.17	3,120	735	9.4	7.5	194	14.7	85.0
24...	1417	1028	1028	9.17	3,120	735	9.4	7.5	196	14.7	95.0
24...	1418	1028	1028	9.17	3,120	735	9.4	7.5	196	14.7	105
24...	1420	1028	1028	9.17	3,120	735	9.4	7.5	196	14.7	115
JUL											
03...	1151	1028	1028	10.67	4,810	739	8.1	--	189	19.4	5.00
03...	1152	1028	1028	10.67	4,810	739	8.1	--	187	19.5	15.0
03...	1153	1028	1028	10.67	4,810	739	8.2	--	187	19.5	25.0
03...	1154	1028	1028	10.67	4,810	739	8.2	--	185	19.5	35.0
03...	1155	1028	1028	10.67	4,810	739	8.2	--	170	19.5	45.0
03...	1156	1028	1028	10.67	4,810	739	8.3	--	172	19.5	55.0
03...	1157	1028	1028	10.67	4,810	739	8.2	--	178	19.5	65.0
03...	1158	1028	1028	10.67	4,810	739	8.1	--	185	19.5	75.0
03...	1159	1028	1028	10.67	4,810	739	8.1	--	186	19.5	85.0
03...	1200	1028	1028	10.67	4,810	739	8.1	--	182	19.5	95.0
03...	1201	1028	1028	10.67	4,810	739	8.1	--	181	19.6	105

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
JAN													
18...	1540	1028	99999	4.56	137	761	1.7	10.3	94	8.1	329	2.1	11.0
MAR													
04...	1135	1028	99999	7.12	1,310	750	5.5	10.5	97	7.4	234	20.0	11.4
29...	1430	1028	99999	5.58	462	765	7.4	10.6	102	7.4	265	18.4	13.9
APR													
23...	1445	1028	99999	5.81	561	738	2.3	9.2	94	7.8	254	20.0	14.7
24...	1445	1028	99999	9.17	3,120	735	4.8	9.4	96	7.5	196	22.2	14.7
JUL													
03...	1327	1028	99999	10.67	4,810	739	--	8.1	91	--	185	25.4	19.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Ammonia water unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)
JAN													
18...	110	--	<.021	5.69	5.70	<.033	<.24	.337	.110	.110	.120	91	37
MAR													
04...	76	.06	.048	5.22	5.24	<.033	1.2	.429	.140	.150	.190	88	163
29...	94	--	<.038	4.81	4.82	<.033	<.24	.270	.088	.089	.100	86	33
APR													
23...	67	.11	.087	3.52	3.54	<.033	<.24	--	--	.070	.120	90	44
24...	72	--	<.038	3.66	3.67	<.033	2.3	.491	.160	.170	.970	89	652
JUL													
03...	71	--	<.038	--	3.18	--	2.3	.613	.200	.230	.980	84	759

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Suspended sediment discharge, tons/d (80155)
JAN	
18...	14
MAR	
04...	577
29...	41
APR	
23...	67
24...	5,500
JUL	
03...	9,860

071912213 SPAVINAW CREEK NEAR COLCORD, OK

LOCATION.--Lat 36°19'21", long 94°41'06", in SE $^1/_4$ SE $^1/_4$ sec.1, T.21 N., R.24 E., Delaware County, Hydrologic Unit 11070209, on left upstream end of country road bridge, .7 mi downstream from Hog Eye Creek, 4.1 mi north of Colcord, Ok, and at mile 31.7.

DRAINAGE AREA.--163 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2001 to current year.

REVISED RECORDS.--WSP 2121: 1965 (M).

GAGE.--Water-stage recorder. Datum of gage is 840.48 ft above sea level.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	21	40	69	96	100	298	1,240	e102	50	311	82
2	16	21	36	72	96	99	256	900	e95	180	254	79
3	16	21	35	74	95	655	221	644	89	7,720	214	76
4	17	23	32	94	93	2,210	195	473	85	1,750	190	74
5	18	23	30	115	95	1,660	177	399	81	980	172	72
6	18	23	28	138	105	885	163	337	78	683	157	71
7	17	23	27	144	116	594	150	284	76	522	150	70
8	17	24	26	133	123	448	139	258	72	424	143	70
9	23	25	27	118	127	361	134	234	70	399	139	69
10	e26	27	34	106	124	301	145	213	74	436	134	67
11	e26	29	47	96	119	257	182	192	77	402	130	65
12	e30	29	55	86	113	227	213	179	78	346	130	65
13	e28	28	71	79	108	207	196	191	80	306	129	63
14	29	28	78	73	102	193	177	335	84	268	127	59
15	29	27	81	68	95	179	160	289	82	233	119	57
16	29	26	81	65	93	168	147	254	79	200	114	56
17	28	29	80	208	89	158	138	225	76	187	109	56
18	28	54	79	264	85	152	131	201	73	176	105	53
19	28	83	76	251	83	145	123	182	72	166	101	51
20	27	83	71	230	80	138	117	164	68	160	113	51
21	26	88	66	196	77	128	126	151	68	154	122	50
22	26	84	61	170	75	119	371	138	75	150	121	49
23	24	81	57	153	72	114	978	130	80	141	115	46
24	23	74	52	135	71	109	3,400	124	81	150	106	45
25	25	71	49	130	75	104	1,550	116	78	162	102	44
26	24	65	46	122	79	102	853	e112	71	161	97	43
27	23	59	44	116	83	99	591	e107	65	154	95	41
28	24	53	50	112	88	571	439	e103	60	145	91	41
29	23	48	56	107	95	686	373	e100	57	151	89	40
30	21	44	59	103	---	486	329	e105	54	323	88	38
31	21	---	65	100	---	369	---	e110	---	366	86	---
TOTAL	727	1,314	1,639	3,927	2,752	12,024	12,472	8,490	2,280	17,645	4,153	1,743
MEAN	23.5	43.8	52.9	127	94.9	388	416	274	76.0	569	134	58.1
MAX	30	88	81	264	127	2,210	3,400	1,240	102	7,720	311	82
MIN	16	21	26	65	71	99	117	100	54	50	86	38
AC-FT	1,440	2,610	3,250	7,790	5,460	23,850	24,740	16,840	4,520	35,000	8,240	3,460

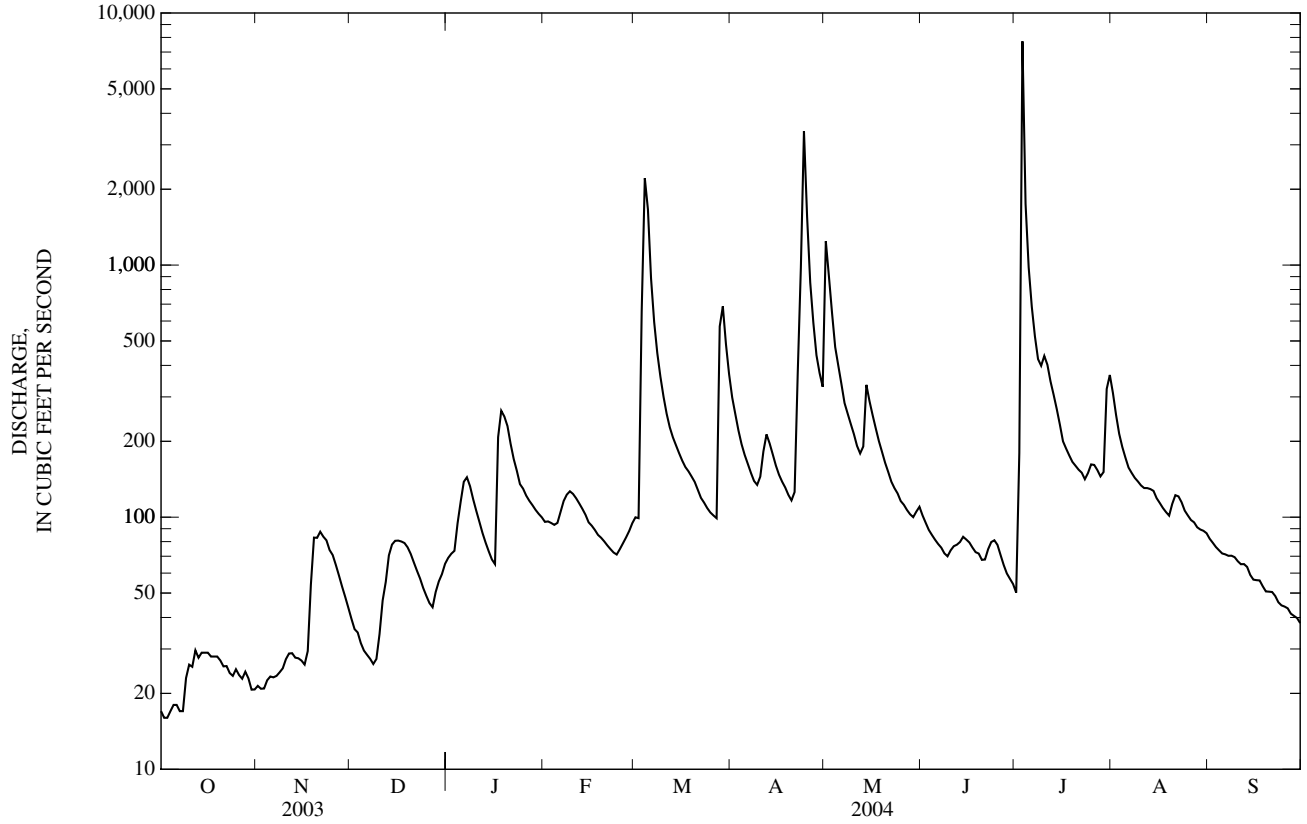
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

MEAN	35.7	41.8	85.0	83.0	96.1	212	231	247	98.1	221	62.8	40.7
MAX	59.4	50.7	166	127	139	388	416	309	157	569	134	58.1
(WY)	(2002)	(2002)	(2002)	(2004)	(2002)	(2004)	(2004)	(2002)	(2002)	(2004)	(2004)	(2004)
MIN	23.5	30.8	36.3	42.8	54.3	89.9	59.0	158	61.3	35.3	19.5	22.8
(WY)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)

e Estimated

071912213 SPAVINAW CREEK NEAR COLCORD, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2002 - 2004	
ANNUAL TOTAL	20,763		69,166			
ANNUAL MEAN	56.9		189		122	
HIGHEST ANNUAL MEAN					189	2004
LOWEST ANNUAL MEAN					54.5	2003
HIGHEST DAILY MEAN	511	May 17	7,720	Jul 3	7,720	Jul 3, 2004
LOWEST DAILY MEAN	12	Aug 26	16	Oct 2,3	12	Aug 26, 2003
ANNUAL SEVEN-DAY MINIMUM	14	Aug 22	17	Oct 1	14	Aug 22, 2003
MAXIMUM PEAK FLOW			16,600	Jul 3	16,600	Jul 3, 2004
MAXIMUM PEAK STAGE			19.37	Jul 3	19.37	Jul 3, 2004
ANNUAL RUNOFF (AC-FT)	41,180		137,200		88,050	
10 PERCENT EXCEEDS	95		336		215	
50 PERCENT EXCEEDS	44		95		68	
90 PERCENT EXCEEDS	22		27		24	



071912213 SPAVINAW CREEK NEAR COLCORD, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 2001 to current year.

REMARKS.--Seven event samples collected by USGS. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
NOV											
19...	1523	1028	1028	6.97	80	740	9.9	7.8	374	16.2	46.5
19...	1524	1028	1028	6.97	80	740	9.8	7.7	374	16.2	41.5
19...	1525	1028	1028	6.97	80	740	9.7	7.7	374	16.3	36.5
19...	1526	1028	1028	6.97	80	740	9.7	7.7	374	16.3	31.5
19...	1527	1028	1028	6.97	80	740	9.7	7.7	374	16.3	26.5
19...	1528	1028	1028	6.97	80	740	9.6	7.6	374	16.3	21.5
19...	1529	1028	1028	6.97	80	740	9.6	7.6	374	16.3	16.5
19...	1530	1028	1028	6.97	80	740	9.6	7.6	374	16.3	11.5
19...	1531	1028	1028	6.97	80	740	9.6	7.6	374	16.3	6.50
19...	1532	1028	1028	6.97	80	740	9.6	7.6	374	16.2	1.50
JAN											
18...	1410	1028	1028	7.46	270	761	11.0	8.4	289	11.8	130
18...	1412	1028	1028	7.46	270	761	11.3	8.2	289	11.8	110
18...	1415	1028	1028	7.46	270	761	10.9	8.1	289	11.8	70.0
18...	1416	1028	1028	7.46	270	761	10.8	8.0	288	11.8	50.0
18...	1418	1028	1028	7.46	270	761	10.8	8.0	288	11.8	30.0
18...	1420	1028	1028	7.46	270	761	10.9	7.9	282	11.8	10.0
MAR											
04...	0835	1028	1028	9.83	2,320	750	10.0	7.0	213	10.9	9.00
04...	0837	1028	1028	9.83	2,320	750	10.2	7.1	216	11.0	27.0
04...	0840	1028	1028	9.83	2,320	750	10.2	7.2	215	11.0	45.0
04...	0843	1028	1028	9.83	2,320	750	10.3	7.2	216	11.0	63.0
04...	0847	1028	1028	9.83	2,320	750	10.2	7.2	213	11.0	81.0
04...	0850	1028	1028	9.83	2,320	750	10.4	7.2	214	11.0	99.0
04...	0853	1028	1028	9.83	2,320	750	10.5	7.2	213	11.0	117
04...	0856	1028	1028	9.83	2,320	750	10.4	7.3	214	11.1	135
04...	0900	1028	1028	9.83	2,320	750	10.4	7.3	211	11.1	153
04...	0903	1028	1028	9.83	2,320	750	10.3	7.3	208	11.2	171
APR											
23...	1242	1028	1028	8.17	792	738	9.1	7.6	248	14.4	10.0
23...	1243	1028	1028	8.17	792	738	9.0	7.6	253	14.4	22.0
23...	1244	1028	1028	8.17	792	738	9.0	7.6	253	14.4	34.0
23...	1245	1028	1028	8.17	792	738	8.9	7.6	252	14.4	46.0
23...	1246	1028	1028	8.17	792	738	8.9	7.6	252	14.4	58.0
23...	1247	1028	1028	8.17	792	738	9.0	7.6	252	14.4	70.0
23...	1248	1028	1028	8.17	792	738	9.0	7.6	252	14.4	82.0
23...	1249	1028	1028	8.17	792	738	9.0	7.6	248	14.3	123
23...	1250	1028	1028	8.17	792	738	8.9	7.6	247	14.3	135
23...	1251	1028	1028	8.17	792	738	8.9	7.6	245	14.2	147
24...	1200	1028	1028	11.38	4,130	737	9.6	7.4	191	14.4	10.0
24...	1202	1028	1028	11.38	4,130	737	9.2	7.4	192	14.5	30.0
24...	1204	1028	1028	11.38	4,130	737	9.6	7.5	194	14.5	50.0
24...	1206	1028	1028	11.38	4,130	737	9.3	7.4	195	14.5	70.0
24...	1208	1028	1028	11.38	4,130	737	9.3	7.4	193	14.5	90.0
24...	1210	1028	1028	11.38	4,130	737	9.3	7.4	191	14.5	110
24...	1212	1028	1028	11.38	4,130	737	9.2	7.4	190	14.5	130
24...	1214	1028	1028	11.38	4,130	737	9.2	7.5	192	14.5	150
24...	1215	1028	1028	11.38	4,130	737	9.2	7.4	194	14.5	170
24...	1216	1028	1028	11.38	4,130	737	9.2	7.5	193	14.5	190

071912213 SPAVINAW CREEK NEAR COLCORD, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
NOV													
19...	1545	1028	99999	6.97	80	740	7.1	9.6	101	7.6	374	--	16.3
JAN													
18...	1350	1028	99999	7.46	270	761	1.5	10.9	101	8.1	288	5.7	11.8
MAR													
04...	0945	1028	99999	9.83	2,320	750	9.2	10.3	95	7.2	214	21.7	11.0
29...	1600	1028	99999	7.95	646	765	7.3	9.8	94	7.4	260	14.1	13.7
APR													
23...	1315	1028	99999	8.17	792	738	3.4	9.0	91	7.6	252	--	14.4
24...	1235	1028	99999	11.38	4,130	737	6.8	9.3	94	7.4	192	19.6	14.5
JUL													
03...	1405	1028	99999	13.93	7,200	753	--	8.0	89	--	166	30.5	19.8

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Ammonia water unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)
NOV													
19...	160	--	<.040	3.36	3.40	<.010	.40	.294	.096	.084	.088	98	36
JAN													
18...	100	--	<.021	4.49	4.50	<.033	<.24	.261	.085	.083	.099	83	35
MAR													
04...	74	.08	.062	4.31	4.33	<.033	1.9	.521	.170	.190	.280	82	294
29...	91	--	<.038	4.44	4.45	<.033	.49	.251	.082	.086	.099	80	32
APR													
23...	71	.05	.040	3.31	3.32	<.033	<.24	--	--	.075	.100	91	50
24...	95	.05	.040	3.15	3.18	<.033	2.9	.552	.180	.200	.990	85	685
JUL													
03...	71	--	<.038	--	2.91	--	.63	.705	.230	.270	.940	88	896

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Suspended sediment discharge, tons/d (80155)
NOV	
19...	7.8
JAN	
18...	26
MAR	
04...	1,840
29...	56
APR	
23...	107
24...	7,640
JUL	
03...	17,400

07191222 BEATY CREEK NEAR JAY, OK

LOCATION.--Lat 36°21'19", long 94°46'34", in NW ¼ SE ¼ sec.30, T.22 N., R.24 E., Delaware County, Hydrologic Unit 11070209, on left bank of county road bridge, 0.8 mi upstream from Spavinaw Creek, 2.3 mi east of Lake Eucha Bridge on U.S. Highway 10 and 59, and at mile 0.5.

DRAINAGE AREA.--59.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 30, 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 783.52 ft above sea level from topographic map.

REMARKS.--No estimated daily discharge. Records good. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.8	5.6	17	22	15	113	363	24	12	33	8.4
2	1.1	3.0	5.0	16	22	14	85	443	21	58	27	8.1
3	1.3	2.9	5.0	14	22	225	63	314	22	4,080	23	7.8
4	1.6	3.8	4.6	14	22	1,160	46	258	20	463	21	7.6
5	1.9	5.6	4.5	19	25	755	37	218	19	307	18	7.2
6	2.2	6.4	4.5	26	34	363	32	186	20	198	17	7.4
7	2.3	6.8	4.2	24	44	246	29	157	19	137	16	7.2
8	2.3	6.2	4.4	21	43	188	26	134	18	104	14	7.4
9	4.0	5.5	5.1	18	40	145	23	118	17	120	15	7.1
10	4.5	5.1	6.7	17	37	116	27	106	20	220	14	6.7
11	5.4	4.9	11	16	34	91	30	96	23	106	14	6.4
12	4.9	4.5	15	14	30	73	30	85	21	84	14	6.3
13	4.7	4.0	15	13	28	58	27	140	21	68	14	6.2
14	4.6	4.3	15	12	26	53	27	434	25	56	13	5.8
15	4.1	4.7	16	11	25	42	26	273	21	47	12	5.6
16	4.2	4.9	15	11	24	36	26	209	18	38	12	5.3
17	3.9	6.7	15	112	23	33	26	165	20	35	11	5.4
18	3.7	11	14	212	22	30	24	134	21	31	11	5.3
19	3.7	15	13	132	23	27	22	111	17	28	10	4.9
20	3.5	19	12	96	20	25	23	93	15	27	19	4.6
21	3.2	18	11	78	19	19	27	75	16	26	36	4.4
22	2.8	15	11	61	19	18	173	65	21	24	27	4.2
23	2.7	12	9.5	52	18	18	221	57	26	23	22	4.0
24	3.1	10	8.7	44	17	17	989	49	22	31	18	4.0
25	2.2	10	8.2	40	16	17	520	42	17	32	16	4.0
26	2.3	9.3	7.6	35	16	16	379	41	16	28	14	4.0
27	2.3	8.3	7.9	31	15	15	316	40	15	25	13	4.0
28	2.2	7.5	10	29	15	530	271	36	13	23	10	3.9
29	2.4	6.9	13	26	15	400	232	31	13	25	9.5	3.8
30	2.9	6.4	17	24	---	220	205	30	12	40	9.1	3.9
31	2.5	---	17	23	---	150	---	27	---	41	8.7	---
TOTAL	93.6	230.5	311.5	1,258	716	5,115	4,075	4,530	573	6,537	511.3	170.9
MEAN	3.02	7.68	10.0	40.6	24.7	165	136	146	19.1	211	16.5	5.70
MAX	5.4	19	17	212	44	1,160	989	443	26	4,080	36	8.4
MIN	1.1	2.8	4.2	11	15	14	22	27	12	12	8.7	3.8
AC-FT	186	457	618	2,500	1,420	10,150	8,080	8,990	1,140	12,970	1,010	339

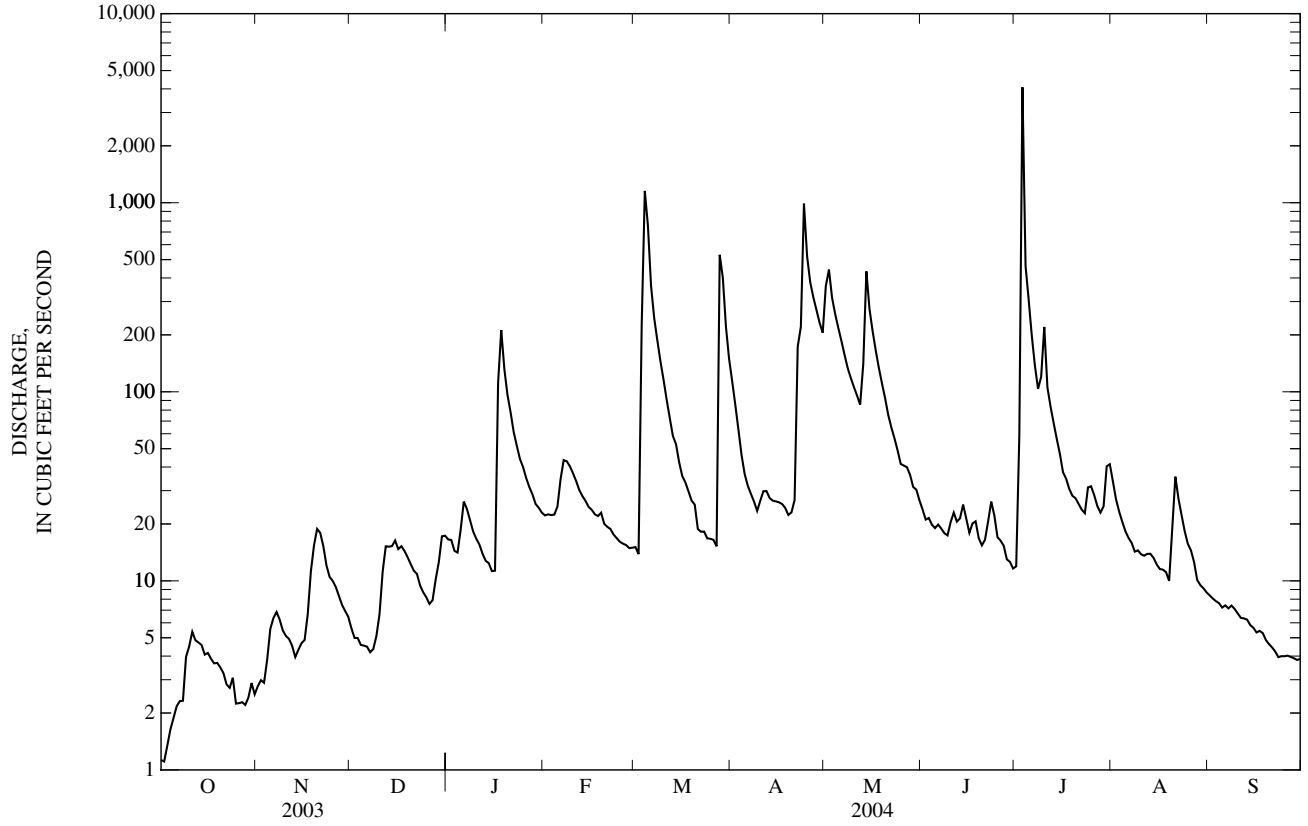
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2004, BY WATER YEAR (WY)

MEAN	29.0	11.4	23.2	28.0	76.3	77.8	57.4	82.6	63.1	67.0	6.72	6.85
MAX	141	22.7	51.9	59.0	229	165	136	146	192	211	16.5	13.5
(WY)	(1999)	(1999)	(2000)	(2001)	(2001)	(2004)	(2004)	(2004)	(1999)	(2004)	(2004)	(1999)
MIN	1.60	3.14	5.63	6.16	10.8	27.8	18.8	12.6	11.8	4.08	0.16	0.13
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2001)	(2001)	(2001)	(2003)	(2002)

07191222 BEATY CREEK NEAR JAY, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1998 - 2004	
ANNUAL TOTAL	5,439.48		24,121.8			
ANNUAL MEAN	14.9		65.9		44.0	
HIGHEST ANNUAL MEAN					90.8	1999
LOWEST ANNUAL MEAN					14.0	2003
HIGHEST DAILY MEAN	283	May 17	4,080	Jul 3	4,080	Jul 3, 2004
LOWEST DAILY MEAN	0.00	Aug 18-28	1.1	Oct 1,2	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 18	1.6	Oct 1	0.00	Sep 10, 2002
MAXIMUM PEAK FLOW			14,700	Jul 3	a17,400	Jun 30, 1999
MAXIMUM PEAK STAGE			13.79	Jul 3	b14.26	Jun 30, 1999
ANNUAL RUNOFF (AC-FT)	10,790		47,850		31,860	
10 PERCENT EXCEEDS	29		146		89	
50 PERCENT EXCEEDS	7.5		18		16	
90 PERCENT EXCEEDS	1.3		4.0		3.1	

a From rating extended above 9.39 ft on basis of slope-area measurement.
b From high-water mark.



07191222 BEATY CREEK NEAR JAY, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1991 to September 1993, July 2001 to current year.

REMARKS.--Seven event samples collected by USGS. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
NOV											
19...	1711	1028	1028	4.53	15	748	8.9	7.8	315	15.2	19.0
19...	1712	1028	1028	4.53	15	748	8.9	7.8	315	15.3	17.0
19...	1713	1028	1028	4.53	15	748	8.9	7.8	315	15.3	15.0
19...	1714	1028	1028	4.53	15	748	8.9	7.8	315	15.3	13.0
19...	1715	1028	1028	4.53	15	748	8.9	7.8	315	15.3	11.0
19...	1716	1028	1028	4.53	15	748	8.9	7.7	315	15.3	9.00
19...	1717	1028	1028	4.53	15	748	8.9	7.7	315	15.3	7.00
19...	1718	1028	1028	4.53	15	748	8.8	7.7	315	15.3	5.00
19...	1719	1028	1028	4.53	15	748	8.7	7.7	315	15.2	3.00
19...	1720	1028	1028	4.53	15	748	8.6	7.7	315	15.2	1.00
JAN											
18...	1210	1028	1028	5.78	212	761	10.6	8.0	254	9.8	6.00
18...	1212	1028	1028	5.78	212	761	10.8	8.0	255	9.8	16.0
18...	1214	1028	1028	5.78	212	761	10.8	8.0	255	9.8	26.0
18...	1216	1028	1028	5.78	212	761	10.8	8.0	255	9.8	36.0
18...	1217	1028	1028	5.78	212	761	10.6	8.0	255	9.8	46.0
18...	1218	1028	1028	5.78	212	761	10.5	8.0	254	9.8	56.0
MAR											
04...	1310	1028	1028	7.03	916	750	10.0	7.1	177	11.7	2.50
04...	1311	1028	1028	7.03	916	750	10.0	7.2	178	11.7	7.50
04...	1312	1028	1028	7.03	916	750	10.0	7.2	178	11.7	12.5
04...	1313	1028	1028	7.03	916	750	10.1	7.2	175	11.7	17.5
04...	1314	1028	1028	7.03	916	750	10.2	7.2	176	11.7	22.5
04...	1315	1028	1028	7.03	916	750	10.2	7.3	176	11.7	27.5
04...	1316	1028	1028	7.03	916	750	10.3	7.3	176	11.7	32.5
04...	1317	1028	1028	7.03	916	750	10.3	7.3	176	11.7	37.5
04...	1318	1028	1028	7.03	916	750	10.3	7.3	176	11.7	42.5
04...	1320	1028	1028	7.03	916	750	10.2	7.3	176	11.7	47.5
APR											
23...	1035	1028	1028	5.45	162	738	8.5	7.5	243	14.8	3.00
23...	1036	1028	1028	5.45	162	738	8.4	7.5	243	14.8	9.00
23...	1037	1028	1028	5.45	162	738	8.4	7.5	243	14.8	16.0
23...	1038	1028	1028	5.45	162	738	8.4	7.6	242	14.8	22.0
23...	1039	1028	1028	5.45	162	738	8.4	7.7	243	14.8	28.0
23...	1040	1028	1028	5.45	162	738	8.4	7.7	243	14.8	34.0
23...	1042	1028	1028	5.45	162	738	8.4	7.7	243	14.8	40.0
23...	1043	1028	1028	5.45	162	738	8.4	7.7	243	14.8	46.0
23...	1044	1028	1028	5.45	162	738	8.4	7.7	243	14.8	52.0
23...	1045	1028	1028	5.45	162	738	8.4	7.7	243	14.8	58.0
24...	1032	1028	1028	7.41	1,080	737	8.9	7.3	170	15.1	3.00
24...	1033	1028	1028	7.41	1,080	737	8.8	7.3	170	15.1	9.00
24...	1034	1028	1028	7.41	1,080	737	8.8	7.4	171	15.1	15.0
24...	1035	1028	1028	7.41	1,080	737	8.8	7.4	170	15.1	21.0
24...	1036	1028	1028	7.41	1,080	737	8.8	7.4	168	15.1	27.0
24...	1037	1028	1028	7.41	1,080	737	8.8	7.4	166	15.1	33.0
24...	1038	1028	1028	7.41	1,080	737	8.8	7.4	169	15.1	39.0
24...	1039	1028	1028	7.41	1,080	737	8.8	7.4	167	15.1	45.0
24...	1040	1028	1028	7.41	1,080	737	8.8	7.4	167	15.1	51.0
24...	1041	1028	1028	7.41	1,080	737	8.8	7.4	168	15.1	57.0
JUL											
03...	1624	1028	1028	7.77	953	753	8.6	--	180	20.9	4.00
03...	1625	1028	1028	7.77	953	753	8.2	--	180	20.9	14.0
03...	1627	1028	1028	7.77	953	753	8.1	--	180	20.9	24.0
03...	1628	1028	1028	7.77	953	753	8.0	--	180	20.9	34.0
03...	1629	1028	1028	7.77	953	753	8.0	--	180	20.9	44.0
03...	1630	1028	1028	7.77	953	753	7.9	--	180	20.9	54.0

07191222 BEATY CREEK NEAR JAY, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
NOV													
19...	1722	1028	99999	4.53	15	748	5.3	8.9	90	7.7	315	--	15.3
JAN													
18...	1205	1028	99999	5.78	212	761	1.8	10.7	94	8.0	255	6.5	9.8
MAR													
04...	1345	1028	99999	7.03	916	750	7.4	10.2	95	7.2	176	20.0	11.7
29...	1720	1028	99999	5.85	346	765	14	9.3	88	7.0	211	15.6	13.5
APR													
23...	1115	1028	99999	5.45	162	738	2.7	8.4	86	7.7	243	18.1	14.8
24...	1030	1028	99999	7.41	1,080	737	8.3	8.7	89	7.4	168	18.5	15.1
JUL													
03...	1635	1028	99999	7.77	953	753	--	8.0	91	--	180	30.0	20.9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Ammonia water unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)
NOV													
19...	150	--	<.040	1.16	1.20	<.010	.31	.101	.033	.030	.033	98	17
JAN													
18...	95	--	<.021	3.44	3.45	<.033	<.24	.254	.083	.088	.110	87	65
MAR													
04...	66	.15	.120	2.81	2.83	<.033	1.3	.552	.180	.200	.260	88	139
29...	79	--	<.038	2.91	2.92	<.033	.47	.224	.073	.076	.094	79	36
APR													
23...	62	.06	.045	2.64	2.66	<.033	<.24	--	--	.048	.079	91	33
24...	100	.11	.085	1.76	1.78	<.033	1.5	.613	.200	.230	.460	82	204
JUL													
03...	69	--	<.038	--	2.03	--	.64	.521	.170	.220	.490	81	188

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Suspended sediment discharge, tons/d (80155)
NOV	
19...	.69
JAN	
18...	37
MAR	
04...	344
29...	34
APR	
23...	14
24...	595
JUL	
03...	484

07191285 LAKE EUCHA NEAR EUCHA, OK

LOCATION.--Lat 36°22'30", long 94°56'06", in SE ¼ NE ¼ sec.22, T.22 N., R.22 E., Delaware County, Hydrologic Unit 11070209, on left side of Eucha Dam, 1.8 mi downstream of Galcatcher Hollow, 3.5 mi northwest of Eucha, and at mile 15.

DRAINAGE AREA.--358 mi^2.

PERIOD OF RECORD.--October 2001 to current year.

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

REMARKS.--Records good except for estimated periods which are poor. Reservoir is formed by a concrete dam with an uncontrolled spillway. Levels in Lake Eucha are maintained by inflow from Spavinaw Creek and Beaty Creek. Storage began in 1952. At normal pool elevation 778.0 ft, the capacity is 75,900 acre-ft. Reservoir is used for water supply, recreation, and fish and wildlife. U.S. Geological Survey satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.---Maximum contents, 84,400 acre-ft, July 3, 2004, elevation 780.84 ft; minimum, 55,700 acre-ft, Dec. 16, 23, 2002, elevation 769.82 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 14, 1961, reached a stage of 781.4 NGVD, from City of Tulsa readings.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 84,400 acre-ft, July 3, elevation 780.84 ft; minimum, 56,900 acre-ft, Nov. 17, elevation 770.40 ft.

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

730	3,730	760	35,700
740	9,690	770	56,100
750	20,300	780	81,900

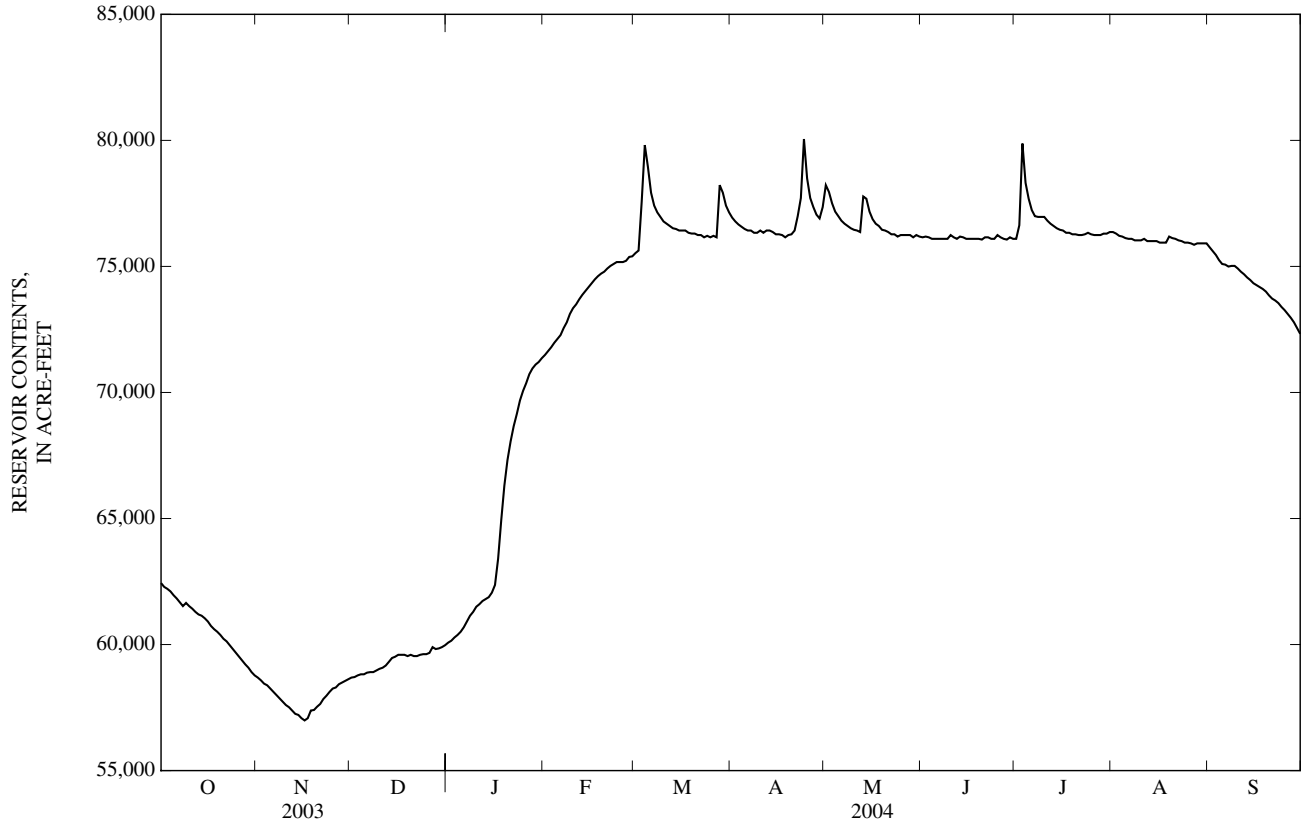
RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62,400	58,700	58,700	60,100	71,500	75,500	76,900	78,200	76,200	76,100	76,400	75,800
2	62,300	58,600	58,700	60,200	71,600	75,600	76,800	78,000	76,200	76,600	76,300	75,600
3	62,200	58,400	58,800	60,300	71,800	77,600	76,700	77,500	76,200	79,900	76,200	75,500
4	62,100	58,400	58,800	60,400	72,000	79,800	76,600	77,200	76,100	78,300	76,200	75,200
5	62,000	58,300	58,800	60,500	72,100	78,900	76,500	77,000	76,100	77,700	76,100	75,100
6	61,800	58,100	58,900	60,700	72,300	77,900	76,400	76,800	76,100	77,200	76,100	75,100
7	61,700	58,000	58,900	60,900	72,600	77,400	76,400	76,700	76,100	77,000	76,100	75,000
8	61,500	57,900	58,900	61,100	72,800	77,100	76,300	76,600	76,100	77,000	76,000	75,000
9	61,700	57,700	59,000	61,300	73,100	77,000	76,300	76,500	76,100	77,000	76,000	75,000
10	61,500	57,600	59,000	61,500	73,300	76,800	76,400	76,500	76,200	77,000	76,000	74,900
11	61,400	57,500	59,100	61,600	73,500	76,700	76,300	76,400	76,200	76,800	76,100	74,800
12	61,300	57,400	59,200	61,700	73,700	76,600	76,400	76,400	76,100	76,700	76,000	74,700
13	61,200	57,300	59,300	61,800	73,900	76,500	76,400	77,800	76,200	76,600	76,000	74,600
14	61,100	57,200	59,500	61,900	74,000	76,500	76,400	77,700	76,200	76,500	76,000	74,500
15	61,000	57,100	59,500	62,100	74,200	76,400	76,300	77,200	76,100	76,500	76,000	74,300
16	60,900	57,000	59,600	62,400	74,300	76,400	76,300	76,900	76,100	76,400	75,900	74,300
17	60,700	57,100	59,600	63,400	74,500	76,400	76,200	76,700	76,100	76,300	75,900	74,200
18	60,600	57,400	59,600	64,900	74,600	76,300	76,200	76,600	76,100	76,300	75,900	74,100
19	60,500	57,400	59,500	66,300	74,700	76,300	76,200	76,500	76,100	76,300	76,200	74,000
20	60,400	57,500	59,600	67,300	74,800	76,300	76,300	76,400	76,100	76,300	76,100	73,900
21	60,200	57,600	59,500	68,100	74,900	76,200	76,400	76,400	76,200	76,200	76,100	73,700
22	60,100	57,800	59,500	68,700	75,000	76,200	77,000	76,300	76,200	76,200	76,000	73,600
23	60,000	58,000	59,600	69,100	75,100	76,200	77,700	76,300	76,100	76,300	76,000	73,500
24	59,800	58,100	59,600	69,700	75,200	76,200	80,100	76,200	76,100	76,300	75,900	73,400
25	59,700	58,300	59,600	70,100	75,200	76,200	78,500	76,200	76,200	76,300	75,900	73,300
26	59,500	58,300	59,700	70,400	75,200	76,200	77,700	76,200	76,200	76,200	75,900	73,100
27	59,400	58,400	59,900	70,700	75,200	76,200	77,400	76,200	76,100	76,200	75,900	73,000
28	59,200	58,500	59,800	71,000	75,400	78,200	77,100	76,200	76,100	76,200	75,900	72,800
29	59,100	58,600	59,800	71,100	75,400	77,900	76,900	76,200	76,200	e76,300	75,900	72,600
30	58,900	58,600	59,900	71,200	---	77,400	77,400	76,200	76,100	e76,300	75,900	72,300
31	58,800	---	60,000	71,400	---	77,100	---	76,200	---	76,400	75,900	---
MAX	62,400	58,700	60,000	71,400	75,400	79,800	80,100	78,200	76,200	79,900	76,400	75,800
MIN	58,800	57,000	58,700	60,100	71,500	75,500	76,200	76,200	76,100	76,100	75,900	72,300
(‡)	771.24	771.17	771.74	776.22	777.81	778.42	778.49	778.10	778.07	778.16	778.01	776.60
(‡‡)	-3800	-200	+1400	+11400	+4020	+1700	+300	-1200	-100	+300	-500	-3600

CAL YR 2003 MAX 77200 MIN 56100 (‡‡) +3900
WTR YR 2004 MAX 80100 MIN 57000 (‡‡) +9700

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

07191285 LAKE EUCHA NEAR EUCHA, OK—Continued



07191288 SPAVINAW CREEK NEAR EUCHA, OK

LOCATION.--Lat 36°22'45", long 94°56'12", in NE ¼ NE ¼ sec.22, T.22 N., R.22 E., Delaware County, Hydrologic Unit 11070209, on right downstream abutment of county road bridge, .3 mi downstream from Eucha Dam, 3.2 mi northwest of Eucha, and at mile 14.7

DRAINAGE AREA.--358 mi^2.

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 682.13 ft above sea level.

REMARKS.--No estimated daily discharge. Records good. Flow completely regulated by Eucha Lake (station 07191285) since 1952. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

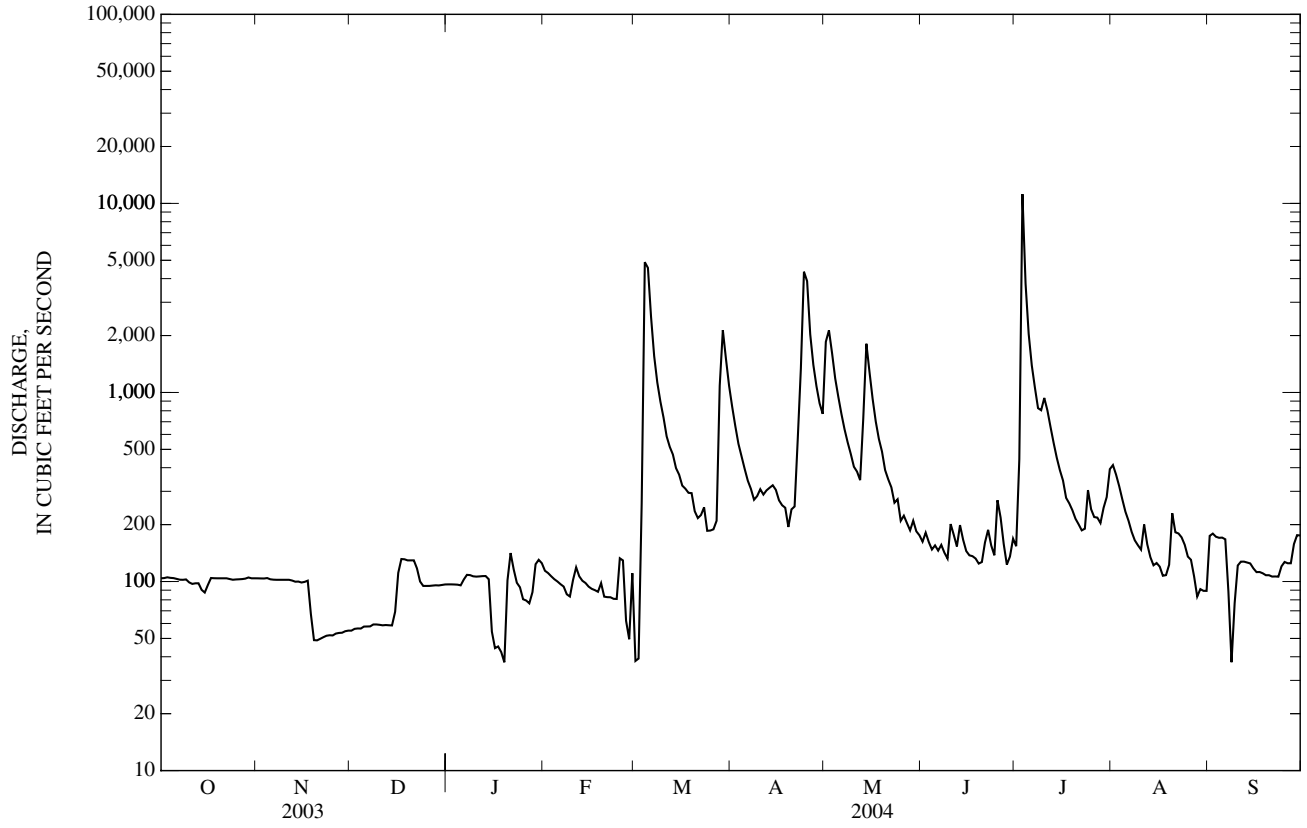
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	104	55	97	114	38	839	1,850	163	154	413	174
2	104	104	56	97	111	39	664	2,130	181	444	368	179
3	105	104	56	96	107	260	535	1,610	162	11,200	319	173
4	105	104	56	96	103	4,890	459	1,190	148	3,770	272	170
5	104	103	58	95	100	4,560	394	949	155	2,040	234	171
6	103	102	58	103	97	2,510	342	770	146	1,390	209	167
7	102	102	58	108	94	1,560	309	639	156	1,060	183	88
8	102	102	59	108	86	1,130	271	545	142	826	165	37
9	103	102	59	107	83	894	283	473	132	806	156	77
10	99	102	59	106	102	737	308	405	201	935	147	122
11	97	102	59	106	119	586	288	381	177	804	200	127
12	98	101	59	107	107	516	304	344	153	657	157	127
13	98	100	59	107	101	470	313	729	199	541	135	126
14	90	100	59	103	98	398	323	1,810	166	452	122	125
15	87	99	69	54	94	367	305	1,280	145	388	125	117
16	96	100	111	44	91	322	269	926	138	342	120	112
17	104	101	132	45	90	310	253	703	136	277	107	112
18	104	67	131	42	88	295	246	568	132	259	108	111
19	104	49	129	37	98	294	194	487	124	238	123	108
20	104	49	129	101	83	235	241	389	127	215	230	108
21	104	50	129	141	83	217	249	347	161	201	182	106
22	104	51	117	116	83	225	562	315	188	187	180	106
23	103	52	100	99	81	247	1,340	261	155	190	171	106
24	102	52	95	93	81	185	4,350	272	138	304	156	120
25	103	52	95	81	133	186	3,880	209	269	241	135	127
26	103	53	95	79	129	189	2,030	223	218	219	130	125
27	103	53	95	77	62	210	1,400	204	158	218	106	125
28	104	54	96	88	50	1,090	1,080	186	123	204	83	158
29	105	55	95	123	111	2,140	876	210	136	245	91	176
30	104	55	96	130	---	1,510	771	184	169	280	89	175
31	104	---	97	125	---	1,090	---	176	---	393	89	---
TOTAL	3,152	2,424	2,621	2,911	2,779	27,700	23,678	20,765	4,798	29,480	5,305	3,855
MEAN	102	80.8	84.5	93.9	95.8	894	789	670	160	951	171	128
MAX	105	104	132	141	133	4,890	4,350	2,130	269	11,200	413	179
MIN	87	49	55	37	50	38	194	176	123	154	83	37
AC-FT	6,250	4,810	5,200	5,770	5,510	54,940	46,970	41,190	9,520	58,470	10,520	7,650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

MEAN	108	73.8	72.8	100	111	435	442	556	221	412	157	117
MAX	121	80.8	84.5	127	174	894	789	670	321	951	171	128
(WY)	(2002)	(2004)	(2004)	(2002)	(2002)	(2004)	(2004)	(2004)	(2002)	(2004)	(2004)	(2004)
MIN	102	70.0	54.3	79.9	63.2	89.5	99.2	365	160	120	145	102
(WY)	(2004)	(2002)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)	(2004)	(2003)	(2002)	(2003)

07191288 SPAVINAW CREEK NEAR EUCHA, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2002 - 2004	
ANNUAL TOTAL	46,592		129,468			
ANNUAL MEAN	128		354		235	
HIGHEST ANNUAL MEAN					354	2004
LOWEST ANNUAL MEAN					126	2003
HIGHEST DAILY MEAN	1,330	May 18	11,200	Jul 3	11,200	Jul 3, 2004
LOWEST DAILY MEAN	37	Feb 26-28,Mar 1-3	37	Jan 19,Sep 8	35	Dec 14, 2001
ANNUAL SEVEN-DAY MINIMUM	38	Feb 25	51	Nov 19	36	Dec 14, 2001
MAXIMUM PEAK FLOW			23,200	Jul 3	23,200	Jul 3, 2004
MAXIMUM PEAK STAGE			28.18	Jul 3	28.18	Jul 3, 2004
ANNUAL RUNOFF (AC-FT)	92,420		256,800		170,100	
10 PERCENT EXCEEDS	169		770		406	
50 PERCENT EXCEEDS	100		129		117	
90 PERCENT EXCEEDS	59		66		66	



07191300 SPAVINAW LAKE AT SPAVINAW, OK

LOCATION.--Lat 36°22'59", long 95°02'52", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.22 N., R.21 E., Mayes County, Hydrologic Unit 11070209, right of intake tower on face of dam on Spavinaw Creek at Spavinaw, and at mile 5.5.

DRAINAGE AREA.--386 mi^2 (U.S. Army Corps of Engineers).

PERIOD OF RECORD.--October 1991 to current year.

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

REMARKS.--Reservoir is formed by earth dam with uncontrolled concrete spillway. Much of Tulsa municipal-water supply is drawn from lake. Levels are maintained in Spavinaw Lake by releases from Lake Eucha. Storage began 1924; conservation pool first filled November 1924. Capacity 41,200 acre-ft at elevation 682 ft. Dead storage, 15,300 acre-ft at elevation 662 ft. Figures given herein represent total contents. Reservoir is used for water supply, recreation, and fish and wildlife. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 41,630 acre-ft, July 3, 2004, elevation 683.83 ft; minimum, 23,920 acre-ft, Jan. 8, 2002, elevation, 675.81 ft.

EXTREMES FOR OUTSIDE PERIOD OF RECORD.--Flood of April 1942 reached a stage of 689.13 ft, contents unknown.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 41,630 acre-ft, July 3, elevation 683.83 ft; minimum, 29,240 acre-ft, Dec. 16, elevation 679.18 ft.

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

675.5	23,300	679	28,960
676	24,300	680	30,590
677	25,400	685	46,500
678	27,690		

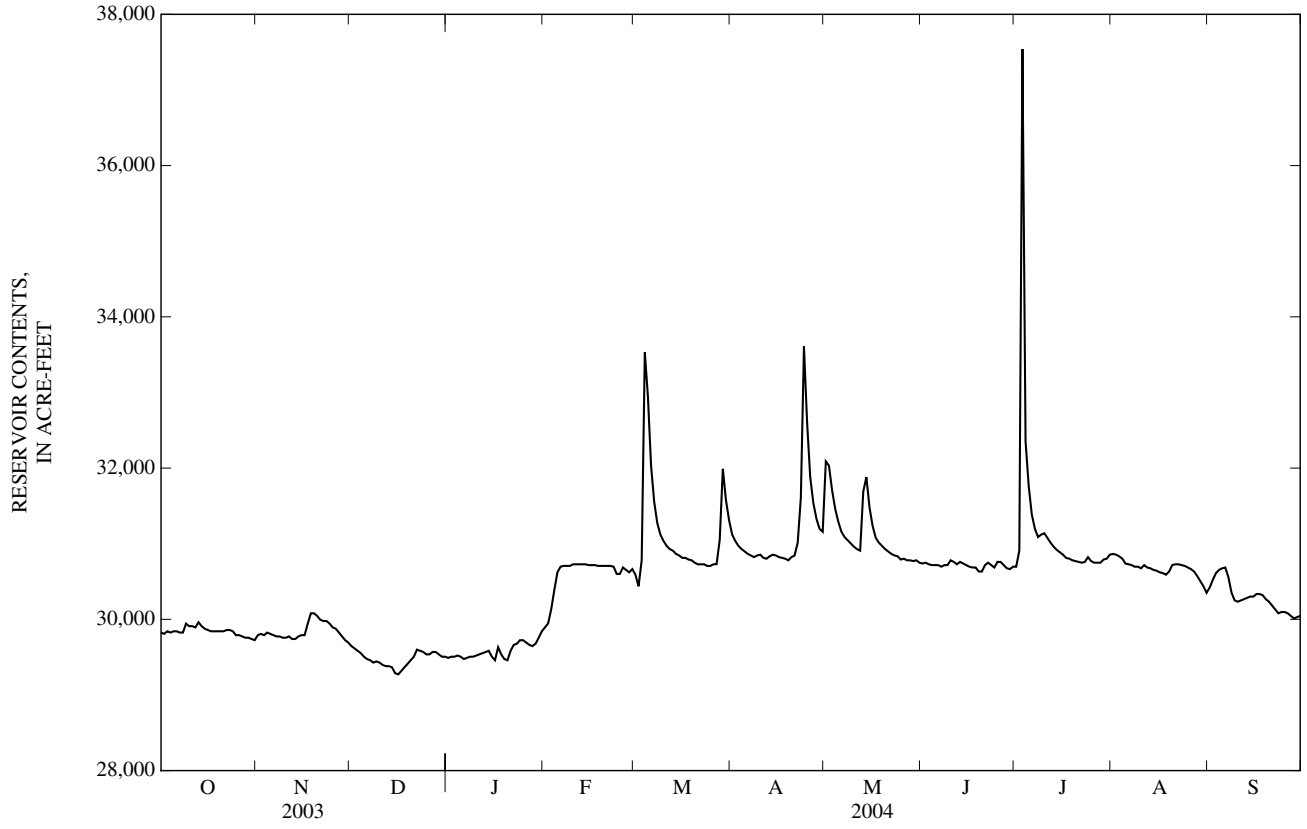
RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29,820	29,790	29,650	29,490	29,890	30,590	31,120	32,090	30,740	30,700	30,870	30,420
2	29,810	29,810	29,620	29,510	29,940	30,440	31,040	32,030	30,750	30,910	30,860	30,520
3	29,840	29,790	29,580	29,510	30,130	30,780	30,970	31,710	30,730	37,540	30,830	30,610
4	29,820	29,820	29,550	29,520	30,390	33,530	30,930	31,460	30,720	32,360	30,800	30,650
5	29,840	29,810	29,510	29,510	30,620	32,940	30,900	31,290	30,720	31,770	30,740	30,670
6	29,840	29,790	29,470	29,470	30,700	32,030	30,870	31,160	30,720	31,390	30,730	30,690
7	29,820	29,770	29,460	29,490	30,710	31,560	30,840	31,090	30,700	31,200	30,720	30,560
8	29,820	29,770	29,430	29,510	30,710	31,270	30,820	31,050	30,720	31,090	30,700	30,350
9	29,940	29,760	29,440	29,510	30,710	31,120	30,840	31,000	30,720	31,120	30,700	30,250
10	29,910	29,760	29,430	29,520	30,730	31,040	30,860	30,960	30,780	31,140	30,670	30,230
11	29,910	29,770	29,400	29,540	30,730	30,970	30,810	30,930	30,760	31,080	30,720	30,250
12	29,890	29,740	29,380	29,550	30,730	30,930	30,800	30,910	30,730	31,010	30,690	30,270
13	29,960	29,740	29,380	29,570	30,730	30,910	30,830	31,690	30,760	30,960	30,670	30,280
14	29,910	29,770	29,370	29,580	30,730	30,870	30,860	31,880	30,740	30,920	30,650	30,300
15	29,880	29,790	29,290	29,510	30,720	30,840	30,840	31,480	30,720	30,890	30,640	30,300
16	29,860	29,790	29,270	29,460	30,720	30,810	30,820	31,230	30,700	30,860	30,620	30,330
17	29,840	29,940	29,320	29,630	30,720	30,810	30,810	31,080	30,690	30,810	30,610	30,330
18	29,840	30,080	29,370	29,540	30,710	30,790	30,800	31,010	30,690	30,800	30,590	30,320
19	29,840	30,080	29,410	29,470	30,710	30,780	30,780	30,970	30,630	30,780	30,630	30,270
20	29,840	30,050	29,460	29,460	30,710	30,750	30,820	30,930	30,630	30,770	30,720	30,230
21	29,840	30,000	29,510	29,580	30,710	30,730	30,840	30,900	30,720	30,760	30,730	30,180
22	29,860	29,980	29,600	29,660	30,710	30,730	31,010	30,870	30,750	30,750	30,730	30,130
23	29,860	29,980	29,580	29,680	30,700	30,730	31,610	30,840	30,720	30,760	30,720	30,080
24	29,840	29,940	29,570	29,720	30,600	30,710	33,610	30,830	30,690	30,820	30,710	30,100
25	29,790	29,890	29,540	29,720	30,600	30,710	32,600	30,790	30,760	30,770	30,690	30,100
26	29,790	29,880	29,540	29,690	30,690	30,730	31,880	30,800	30,760	30,750	30,660	30,080
27	29,770	29,820	29,570	29,660	30,650	e30,730	31,540	30,780	30,720	30,750	30,630	30,050
28	29,760	29,770	29,570	29,650	30,620	e31,050	31,330	30,780	30,670	30,750	30,570	30,010
29	29,760	29,720	29,540	29,680	30,660	31,990	31,200	30,770	30,660	30,790	30,510	30,030
30	29,740	29,690	29,510	29,760	---	31,580	31,160	30,780	30,700	30,800	30,440	30,050
31	29,720	---	29,510	29,840	---	31,310	---	30,750	---	30,860	30,350	---
MAX	29,960	30,080	29,650	29,840	30,730	33,530	33,610	32,090	30,780	37,540	30,870	30,690
MIN	29,720	29,690	29,270	29,460	29,890	30,440	30,780	30,750	30,630	30,700	30,350	30,010
(‡)	679.49	679.47	679.35	679.56	680.07	680.60	680.52	680.15	680.10	680.25	679.86	679.68
(‡‡)	-140	-30	-180	+330	+820	+650	-150	-410	-50	+160	-510	-300

CAL YR 2003 MAX 31370 MIN 27830 (‡‡) +1170
WTR YR 2004 MAX 37540 MIN 29270 (‡‡) +190

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

07191300 SPAVINAW LAKE AT SPAVINAW, OK—Continued



07191400 LAKE HUDSON NEAR LOCUST GROVE, OK

LOCATION.--Lat 36°13'48", long 95°10'55", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.9, T.20 N., R. 20 E., Mayes County, Hydrologic Unit 11070209, at left side of Robert S. Kerr dam on Neosho River, 2.0 mi northwest of Locust Grove, 3.5 mi downstream from Saline Creek, and at mile 47.3.

DRAINAGE AREA.--11,534 mi^2.

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

GAGE.--Remote-controlled indicator and nonrecording gage. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earth dam and concrete spillway controlled by seventeen 22-foot taintor gates. Storage began Nov. 12, 1963; power pool first filled June 12, 1964. Capacity, 444,500 acre-ft at elevation 636.0 ft, top of taintor gages, 200,300 acre-ft at elevation 619.0 ft, power pool, and 48,630 acre-ft at elevation 599.0 ft, top of spillway crest. Figures given herein rep- sent total contents. Reservoir was designed for flood control and power development. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 443,600 acre-ft, Oct. 4, 1986 and June 15, 1995, elevation, 635.95 ft; minimum since power pool first filled, 153,200 acre-ft, Mar. 24, 1988, elevation, 614.31 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 319,100 acre-ft, Apr. 28, elevation, 628.42 ft; minimum, 189,900 acre-ft, May 13, elevation, 618.03 ft.

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

615	159,600	630	342,600
620	211,300	635	426,100
625	272,000	640	525,100

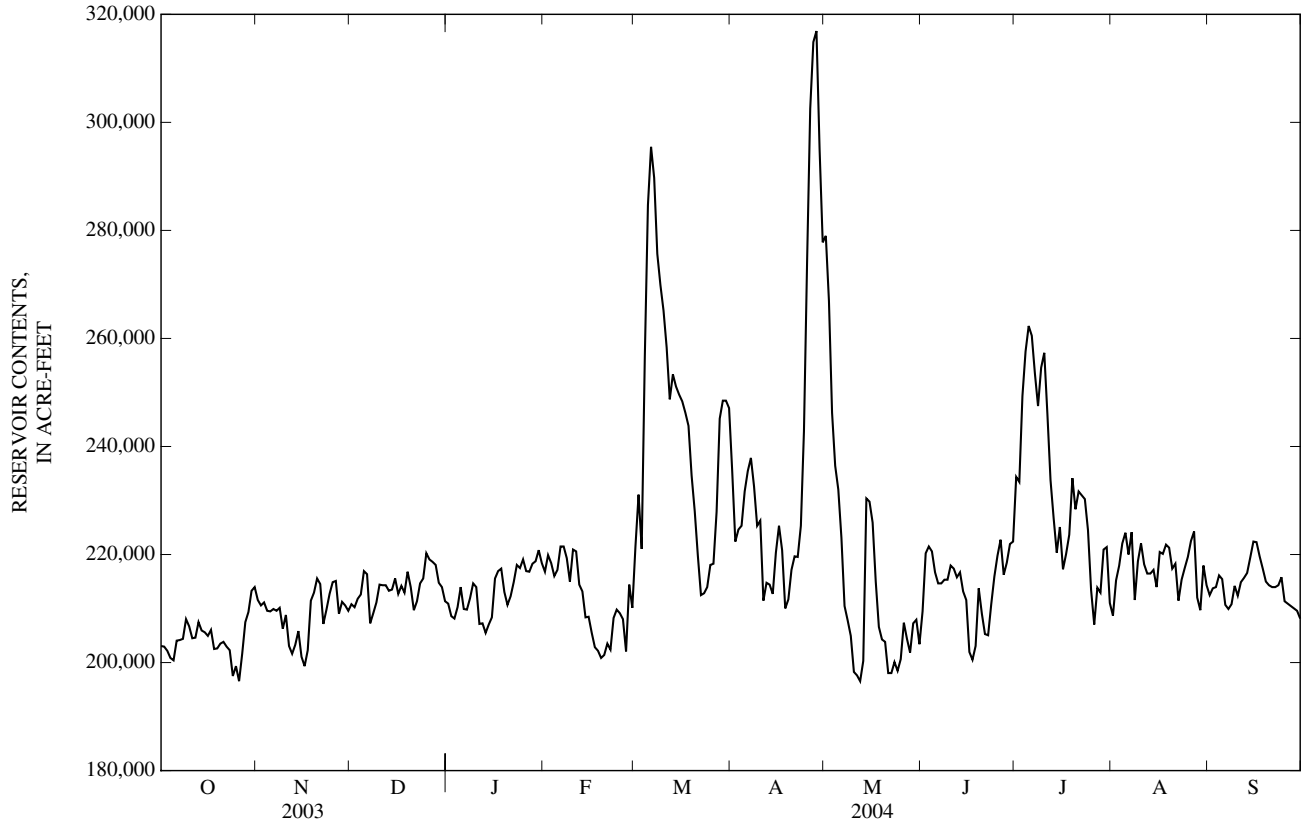
RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203,100	211,600	210,800	210,900	216,800	221,500	235,500	279,000	209,500	234,400	208,700	212,500
2	203,000	210,600	210,200	208,600	219,900	231,100	222,400	266,900	220,200	233,400	215,200	213,700
3	202,200	211,100	211,800	208,100	218,400	221,000	224,600	246,200	221,500	249,400	218,000	214,000
4	200,900	209,600	212,600	210,200	216,000	256,600	225,300	236,400	220,600	257,600	222,100	216,100
5	200,400	209,500	216,900	214,000	217,200	284,700	231,700	232,000	216,700	262,300	224,000	215,500
6	204,100	209,900	216,400	209,900	221,500	295,500	235,500	223,100	214,700	260,500	220,000	210,700
7	204,200	209,600	207,300	209,800	221,500	289,700	237,900	210,500	214,700	253,500	224,100	209,900
8	204,400	210,100	209,100	211,900	219,300	275,700	232,600	207,800	215,300	247,500	211,600	210,800
9	208,000	206,300	211,100	214,700	215,000	269,900	225,300	204,900	215,300	254,600	218,800	214,200
10	206,700	208,800	214,400	214,000	220,900	265,100	226,300	198,300	218,000	257,300	222,100	212,400
11	204,500	203,100	214,300	207,200	220,600	258,300	211,500	197,600	217,400	246,000	218,200	214,900
12	204,600	201,600	214,300	207,300	214,400	248,700	214,800	196,600	215,800	233,800	216,500	215,700
13	207,500	203,300	213,300	205,500	213,200	253,300	214,400	200,300	216,700	226,700	216,500	216,600
14	205,900	205,800	213,500	207,000	208,400	251,100	212,700	230,400	213,200	220,300	217,200	219,400
15	205,600	201,100	215,600	208,400	208,500	249,600	220,300	229,800	211,600	225,100	214,000	222,400
16	204,900	199,300	212,700	215,600	205,500	248,400	225,300	225,900	202,000	217,300	220,500	222,300
17	206,000	202,300	214,200	216,900	202,800	246,200	220,800	215,000	200,500	220,100	220,100	219,700
18	202,500	211,500	212,900	217,400	202,200	243,800	210,000	206,600	203,100	223,700	221,800	217,400
19	202,600	212,900	216,800	213,100	200,900	234,600	211,700	204,300	213,700	234,100	221,300	215,000
20	203,500	215,600	214,000	210,700	201,400	228,000	217,200	203,800	209,000	228,400	217,400	214,300
21	203,800	214,500	209,700	212,300	203,500	219,800	219,700	198,100	205,300	231,700	218,300	214,000
22	203,000	207,200	211,400	214,900	202,400	212,500	219,600	198,100	205,100	231,000	211,500	214,000
23	202,300	209,800	214,700	218,100	208,300	212,800	225,300	200,100	210,800	230,300	215,300	214,300
24	197,500	212,700	215,600	217,500	209,800	214,000	242,900	198,500	215,900	224,500	217,500	215,800
25	199,300	214,900	220,200	219,100	209,100	218,100	274,300	200,600	219,800	213,400	219,600	211,400
26	196,600	215,100	219,100	216,900	208,000	218,300	302,600	207,400	222,700	207,000	222,500	210,900
27	201,600	209,000	218,600	216,800	202,100	227,900	314,900	204,400	216,200	213,900	224,300	210,500
28	207,500	211,200	218,100	218,300	214,400	245,200	316,900	201,800	218,500	212,900	212,000	210,000
29	209,400	210,600	214,800	218,800	210,100	248,500	295,100	207,300	221,900	220,900	209,700	209,600
30	213,300	209,600	214,000	220,800	---	248,500	277,800	207,900	222,400	221,400	218,000	208,100
31	214,000	---	211,400	218,400	---	247,100	---	203,400	---	211,000	214,300	---
MAX	214,000	215,600	220,200	220,800	221,500	295,500	316,900	279,000	222,700	262,300	224,300	222,400
MIN	196,600	199,300	207,300	205,500	200,900	212,500	210,000	196,600	200,500	207,000	208,700	208,100
(‡)	620.23	619.84	620.00	620.62	619.89	623.04	625.44	619.28	620.97	619.97	620.26	619.71
(‡‡)	+10900	-4400	+1800	+7000	-8300	+37000	+30700	-74400	+19000	-11400	+3300	-6200

CAL YR 2003 MAX 248400 MIN 195800 (‡‡) +14300
WTR YR 2004 MAX 316900 MIN 196600 (‡‡) +5000

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

07191400 LAKE HUDSON NEAR LOCUST GROVE, OK—Continued



07191500 NEOSHO RIVER NEAR CHOUTEAU, OK

LOCATION.--Lat 36°13'46", long 95°10'57", in SE ¼ NW ¼ sec.9, T.20 N., R.20 E., Mayes County, Hydrologic Unit 11070209, in Robert S. Kerr Dam about 100 ft from left end of dam, 2.2 mi northwest of Locust Grove, 10.0 mi northeast of Chouteau, and at mile 47.2.

DRAINAGE AREA.--11,534 mi^2.

PERIOD OF RECORD.--October 1937 to September 1950, October 1963 to current year.

REVISED RECORDS.--WSP 1117: Drainage area. WDR OK-86-1: 1979.

GAGE.--Water-stage recorder. Datum of gage is 554.00 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Apr. 3, 1941, nonrecording gage at bridge on State Highway 33, 8.2 mi downstream, at datum 17.63 ft lower. Apr. 3, 1941 to Sept. 30, 1950, and Oct. 1963 to Apr. 6, 1964, at site 2.5 mi downstream, at datum 2.17 ft lower. Supplemental water-stage recorder Oct. 4, 1963, to July 10, 1973, at site 8.2 mi downstream.

REMARKS.--No estimated daily discharge. Records fair. Some regulation since 1940 by Lake O' The Cherokees (station 07190000), and completely regulated since 1963 by Lake Hudson (station 07191400).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	317	297	1,240	8,600	6,680	25,700	18,700	4,990	12,400	13,500	3,290
2	193	309	1,180	439	9,310	9,990	23,300	29,200	3,470	21,600	9,940	1,220
3	188	3,630	2,000	327	9,490	14,700	15,200	34,500	5,430	24,000	12,200	430
4	186	3,330	3,280	2,980	9,150	16,300	15,200	28,900	4,340	26,100	12,700	449
5	193	2,070	3,760	9,330	9,040	30,100	14,000	24,500	1,600	33,500	11,600	453
6	191	1,680	1,300	11,900	7,740	41,600	12,500	23,700	2,440	30,700	10,100	475
7	192	1,800	452	10,100	3,390	53,400	13,800	21,500	5,160	27,600	14,000	463
8	187	1,030	609	7,040	2,700	62,000	15,800	14,100	622	29,100	13,400	462
9	3,110	1,120	1,130	7,470	11,300	55,400	14,200	11,600	431	32,300	6,860	464
10	605	733	5,990	1,110	6,670	45,500	10,500	17,800	438	31,900	9,140	469
11	255	2,150	8,450	380	9,490	37,200	14,000	16,200	1,630	31,700	4,040	464
12	217	465	8,050	305	13,300	29,800	11,300	16,500	821	31,900	498	460
13	205	338	4,490	274	12,100	23,800	13,600	17,600	430	28,800	334	458
14	235	222	1,120	266	3,980	23,300	10,900	13,800	17,800	25,800	317	3,190
15	217	198	3,950	6,590	2,200	23,000	8,320	19,700	22,900	22,800	305	2,970
16	204	190	11,800	1,490	7,500	23,100	9,310	19,800	18,900	21,700	4,170	8,160
17	203	207	11,600	7,920	2,950	22,500	6,800	23,800	19,500	14,300	9,140	1,150
18	203	797	10,800	18,100	467	22,800	7,060	19,100	13,300	12,400	8,470	514
19	201	7,760	7,230	16,800	320	22,800	8,460	19,600	4,730	9,240	6,620	452
20	200	7,580	5,180	17,100	304	20,600	5,760	16,500	11,700	12,800	3,810	437
21	218	6,310	466	15,700	334	21,900	6,700	18,800	16,800	13,000	441	434
22	277	543	1,910	12,000	4,560	21,200	12,500	12,400	13,300	12,900	3,780	429
23	292	314	8,690	7,280	2,640	16,000	12,500	9,720	12,800	11,900	4,510	435
24	295	252	11,200	3,310	461	15,500	20,500	14,700	13,200	19,000	7,830	5,740
25	303	1,270	9,690	3,070	1,050	15,600	36,100	12,100	11,600	12,300	7,980	974
26	311	694	8,280	7,020	1,620	15,900	43,900	10,800	12,600	6,370	7,280	484
27	302	307	6,090	7,930	2,610	11,400	52,700	17,600	16,900	4,210	10,200	444
28	307	250	5,710	7,970	4,740	15,800	39,400	16,400	13,500	3,130	6,620	440
29	319	232	13,400	10,500	11,200	29,500	24,500	1,360	13,700	3,510	1,240	442
30	327	226	11,300	11,800	---	34,400	22,000	497	17,300	13,000	2,420	444
31	326	---	6,950	6,050	---	29,500	---	399	---	15,100	3,840	---
TOTAL	10,660	46,324	176,354	213,791	159,216	811,270	526,510	521,876	282,332	595,060	207,285	36,696
MEAN	344	1,544	5,689	6,896	5,490	26,170	17,550	16,830	9,411	19,200	6,687	1,223
MAX	3,110	7,760	13,400	18,100	13,300	62,000	52,700	34,500	22,900	33,500	14,000	8,160
MIN	186	190	297	266	304	6,680	5,760	399	430	3,130	305	429
AC-FT	21,140	91,880	349,800	424,100	315,800	1,609,000	1,044,000	1,035,000	560,000	1,180,000	411,100	72,790

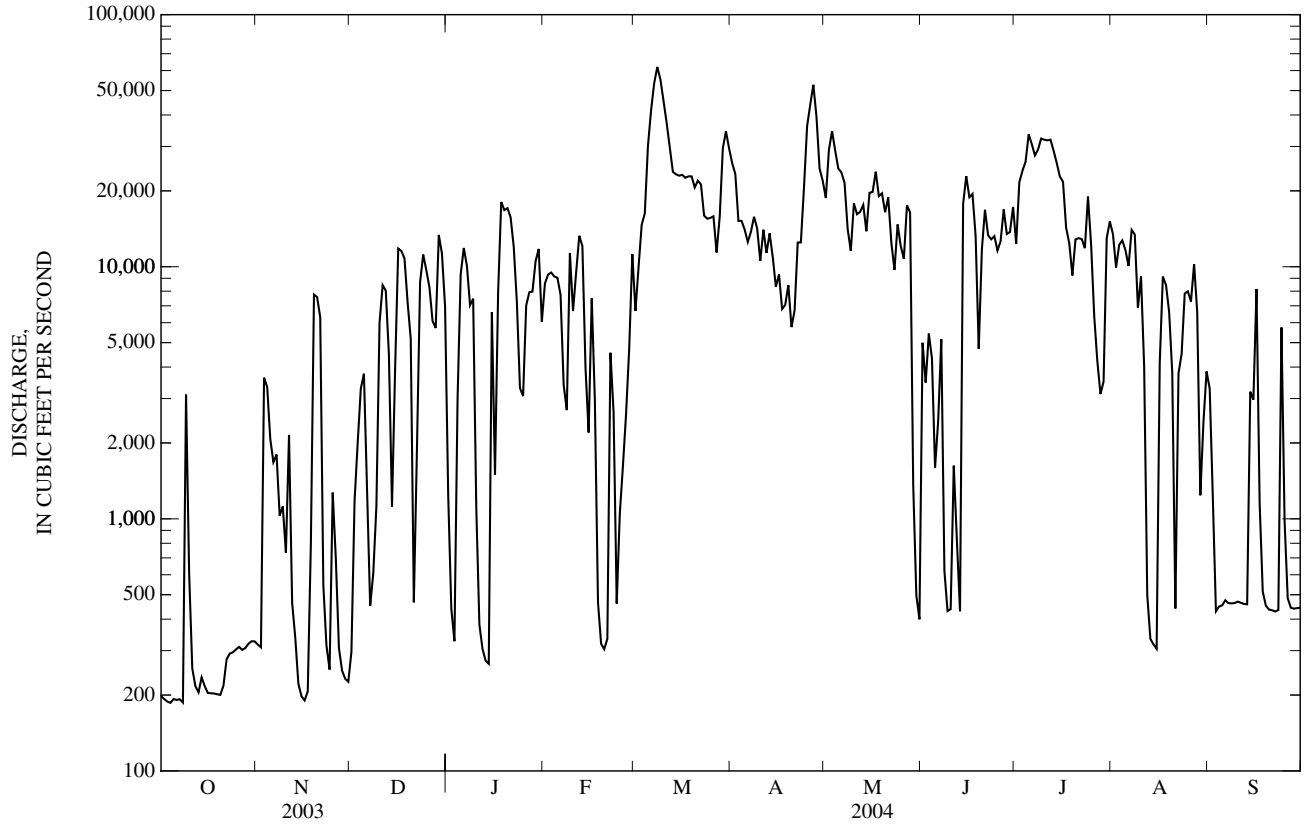
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2004, BY WATER YEAR (WY)

MEAN	5,766	8,492	7,847	6,534	7,507	12,410	13,250	12,540	13,100	8,764	4,441	4,384
MAX	59,840	40,780	40,400	23,350	23,640	39,260	46,000	40,650	48,020	28,710	15,140	28,460
(WY)	(1987)	(1986)	(1993)	(1973)	(1985)	(1973)	(1973)	(1995)	(1995)	(1976)	(1993)	(1993)
MIN	169	83.3	87.5	189	79.4	75.8	160	122	735	1,067	603	591
(WY)	(1964)	(1964)	(1964)	(1981)	(1964)	(1964)	(1971)	(1964)	(1972)	(1991)	(1991)	(1983)

07191500 NEOSHO RIVER NEAR CHOUTEAU, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1964 - 2004	
ANNUAL TOTAL	1,523,833		3,587,374			
ANNUAL MEAN	4,175		9,802		a8,751	
HIGHEST ANNUAL MEAN					22,240	1993
LOWEST ANNUAL MEAN					1,924	1981
HIGHEST DAILY MEAN	24,100	Jun 11	62,000	Mar 8	154,000	Jun 11, 1995
LOWEST DAILY MEAN	175	Aug 23	186	Oct 4	b12	Nov 13, 1963
ANNUAL SEVEN-DAY MINIMUM	190	Oct 2	190	Oct 2	45	Feb 21, 1964
MAXIMUM PEAK FLOW			64,900	Mar 9	c164,000	Jun 11, 1995
MAXIMUM PEAK STAGE			21.30	Mar 9	d36.29	Jun 11, 1995
ANNUAL RUNOFF (AC-FT)	3,023,000		7,116,000		6,340,000	
10 PERCENT EXCEEDS	11,200		23,400		21,700	
50 PERCENT EXCEEDS	1,900		7,260		4,700	
90 PERCENT EXCEEDS	253		305		192	

a Since regulation by Lake Hudson.
b Minimum daily for period of record, caused by closure of Robert S. Kerr Dam.
c Maximum discharge for period of record, 400,000ft^3/s, May 20, 1943, gage height 45.00 ft, site and datum them in use, rating curve extended above 140,000 ft^3/s on basis of slope-area measurement of peak flow.
d Occurred during backwater.



07194500 ARKANSAS RIVER NEAR MUSKOGEE, OK

LOCATION.--Lat 35°46'10", long 95°17'55", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.21, T.15 N., R.19 E., Muskogee County, Hydrologic Unit 11110102, on downstream side of left pier of bridge on U.S. Highway 62, 1.7 miles downstream from Neosho River, 3.5 miles northeast of Muskogee, and at mile 457.8.

DRAINAGE AREA.--96,409 mi^2 of which 12,541 mi^2 is probably noncontributing.

PERIOD OF RECORD.--October 1926 to September 1970, July 2003 to current year. Published as "at Webbers Falls" October 1933 to February 1935. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 471.38 ft above sea level. See WSP 1921 for history of changes prior to Feb. 21, 1939.

REMARKS.--Records fair except for esimated periods which are poor. Flow is regulated by various power and flood control projects. U.S. Army Corps of Engineers maintained a gage here between 1970 and 2003 for navigational purposes.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	12,400	29,600
2	---	---	---	---	---	---	---	---	---	---	15,200	28,400
3	---	---	---	---	---	---	---	---	---	---	19,300	25,800
4	---	---	---	---	---	---	---	---	---	---	11,800	30,800
5	---	---	---	---	---	---	---	---	---	---	12,200	32,600
6	---	---	---	---	---	---	---	---	---	---	19,500	32,700
7	---	---	---	---	---	---	---	---	---	---	11,000	32,600
8	---	---	---	---	---	---	---	---	---	---	12,300	32,300
9	---	---	---	---	---	---	---	---	---	---	8,700	31,600
10	---	---	---	---	---	---	---	---	---	---	9,490	30,200
11	---	---	---	---	---	---	---	---	---	---	7,630	26,700
12	---	---	---	---	---	---	---	---	---	---	5,450	28,700
13	---	---	---	---	---	---	---	---	---	---	5,300	26,800
14	---	---	---	---	---	---	---	---	---	---	4,430	26,400
15	---	---	---	---	---	---	---	---	---	---	10,800	23,700
16	---	---	---	---	---	---	---	---	---	---	8,860	23,300
17	---	---	---	---	---	---	---	---	---	---	7,720	22,900
18	---	---	---	---	---	---	---	---	---	---	8,920	20,900
19	---	---	---	---	---	---	---	---	---	---	7,100	17,700
20	---	---	---	---	---	---	---	---	---	---	5,760	14,100
21	---	---	---	---	---	---	---	---	---	---	8,660	13,900
22	---	---	---	---	---	---	---	---	---	---	7,490	12,600
23	---	---	---	---	---	---	---	---	---	---	8,190	12,000
24	---	---	---	---	---	---	---	---	---	---	8,130	14,000
25	---	---	---	---	---	---	---	---	---	e5,300	5,330	10,900
26	---	---	---	---	---	---	---	---	---	e7,610	5,680	11,300
27	---	---	---	---	---	---	---	---	---	e5,000	5,400	5,710
28	---	---	---	---	---	---	---	---	---	e4,800	5,970	7,520
29	---	---	---	---	---	---	---	---	---	e6,020	4,070	8,450
30	---	---	---	---	---	---	---	---	---	e5,770	8,790	e8,000
31	---	---	---	---	---	---	---	---	---	6,740	26,000	---
TOTAL	---	---	---	---	---	---	---	---	---	---	297,570	642,180
MEAN	---	---	---	---	---	---	---	---	---	---	9,599	21,410
MAX	---	---	---	---	---	---	---	---	---	26,000	32,700	
MIN	---	---	---	---	---	---	---	---	---	4,070	5,710	
AC-FT	---	---	---	---	---	---	---	---	---	---	590,200	1,274,000

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

MEAN	---	---	---	---	---	---	---	---	---	---	9,599	21,410
MAX	---	---	---	---	---	---	---	---	---	---	9,599	21,410
(WY)	---	---	---	---	---	---	---	---	---	---	(2003)	(2003)
MIN	---	---	---	---	---	---	---	---	---	---	9,599	21,410
(WY)	---	---	---	---	---	---	---	---	---	---	(2003)	(2003)

e Estimated

07194500 ARKANSAS RIVER NEAR MUSKOGEE, OK—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

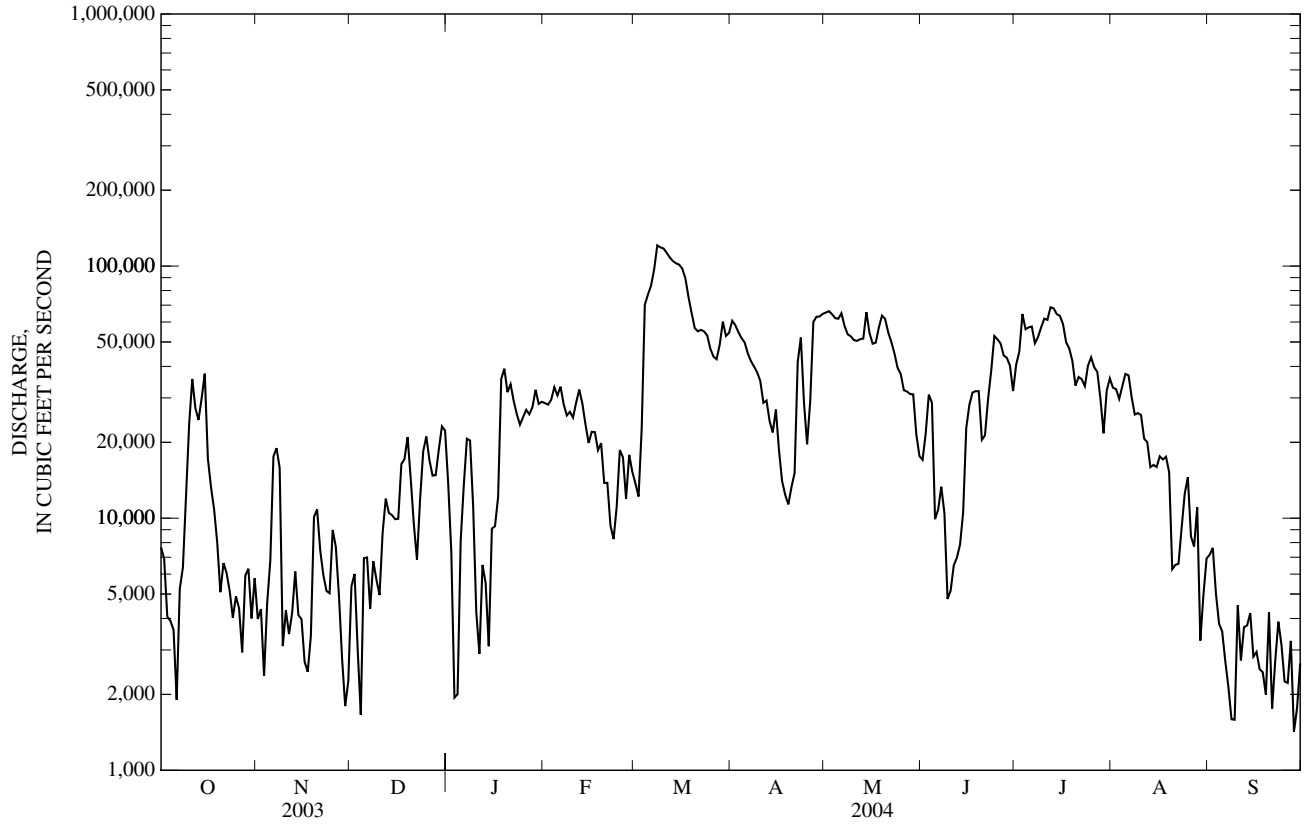
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e7,660	3,980	5,360	13,700	28,600	13,700	60,700	65,400	17,000	40,700	32,900	7,170
2	e6,890	4,350	6,010	7,310	28,200	12,200	58,300	66,200	21,600	45,800	32,500	7,620
3	e4,070	2,370	3,010	1,940	29,500	22,700	54,600	64,400	30,900	64,500	29,700	5,030
4	e3,910	4,620	1,660	2,000	33,100	70,200	51,800	62,200	28,700	56,200	33,400	3,820
5	e3,600	6,770	6,940	8,140	30,700	77,100	49,800	61,800	9,910	57,100	37,400	3,550
6	e1,900	17,600	6,980	13,500	33,200	83,600	45,000	65,000	10,800	57,600	36,900	2,710
7	e5,250	19,000	4,370	20,700	28,300	97,200	42,000	57,900	13,300	49,400	30,200	2,140
8	e6,380	15,800	6,750	20,300	25,600	e121,000	40,000	53,600	10,500	52,300	25,800	1,590
9	e12,300	3,110	5,710	11,100	26,400	e119,000	37,900	52,600	4,780	57,100	26,100	1,590
10	e23,600	4,300	4,950	4,240	25,100	e117,000	35,100	50,900	5,160	61,900	25,600	4,520
11	e35,700	3,470	8,790	2,900	28,700	e113,000	28,700	50,500	6,500	61,200	20,700	2,730
12	e27,300	4,220	11,900	6,520	32,400	108,000	29,300	51,300	6,970	68,600	20,000	3,690
13	e24,500	6,140	10,500	5,530	28,500	105,000	24,200	51,500	7,850	68,000	15,900	3,760
14	e29,900	4,120	10,300	3,100	23,500	103,000	21,900	65,600	10,500	64,500	16,300	4,200
15	e37,400	3,980	9,910	9,090	19,900	101,000	27,000	54,300	22,800	63,500	16,000	2,820
16	17,200	2,690	9,950	9,290	22,000	97,700	18,600	49,200	28,200	58,900	17,600	2,950
17	13,300	2,460	16,400	12,100	21,900	89,500	14,000	49,700	31,500	49,900	17,100	2,520
18	10,800	3,410	17,200	35,700	18,600	75,400	12,400	57,100	31,900	47,100	17,500	2,450
19	8,000	10,100	21,000	39,200	19,800	65,200	11,300	63,600	31,900	42,000	15,200	2,000
20	5,090	10,800	14,300	31,600	13,800	56,800	13,300	61,700	20,500	33,600	6,270	4,220
21	6,630	7,450	9,450	34,000	13,800	55,100	e15,100	54,600	21,300	36,300	6,530	1,760
22	6,060	5,950	6,840	29,100	9,350	55,900	41,700	50,000	29,800	35,600	6,590	2,720
23	5,130	5,150	11,900	25,800	8,260	55,000	52,100	45,000	38,600	33,400	9,130	3,890
24	4,030	5,040	18,400	23,500	11,100	53,100	28,800	39,500	52,800	40,300	12,500	3,140
25	4,890	8,980	21,100	25,100	18,600	47,000	19,600	37,300	51,200	43,400	14,500	2,250
26	4,390	7,690	17,000	26,900	17,400	43,700	29,100	32,200	49,300	39,700	8,460	2,220
27	2,940	4,940	14,700	25,800	12,000	42,700	60,000	31,800	44,200	38,000	7,730	3,260
28	5,920	2,780	14,800	27,600	17,800	48,800	62,900	31,100	43,300	29,700	11,000	1,420
29	6,300	1,800	18,700	32,300	15,300	60,200	63,100	31,000	40,300	21,700	3,270	1,770
30	4,000	2,260	23,100	28,400	---	52,800	64,600	21,500	31,900	32,000	4,970	2,650
31	5,780	---	22,200	29,000	---	54,400	---	17,600	---	35,800	6,920	---
TOTAL	340,820	185,330	360,180	565,460	641,410	2,217,000	1,112,900	1,546,100	753,970	1,485,800	564,670	96,160
MEAN	10,990	6,178	11,620	18,240	22,120	71,520	37,100	49,870	25,130	47,930	18,220	3,205
MAX	37,400	19,000	23,100	39,200	33,200	121,000	64,600	66,200	52,800	68,600	37,400	7,620
MIN	1,900	1,800	1,660	1,940	8,260	12,200	11,300	17,600	4,780	21,700	3,270	1,420
AC-FT	676,000	367,600	714,400	1,122,000	1,272,000	4,397,000	2,207,000	3,067,000	1,496,000	2,947,000	1,120,000	190,700
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)												
MEAN	10,990	6,178	11,620	18,240	22,120	71,520	37,100	49,870	25,130	47,930	13,910	12,310
MAX	10,990	6,178	11,620	18,240	22,120	71,520	37,100	49,870	25,130	47,930	18,220	21,410
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)
MIN	10,990	6,178	11,620	18,240	22,120	71,520	37,100	49,870	25,130	47,930	9,599	3,205
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2004)

e Estimated

07194500 ARKANSAS RIVER NEAR MUSKOGEE, OK—Continued

SUMMARY STATISTICS	FOR 2004 WATER YEAR		WATER YEARS 2003 - 2004	
ANNUAL TOTAL	9,869,800			
ANNUAL MEAN	26,970		a26,970	
HIGHEST ANNUAL MEAN			26,970	2004
LOWEST ANNUAL MEAN			26,970	2004
HIGHEST DAILY MEAN	121,000	Mar 8	121,000	Mar 8, 2004
LOWEST DAILY MEAN	1,420	Sep 28	b1,420	Sep 28, 2004
ANNUAL SEVEN-DAY MINIMUM	2,390	Sep 24	2,390	Sep 24, 2004
MAXIMUM PEAK FLOW	127,000	Mar 8	c127,000	Mar 8, 2004
MAXIMUM PEAK STAGE	27.62	Mar 10	d27.62	Mar 10, 2004
ANNUAL RUNOFF (AC-FT)	19,580,000		19,540,000	
10 PERCENT EXCEEDS	60,400		60,400	
50 PERCENT EXCEEDS	20,600		20,600	
90 PERCENT EXCEEDS	3,450		3,450	

a Prior to regulation, water years 1926-70, 19,520 ft^3/s
b Minimum daily for period of record, 66 ft^3/s Oct. 9, 1956.
c Maximum discharge for period of record, 700,000 ft^3/s, May 21, 1943.
d Maximum gage height for period of record, 48.20 ft.



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07195500 ILLINOIS RIVER NEAR WATTS, OK

LOCATION.--Lat 36°07'48", long 94°34'19", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.18, T.19 N., R.26 E., Adair County, Hydrologic Unit 11110103, near right bank on downstream side of pier of bridge on U.S. Highway 59, 1.5 mi north of Watts, 4.5 mi downstream from Cin- cinnati Creek, and at mile 106.2.

DRAINAGE AREA.--635 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 893.78 ft above sea level.

REMARKS.--No estimated daily discharge. Records good. Since July 2, 1957, small diversion for municipal water supply for the city of Siloam Springs, Ark., upstream from station. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr 24	2030	*34,700	*22.73	Jul 3	2030	19,400	18.53

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	119	225	365	364	223	384	2,850	252	280	1,190	188
2	104	126	212	338	349	228	343	2,210	259	356	886	186
3	104	114	210	326	361	387	310	1,560	478	9,870	698	181
4	111	115	216	346	346	3,250	275	1,220	380	5,130	586	180
5	116	167	205	512	419	3,730	251	1,010	318	2,020	518	176
6	105	284	191	472	728	2,250	241	859	287	1,340	459	186
7	110	274	183	389	582	1,530	238	742	269	987	416	193
8	109	228	172	348	487	1,140	298	656	260	972	383	183
9	191	194	193	325	451	910	287	586	254	1,020	357	176
10	536	173	381	300	450	736	298	538	269	977	335	174
11	339	166	479	274	431	618	613	504	273	756	337	169
12	230	157	380	254	405	535	517	473	253	595	403	163
13	186	147	353	245	383	485	413	500	247	512	341	158
14	254	144	349	236	361	464	353	1,600	261	450	304	156
15	414	150	345	226	345	445	311	1,070	247	406	288	155
16	264	165	350	224	324	412	280	746	236	369	267	156
17	223	164	379	377	309	385	257	595	241	346	259	156
18	229	2,180	337	1,150	300	495	234	529	345	316	249	154
19	192	1,390	303	1,040	290	552	216	486	291	296	244	145
20	169	735	278	744	287	438	215	442	239	277	285	139
21	159	494	259	605	280	382	243	410	244	263	273	138
22	153	393	241	524	265	328	2,310	389	401	253	253	140
23	143	371	558	462	252	304	11,300	363	634	245	236	141
24	137	527	640	422	250	287	19,200	342	402	319	232	139
25	130	431	414	450	246	284	10,600	331	311	2,590	226	141
26	125	354	332	730	242	280	3,570	324	269	1,460	219	141
27	119	316	294	581	233	273	2,650	317	271	833	212	133
28	121	284	344	493	226	316	2,150	303	240	591	203	136
29	126	274	614	446	222	969	1,690	293	231	670	203	139
30	122	246	488	417	---	578	1,440	284	272	1,980	197	139
31	115	---	408	387	---	451	---	269	---	1,790	192	---
TOTAL	5,541	10,882	10,333	14,008	10,188	23,665	61,487	22,801	8,934	38,269	11,251	4,761
MEAN	179	363	333	452	351	763	2,050	736	298	1,234	363	159
MAX	536	2,180	640	1,150	728	3,730	19,200	2,850	634	9,870	1,190	193
MIN	104	114	172	224	222	223	215	269	231	245	192	133
AC-FT	10,990	21,580	20,500	27,780	20,210	46,940	122,000	45,230	17,720	75,910	22,320	9,440
CFSM	0.28	0.57	0.52	0.71	0.55	1.20	3.23	1.16	0.47	1.94	0.57	0.25
IN.	0.32	0.64	0.61	0.82	0.60	1.39	3.60	1.34	0.52	2.24	0.66	0.28

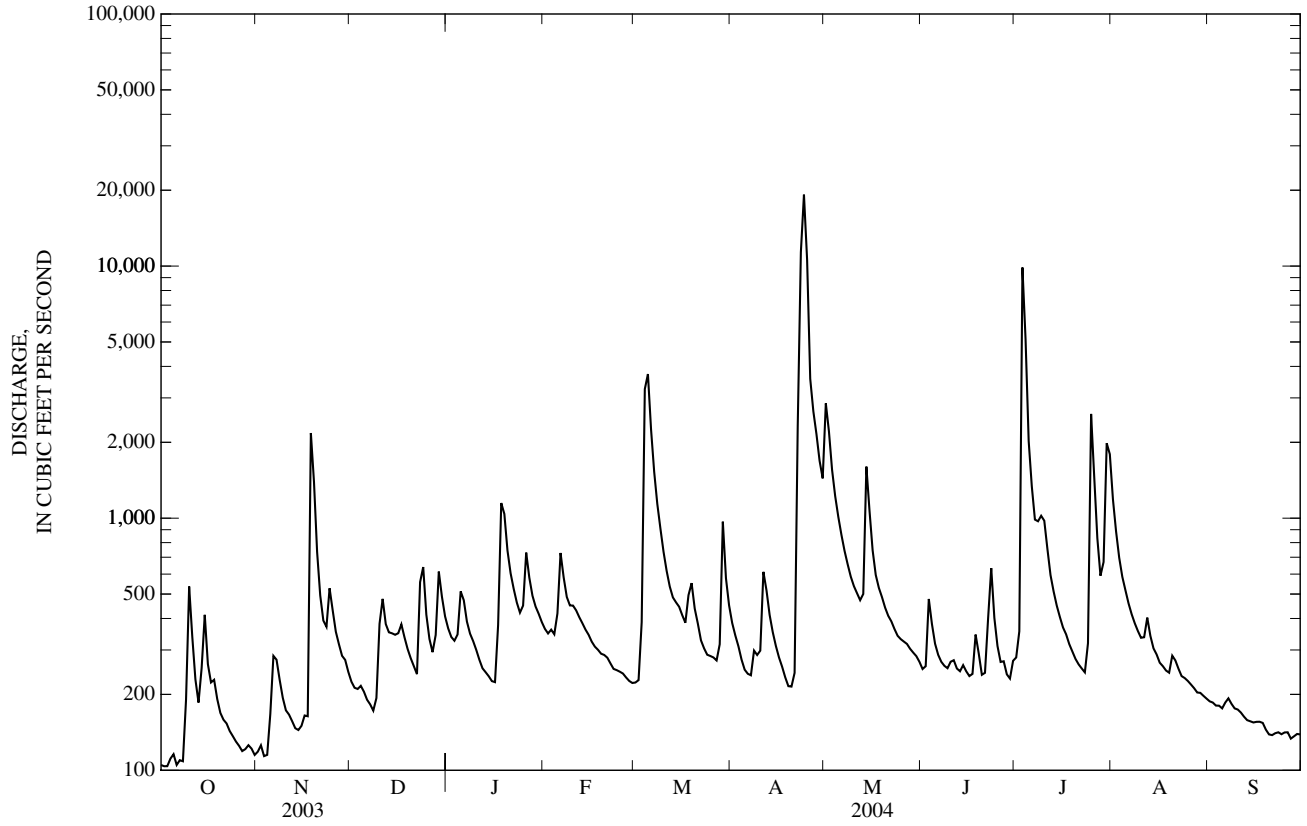
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2004, BY WATER YEAR (WY)

MEAN	355	651	674	574	709	983	1,036	991	705	379	241	285
MAX	2,734	3,087	2,786	2,307	2,361	2,934	3,347	4,286	3,552	1,807	1,172	1,393
(WY)	(1987)	(1974)	(1988)	(1998)	(2001)	(1973)	(1957)	(1961)	(2000)	(1958)	(1961)	(1986)
MIN	20.9	65.6	60.4	61.4	75.1	114	176	144	113	50.7	33.2	14.9
(WY)	(1957)	(1964)	(1956)	(1956)	(1964)	(1956)	(1963)	(1977)	(1963)	(1964)	(1956)	(1956)

07195500 ILLINOIS RIVER NEAR WATTS, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1956 - 2004	
ANNUAL TOTAL	126,613		222,120			
ANNUAL MEAN	347		607		631	
HIGHEST ANNUAL MEAN					1,247	1993
LOWEST ANNUAL MEAN					151	1964
HIGHEST DAILY MEAN	3,850	May 17	19,200	Apr 24	34,500	Oct 1, 1986
LOWEST DAILY MEAN	83	Aug 28	104	Oct 2-3	10	Sep 19, 1956
ANNUAL SEVEN-DAY MINIMUM	90	Aug 22	108	Oct 1	11	Sep 22, 1956
MAXIMUM PEAK FLOW			34,700	Apr 24	a68,000	Jul 25, 1960
MAXIMUM PEAK STAGE			22.73	Apr 24	25.96	Jul 25, 1960
ANNUAL RUNOFF (AC-FT)	251,100		440,600		457,000	
ANNUAL RUNOFF (CFSM)	0.546		0.956		0.993	
ANNUAL RUNOFF (INCHES)	7.42		13.01		13.50	
10 PERCENT EXCEEDS	660		980		1,260	
50 PERCENT EXCEEDS	225		310		294	
90 PERCENT EXCEEDS	116		152		102	

a From rating curve extended above 51,000 ft^3/s.



07195500 ILLINOIS RIVER NEAR WATTS, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1989 to July 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
APR											
13...	1111	1028	1028	3.21	416	764	10.2	7.9	264	10.4	11.0
13...	1112	1028	1028	3.21	416	764	10.2	7.9	265	10.4	33.0
13...	1113	1028	1028	3.21	416	764	10.2	7.8	265	10.4	55.0
13...	1114	1028	1028	3.21	416	764	10.2	7.9	265	10.4	77.0
13...	1115	1028	1028	3.21	416	764	10.2	7.9	265	10.4	95.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
30...	0800	1028	80020	1.89	120	5.2	750	9.9	98	8.0	396	19.0	14.1
NOV													
18...	1040	1028	80020	7.32	3,480	300	750	8.7	87	7.9	283	17.8	14.7
DEC													
08...	1630	1028	80020	2.13	171	8.9	757	12.6	107	7.3	368	16.1	7.9
FEB													
18...	1500	1028	80020	2.81	301	3.4	767	11.4	94	8.2	333	18.4	7.4
MAR													
04...	1115	1028	80020	7.98	3,930	170	732	11.0	110	7.5	236	15.5	13.5
APR													
13...	1100	1028	80020	3.21	416	16	764	10.2	91	7.9	265	12.0	10.4
23...	1540	1028	80020	15.64	10,500	360	762	8.3	85	7.0	128	24.8	16.6
JUN													
17...	1430	1028	80020	2.39	241	9.0	762	7.8	94	7.3	341	31.0	24.7
AUG													
17...	1345	1028	80020	2.43	260	8.3	765	8.5	98	7.7	334	28.4	22.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)
OCT													
30...	.21	.02	.012	6.89	1.56	1.56	.010	.003	.20	.316	.103	.112	.144
NOV													
18...	2.4	.05	.041	7.11	1.61	1.61	.023	.007	2.4	.340	.111	.130	.81
DEC													
08...	.20	--	E.007	10.0	2.26	2.26	.007	.002	--	.196	.064	.080	.095
FEB													
18...	.22	.02	.012	10.9	2.46	2.46	.020	.006	.21	.049	.016	.024	.036
MAR													
04...	2.2	.14	.111	10.7	2.43	2.44	.056	.017	2.1	.638	.208	.25	.76
APR													
13...	.42	--	E.005	7.90	1.78	1.79	.013	.004	--	.141	.046	.061	.102
23...	2.1	.09	.070	4.18	.94	.956	.039	.012	2.1	.543	.177	.20	.78
JUN													
17...	.17	.02	.012	10.5	2.37	2.37	.016	.005	.16	.297	.097	.107	E.135
AUG													
17...	.18	.01	.011	11.9	2.69	2.70	.013	.004	.17	.276	.090	.105	.122

07195500 ILLINOIS RIVER NEAR WATTS, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
OCT				
30...	1.8	96	49	16
NOV				
18...	4.0	96	699	6,570
DEC				
08...	2.5	100	29	13
FEB				
18...	2.7	87	32	26
MAR				
04...	4.6	90	562	5,960
APR				
13...	2.2	86	47	53
23...	3.1	89	496	14,100
JUN				
17...	2.5	98	44	29
AUG				
17...	2.9	84	48	34

07195855 FLINT CREEK NEAR WEST SILOAM SPRINGS, OK

LOCATION.--Lat 36°12'06", long 94°36'18", in NE $^1/_4$ NE $^1/_4$ sec.23, T.20 N., R.25 E., Delaware County, Hydrologic Unit 11110103, on right bank 1.4 mi upstream from Flint Creek, 2.4 mi northeast of West Siloam Springs.

DRAINAGE AREA.--18.9 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 961.90 ft above sea level from topographic map.

REMARKS.--Records good except for estimated periods which are poor. Low flow sustained in part by sewage effluent from Siloam Springs, Ar. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	22	14	20	21	19	51	699	40	5.5	145	36
2	5.9	23	14	20	22	18	45	252	51	31	128	36
3	6.7	23	16	18	20	101	41	176	51	1450	116	33
4	7.4	23	15	24	20	430	37	142	43	308	107	33
5	7.6	28	15	27	24	379	33	123	40	236	100	33
6	7.7	30	16	28	25	221	31	110	39	193	93	35
7	7.5	28	16	27	27	166	31	99	36	161	88	33
8	7.1	25	16	25	27	136	29	91	38	153	84	31
9	13	25	23	22	28	114	30	85	37	166	80	30
10	13	24	43	19	27	98	38	78	43	141	76	29
11	11	21	36	18	26	85	40	73	43	124	77	28
12	9.1	19	29	16	25	72	37	69	39	110	73	28
13	8.9	18	28	15	31	65	34	126	40	102	70	27
14	15	19	22	14	28	59	32	150	38	90	67	26
15	13	20	19	13	27	53	29	105	36	89	65	26
16	13	20	17	13	26	45	27	93	33	88	63	25
17	14	23	12	28	21	42	25	84	30	86	59	24
18	14	35	7.7	45	22	39	24	78	26	82	55	23
19	13	38	11	49	21	36	24	73	23	79	54	22
20	13	31	13	44	20	34	25	68	21	74	60	21
21	14	26	13	38	22	31	29	62	21	68	55	18
22	15	22	14	32	22	29	91	62	24	66	53	17
23	15	24	15	29	21	27	408	66	20	66	51	17
24	19	21	15	27	21	27	940	60	16	117	49	18
25	21	20	14	29	20	26	366	52	14	121	48	17
26	22	18	14	27	18	24	234	50	12	100	46	17
27	22	17	13	25	19	23	183	48	10	85	45	16
28	22	15	22	23	19	64	155	46	8.2	78	44	16
29	22	14	23	22	19	87	139	45	6.6	162	43	17
30	22	14	21	22	---	71	130	44	7.6	278	41	16
31	22	---	20	22	---	59	---	42	---	183	40	---
TOTAL	421.7	686	566.7	781	669	2680	3338	3351	886.4	5092.5	2175	748
MEAN	13.6	22.9	18.3	25.2	23.1	86.5	111	108	29.5	164	70.2	24.9
MAX	22	38	43	49	31	430	940	699	51	1450	145	36
MIN	5.8	14	7.7	13	18	18	24	42	6.6	5.5	40	16
AC-FT	836	1360	1120	1550	1330	5320	6620	6650	1760	10100	4310	1480

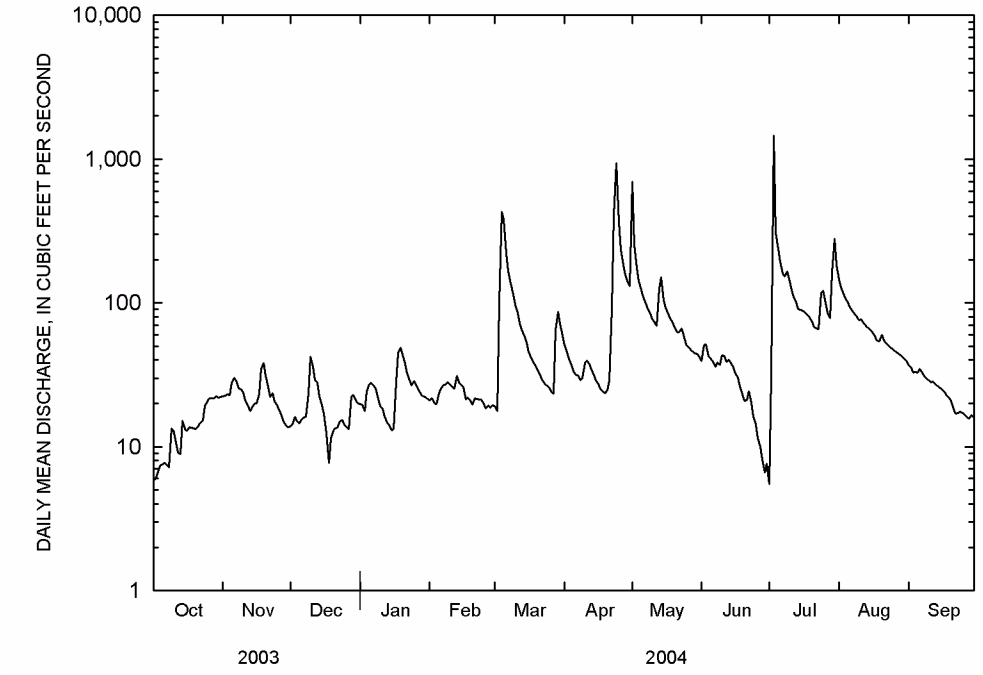
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2004, BY WATER YEAR (WY)

MEAN	27.7	48.7	61.3	46.6	55.3	72.8	65.3	66.6	64.0	33.3	18.3	20.2
MAX	199	148	219	123	161	176	143	251	337	164	70.2	132
(WY)	1987	1994	1993	1985	2001	1985	1985	1990	2000	2004	2004	1986
MIN	3.48	3.86	6.62	3.88	4.37	7.04	7.43	20.9	9.72	2.79	0.77	1.80
(WY)	1981	1981	1980	1980	1981	1981	1981	1981	1981	1980	1980	1980

07195855 FLINT CREEK NEAR WEST SILOAM SPRINGS, OK--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1980 - 2004	
ANNUAL TOTAL	7825.86		21395.3			
ANNUAL MEAN	21.4		58.5		48.3	
HIGHEST ANNUAL MEAN					97.9	1985
LOWEST ANNUAL MEAN					10.7	1981
HIGHEST DAILY MEAN	203	May 17	1450	Jul 3	3160	Jun 21 2000
LOWEST DAILY MEAN	0.85	Aug 28	5.5	Jul 1	0.40	Aug 7 1980
ANNUAL SEVEN-DAY MINIMUM	1.3	Aug 22	6.9	Oct 1	0.56	Aug 5 1980
MAXIMUM PEAK FLOW			4620	Jul 3	a8750	Jun 21 2000
MAXIMUM PEAK STAGE			11.11	Jul 3	13.58	Jun 21 2000
ANNUAL RUNOFF (AC-FT)	15520		42440		34960	
10 PERCENT EXCEEDS	36		116		101	
50 PERCENT EXCEEDS	18		28		26	
90 PERCENT EXCEEDS	5.4		14		7.2	

a From rating curve extended above 3,900 ft^3/s



07195855 FLINT CREEK NEAR WEST SILOAM SPRINGS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June to September 1979, October 1983 to current year.

REMARKS.--Samples collected bimonthly. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field. Samples collected by Arkansas Department of of Environmental Quality, Little Rock, Arkansas, from 1983 to 1994, were published by the U.S. Geological Survey, Arkansas District, in Water Resources Data, Arkansas.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
APR											
08...	1216	1028	1028	3.46	30	755	10.2	7.5	277	16.1	4.00
08...	1217	1028	1028	3.46	30	755	10.2	7.5	277	16.1	8.00
08...	1218	1028	1028	3.46	30	755	10.2	7.5	277	16.1	12.0
08...	1219	1028	1028	3.46	30	755	10.2	7.5	277	16.1	16.0
08...	1220	1028	1028	3.46	30	755	10.2	7.5	277	16.1	20.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
30...	1100	1028	80020	3.91	22	<2.0	750	9.0	94	7.9	324	24.0	16.8
DEC													
09...	1045	1028	80020	3.81	17	4.0	749	9.9	93	7.8	309	14.0	11.9
FEB													
18...	1400	1028	80020	3.74	22	<2.0	767	13.3	117	8.0	317	18.7	9.9
APR													
08...	1215	1028	80020	3.46	30	<2.0	755	10.2	105	7.5	277	20.0	16.1
JUN													
18...	1015	1028	80020	3.89	27	2.1	762	7.2	84	7.6	310	26.5	23.1
AUG													
18...	1400	1028	80020	4.65	54	<2.0	758	8.0	98	7.7	296	31.0	25.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)
OCT													
30...	.12	--	<.010	2.20	.50	.500	.007	.002	--	.031	.010	.018	.025
DEC													
09...	.14	.01	.011	6.68	1.51	1.51	.007	.002	.13	.025	.008	.014	.018
FEB													
18...	.18	.02	.013	11.1	2.51	2.51	.023	.007	.17	--	E.004	.008	.016
APR													
08...	.21	--	<.010	12.9	2.92	2.93	.026	.008	--	.031	.010	.018	.026
JUN													
18...	.14	.02	.012	5.93	1.34	1.34	.010	.003	.12	.074	.024	.035	.037
AUG													
18...	.15	.01	.010	7.76	1.75	1.75	.007	.002	.14	.077	.025	.029	.034

07195855 FLINT CREEK NEAR WEST SILOAM SPRINGS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
OCT				
30...	.62	100	26	1.5
DEC				
09...	1.7	99	21	.96
FEB				
18...	2.7	83	31	1.8
APR				
08...	3.1	88	31	2.5
JUN				
18...	1.5	95	30	2.2
AUG				
18...	1.9	100	26	3.8

07195865 SAGER CREEK NEAR WEST SILOAM SPRINGS, OK

LOCATION.--Lat 36°12'06", long 94°36'18", in NE $^1/_4$ NE $^1/_4$ sec.23, T.20 N., R.25 E., Delaware County, Hydrologic Unit 11110103, on right bank 1.4 mi upstream from Flint Creek, 2.4 mi northeast of West Siloam Springs.

DRAINAGE AREA.--18.9 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 961.90 ft above sea level from topographic map.

REMARKS.--Records good except for estimated periods which are poor. Low flow sustained in part by sewage effluent from Siloam Springs, Ar. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	7.0	8.8	11	10	10	17	58	13	e12	38	8.7
2	7.3	6.5	e9.0	11	11	10	13	49	59	167	32	8.3
3	8.2	7.0	10	11	9.7	260	11	37	44	1,050	28	8.3
4	7.4	7.5	9.5	17	11	340	10	35	18	214	24	7.2
5	6.9	15	8.1	16	13	145	11	34	15	137	20	6.3
6	7.5	16	e8.0	18	15	53	12	31	13	108	20	9.6
7	7.6	10	e8.5	13	14	38	13	29	18	94	18	8.4
8	7.5	8.0	e9.0	12	13	33	e12	26	19	102	15	8.2
9	26	7.1	29	11	12	26	e11	24	16	151	15	8.2
10	14	7.5	25	11	16	21	e32	24	44	108	15	8.4
11	8.9	7.8	14	10	12	20	e19	24	26	80	18	7.5
12	7.4	7.6	12	11	12	19	17	24	17	75	16	6.2
13	7.8	7.4	12	11	11	16	15	181	19	71	14	6.4
14	21	7.5	12	11	9.8	15	14	115	17	67	12	7.0
15	10	7.5	13	11	10	15	13	34	15	64	10	6.8
16	8.6	6.7	13	11	11	15	13	27	14	61	11	6.9
17	9.2	9.4	12	35	13	14	11	24	14	57	12	6.8
18	7.7	41	11	33	11	14	10	22	13	54	11	6.0
19	7.1	24	11	20	11	13	11	21	12	53	12	5.4
20	7.6	15	10	18	9.8	12	11	19	11	53	26	5.8
21	7.5	12	9.5	15	8.7	10	16	18	14	52	14	6.2
22	7.3	11	10	14	8.2	11	110	16	23	51	11	6.7
23	7.4	15	11	14	8.8	11	243	15	15	51	11	6.5
24	7.5	13	10	12	10	11	525	15	13	153	12	6.5
25	6.7	11	9.2	16	10	11	106	16	12	111	11	5.8
26	6.0	11	9.3	14	10	11	69	15	11	70	11	5.4
27	6.7	9.6	9.1	13	10	9.6	58	15	12	60	11	5.3
28	7.2	9.0	16	12	9.7	82	50	15	11	55	8.9	5.9
29	7.2	8.5	13	12	9.4	29	45	14	e12	261	7.7	5.9
30	7.4	8.2	12	12	---	21	41	13	e45	196	8.3	6.0
31	7.4	---	12	11	---	19	---	12	---	57	8.8	---
TOTAL	273.6	333.8	366.0	447	320.1	1,314.6	1,539	1,002	585	3,895	481.7	206.6
MEAN	8.83	11.1	11.8	14.4	11.0	42.4	51.3	32.3	19.5	126	15.5	6.89
MAX	26	41	29	35	16	340	525	181	59	1,050	38	9.6
MIN	6.0	6.5	8.0	10	8.2	9.6	10	12	11	12	7.7	5.3
AC-FT	543	662	726	887	635	2,610	3,050	1,990	1,160	7,730	955	410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2004, BY WATER YEAR (WY)

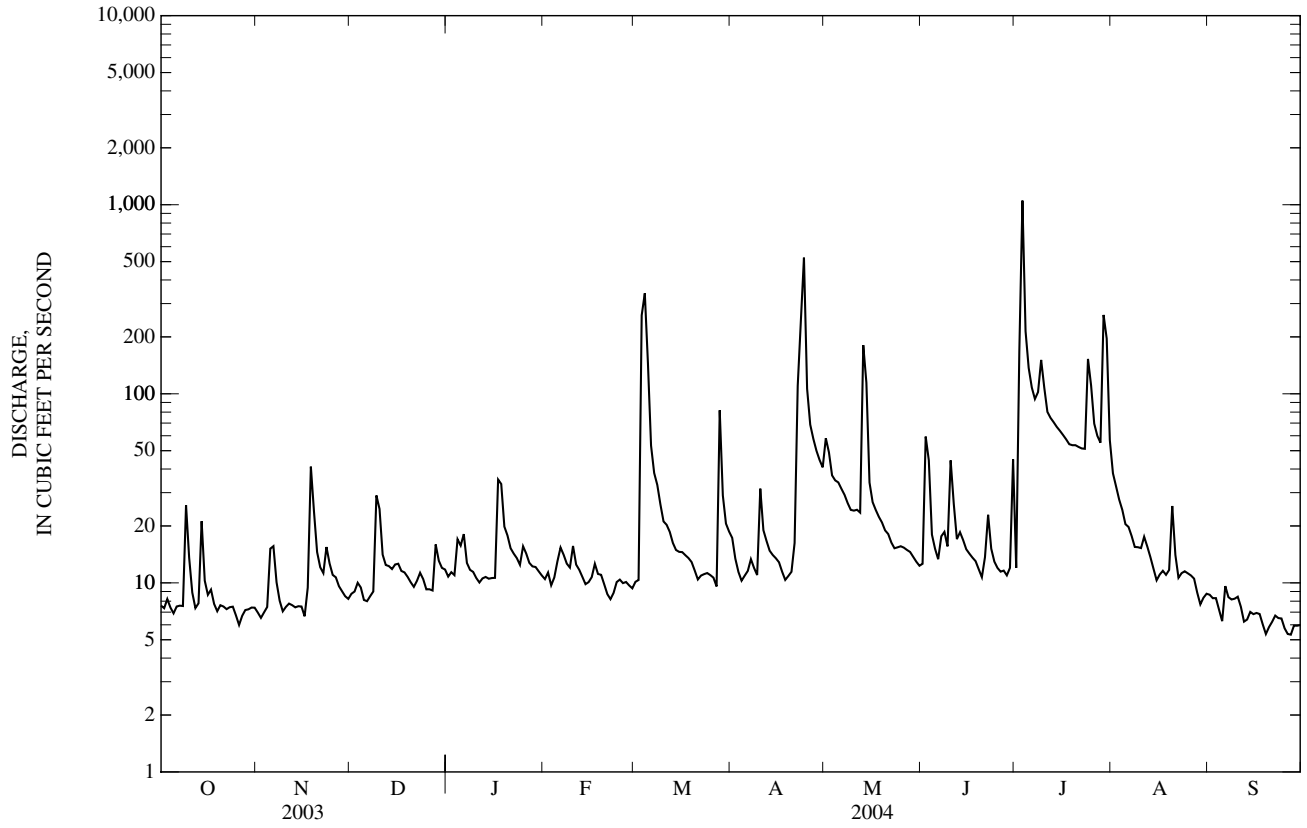
MEAN	9.05	17.7	18.1	18.3	30.0	31.5	25.9	29.8	44.9	27.3	10.1	8.32
MAX	16.2	54.7	35.2	53.6	90.3	44.0	59.1	59.6	198	126	18.4	12.8
(WY)	(2002)	(1997)	(2002)	(1998)	(2001)	(1999)	(2002)	(1999)	(2000)	(2004)	(2002)	(2000)
MIN	5.76	5.73	9.13	6.56	8.39	13.6	10.7	10.2	8.82	5.70	4.58	5.14
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2000)	(2001)	(1998)	(1997)	(1998)	(1997)

e Estimated

07195865 SAGER CREEK NEAR WEST SILOAM SPRINGS, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1996 - 2004	
ANNUAL TOTAL	4,310.7		10,764.4			
ANNUAL MEAN	11.8		29.4		22.5	
HIGHEST ANNUAL MEAN					29.4	2004
LOWEST ANNUAL MEAN					10.9	2003
HIGHEST DAILY MEAN	113	May 17	1,050	Jul 3	1,680	Jun 21, 2000
LOWEST DAILY MEAN	4.7	Jan 26	5.3	Sep 27	a2.0	Aug 3, 1997
ANNUAL SEVEN-DAY MINIMUM	5.3	Jan 30	5.8	Sep 24	2.8	Jul 31, 1997
MAXIMUM PEAK FLOW			3,580	Jul 3	4,130	Jun 21, 2000
MAXIMUM PEAK STAGE			11.93	Jul 3	12.76	Jun 21, 2000
ANNUAL RUNOFF (AC-FT)	8,550		21,350		16,300	
10 PERCENT EXCEEDS	18		57		41	
50 PERCENT EXCEEDS	9.4		12		12	
90 PERCENT EXCEEDS	6.5		7.4		5.7	

a Also occurred Aug. 10, 1997.



07195865 SAGER CREEK NEAR WEST SILOAM SPRINGS, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1991 to July 1995, July 1996 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
DEC											
09...	0912	1028	1028	5.02	8.5	749	9.4	7.6	543	12.0	3.00
09...	0914	1028	1028	5.02	8.5	749	9.4	7.6	544	12.0	9.00
09...	0916	1028	1028	5.02	8.5	749	9.4	7.6	543	12.0	15.0
09...	0918	1028	1028	5.02	8.5	749	9.5	7.6	543	12.0	21.0
09...	0920	1028	1028	5.02	8.5	749	9.4	7.6	542	12.0	27.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
29...	1630	1028	80020	5.02	7.6	<2.0	750	8.8	90	8.0	584	25.5	15.6
DEC													
09...	0910	1028	80020	5.02	8.5	<2.0	749	9.5	90	7.6	543	14.8	12.0
FEB													
18...	1245	1028	80020	5.13	12	3.5	767	12.0	105	8.2	498	17.6	9.7
APR													
08...	1100	1028	80020	4.97	12	<2.0	755	9.8	100	7.3	442	19.8	15.7
JUN													
17...	1545	1028	80020	4.76	14	<2.0	762	8.2	98	7.2	433	30.5	24.0
AUG													
18...	1500	1028	80020	4.53	12	<2.0	758	8.8	105	7.6	447	31.0	23.6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)
OCT													
29...	.38	--	E.006	48.0	10.9	10.9	.007	.002	--	5.45	1.78	1.76	1.71
DEC													
09...	.45	.12	.095	69.6	15.7	15.7	.099	.030	.36	3.95	1.29	1.42	1.37
FEB													
18...	.46	--	E.009	45.6	10.3	10.3	.016	.005	--	3.07	1.00	1.14	1.17
APR													
08...	.38	--	<.010	39.4	8.90	8.90	.026	.008	--	2.34	.762	.85	.84
JUN													
17...	.33	--	E.007	30.4	6.86	6.87	.013	.004	--	2.92	.953	.95	--
AUG													
18...	.29	--	E.006	33.7	7.61	7.61	.007	.002	--	2.18	.710	.76	.72

07195865 SAGER CREEK NEAR WEST SILOAM SPRINGS, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
OCT				
29...	11	90	51	1.0
DEC				
09...	16	99	40	.92
FEB				
18...	11	88	43	1.4
APR				
08...	9.3	93	28	.91
JUN				
17...	7.2	99	39	1.5
AUG				
18...	7.9	100	38	1.2

07196000 FLINT CREEK NEAR KANSAS, OK

LOCATION.--Lat 36°11'11", long 94°42'24", in SW ¼ NW ¼ sec.25, T.20 N., R.24 E., Delaware County, Hydrologic Unit 11110103, upstream from bridge on U.S. Highway 412, at left bank 6.0 mi southeast of Kansas, 6.0 mi downstream from Sager Creek, and at mile 2.2.

DRAINAGE AREA.--110 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1955 to September 1976, April 1979 to September 1990, October 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is 854.59 ft above sea level.

REMARKS.--No estimated daily discharge. Records good. Small diversion above station for irrigation. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 4	0200	2,890	8.44	Jul 3	0800	*11,900	*11.62
Apr 24	0100	3,840	8.84				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	27	36	51	56	43	141	771	70	86	266	62
2	21	26	36	49	59	43	125	468	70	317	223	58
3	21	26	37	49	58	230	112	334	150	3,880	194	56
4	21	27	37	55	56	1,630	100	269	91	729	173	55
5	21	34	35	73	61	1,080	92	229	80	450	154	53
6	21	45	33	75	69	524	87	201	76	328	140	54
7	21	44	31	78	76	368	84	182	71	259	126	56
8	21	39	30	68	75	286	81	164	78	220	121	52
9	34	35	35	63	74	237	82	149	75	269	115	51
10	54	33	86	56	71	200	110	138	85	234	110	50
11	40	33	76	51	70	176	127	130	109	186	114	49
12	32	31	69	48	63	147	119	124	81	155	109	47
13	28	30	66	46	62	138	110	192	83	147	103	45
14	45	30	63	44	61	128	100	502	77	140	98	44
15	46	30	59	43	58	118	92	226	71	128	92	43
16	38	28	58	43	56	109	85	183	68	124	90	44
17	35	34	56	106	54	102	76	157	65	120	88	43
18	33	64	52	211	52	97	74	145	63	104	80	42
19	30	109	49	188	51	90	71	132	60	98	79	39
20	28	83	46	153	48	86	70	121	58	94	101	37
21	27	72	43	129	47	81	84	112	61	85	91	36
22	26	62	41	108	46	77	358	105	71	80	84	34
23	24	63	42	94	45	75	884	106	76	79	80	31
24	24	63	41	84	45	73	2,690	103	66	187	78	32
25	25	55	39	82	46	72	906	91	61	231	75	32
26	25	51	36	80	44	70	531	88	61	165	73	31
27	24	48	36	75	44	68	391	85	59	136	70	29
28	25	44	49	70	43	202	313	80	55	118	68	30
29	26	41	54	68	43	273	261	78	72	266	69	31
30	25	39	52	64	---	204	228	78	147	727	67	33
31	25	---	51	59	---	167	---	76	---	367	66	---
TOTAL	886	1,346	1,474	2,463	1,633	7,194	8,584	5,819	2,310	10,509	3,397	1,299
MEAN	28.6	44.9	47.5	79.5	56.3	232	286	188	77.0	339	110	43.3
MAX	54	109	86	211	76	1,630	2,690	771	150	3,880	266	62
MIN	20	26	30	43	43	43	70	76	55	79	66	29
AC-FT	1,760	2,670	2,920	4,890	3,240	14,270	17,030	11,540	4,580	20,840	6,740	2,580
CFSM	0.26	0.41	0.43	0.72	0.51	2.11	2.60	1.71	0.70	3.08	1.00	0.39
IN.	0.30	0.46	0.50	0.83	0.55	2.43	2.90	1.97	0.78	3.55	1.15	0.44

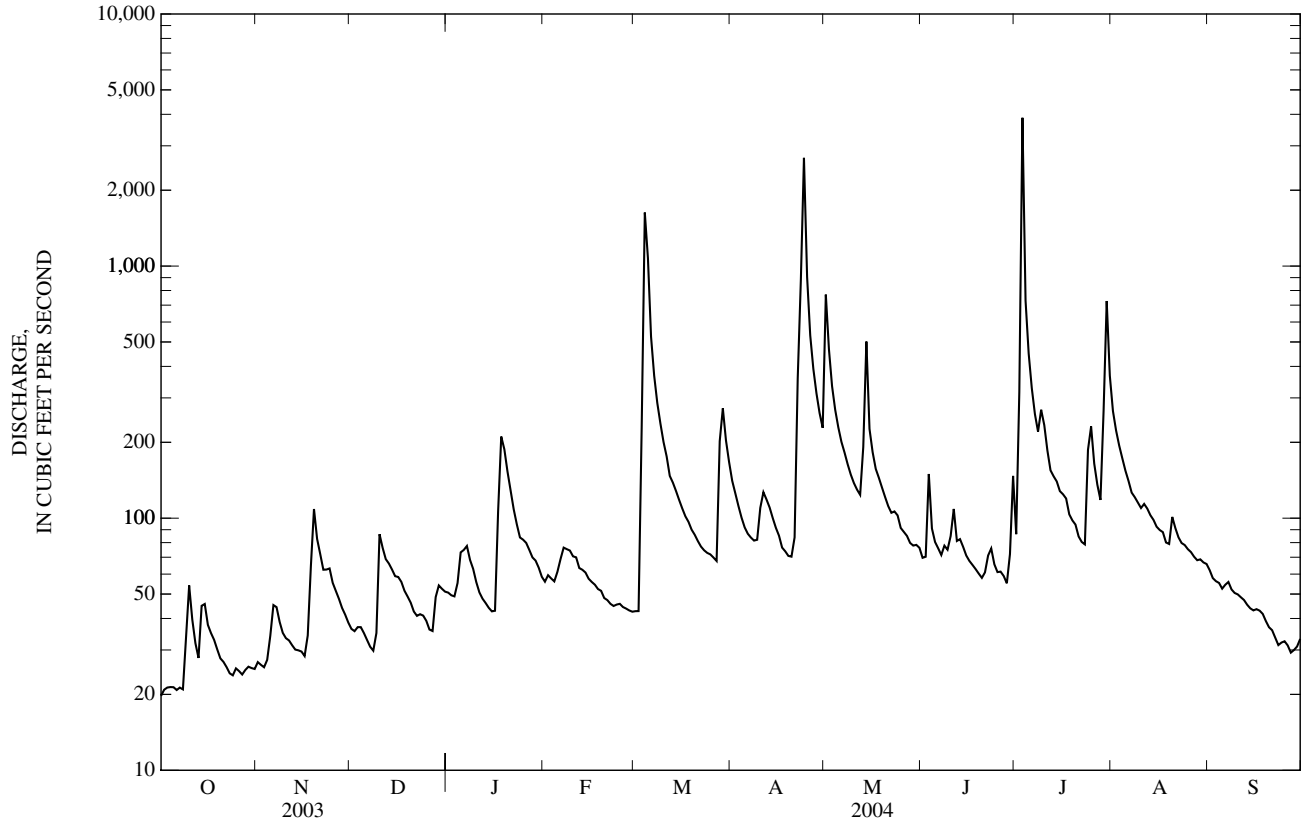
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2004, BY WATER YEAR (WY)

MEAN	71.0	128	126	106	124	177	180	183	152	68.8	45.6	58.3
MAX	415	850	624	385	439	593	577	783	1,066	339	369	416
(WY)	(1987)	(1974)	(1985)	(1969)	(2001)	(1973)	(1973)	(1961)	(1974)	(2004)	(1961)	(1986)
MIN	0.73	9.87	11.4	10.3	16.4	11.5	13.0	37.5	25.1	11.7	4.84	1.27
(WY)	(1957)	(1956)	(1956)	(1956)	(1956)	(1956)	(1956)	(1964)	(1972)	(1980)	(1956)	(1956)

07196000 FLINT CREEK NEAR KANSAS, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1956 - 2004	
ANNUAL TOTAL	18,168		46,914			
ANNUAL MEAN	49.8		128		119	
HIGHEST ANNUAL MEAN					296	1974
LOWEST ANNUAL MEAN					22.3	1956
HIGHEST DAILY MEAN	544	May 17	3,880	Jul 3	14,500	Nov 24, 1973
LOWEST DAILY MEAN	10	Aug 27	20	Oct 1	0.60	Oct 11, 1956
ANNUAL SEVEN-DAY MINIMUM	12	Aug 22	21	Oct 1	0.66	Oct 7, 1956
MAXIMUM PEAK FLOW			11,900	Jul 3	a44,400	Jun 8, 1974
MAXIMUM PEAK STAGE			11.62	Jul 3	19.42	Jun 8, 1974
ANNUAL RUNOFF (AC-FT)	36,040		93,050		85,870	
ANNUAL RUNOFF (CFSM)	0.453		1.17		1.08	
ANNUAL RUNOFF (INCHES)	6.14		15.87		14.64	
10 PERCENT EXCEEDS	81		227		236	
50 PERCENT EXCEEDS	38		71		56	
90 PERCENT EXCEEDS	20		31		18	

a Based on indirect measurement.



07196000 FLINT CREEK NEAR KANSAS, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955-61, 1963, 1975-80, July 1991 to July 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
FEB											
18...	1115	1028	1028	6.30	51	767	11.9	8.1	303	7.4	38.0
18...	1117	1028	1028	6.30	51	767	11.9	8.1	304	7.5	30.0
18...	1120	1028	1028	6.30	51	767	12.0	8.0	304	7.5	22.0
18...	1122	1028	1028	6.30	51	767	12.0	8.1	304	7.5	14.0
18...	1125	1028	1028	6.30	51	767	12.0	8.0	304	7.5	6.00
APR											
24...	1056	1028	1028	8.58	3,230	761	9.2	6.7	138	15.6	20.0
24...	1057	1028	1028	8.58	3,230	761	9.2	6.6	138	15.6	40.0
24...	1058	1028	1028	8.58	3,230	761	9.1	6.6	138	15.6	60.0
24...	1100	1028	1028	8.58	3,230	761	9.1	6.6	138	15.6	80.0
24...	1101	1028	1028	8.58	3,230	761	9.2	6.6	138	15.6	100
24...	1102	1028	1028	8.58	3,230	761	9.3	6.6	138	15.6	120
24...	1104	1028	1028	8.58	3,230	761	9.3	6.6	138	15.6	140
24...	1105	1028	1028	8.58	3,230	761	9.4	6.6	138	15.6	160
24...	1106	1028	1028	8.58	3,230	761	9.3	6.6	138	15.6	180
24...	1107	1028	1028	8.58	3,230	761	9.0	6.6	137	15.6	200

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
30...	0940	1028	80020	6.06	26	<2.0	750	9.1	94	8.0	355	23.6	16.0
DEC													
09...	0800	1028	80020	6.10	30	5.2	749	10.0	93	7.4	333	16.8	11.3
JAN													
18...	1010	1028	80020	6.77	214	5.1	760	10.9	96	7.6	262	2.0	9.4
FEB													
18...	1130	1028	80020	6.30	51	<2.0	767	12.0	100	8.0	304	12.5	7.5
MAR													
04...	0945	1028	80020	7.83	1,410	40	733	10.7	107	6.5	316	18.3	13.4
05...	1130	1028	80020	7.59	984	25	737	10.9	108	6.9	203	18.5	13.6
APR													
08...	1400	1028	80020	6.34	80	<2.0	755	10.2	105	7.6	267	20.0	16.5
24...	1040	1028	80020	8.58	3,230	180	761	9.2	93	6.6	138	17.2	15.6
JUN													
18...	0830	1028	80020	6.30	65	<2.0	762	8.0	93	7.3	304	26.0	22.5
AUG													
18...	1235	1028	80020	6.31	80	<2.0	758	8.6	102	7.7	294	31.0	23.6

07196000 FLINT CREEK NEAR KANSAS, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L (00660)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)
OCT													
30...	E.08	--	<.010	10.1	2.29	2.29	.007	.002	--	.521	.170	.174	.184
DEC													
09...	E.07	--	E.006	--	--	3.16	--	E.001	--	.494	.161	.180	.181
JAN													
18...	.22	--	<.010	16.4	3.71	3.71	.007	.002	--	.604	.197	.21	.23
FEB													
18...	.10	--	E.009	16.6	3.75	3.75	.010	.003	--	.448	.146	.157	.160
MAR													
04...	1.5	.22	.169	11.5	2.60	2.61	.053	.016	1.3	1.12	.365	.41	.58
05...	.91	.09	.069	16.4	3.70	3.71	.030	.009	.84	.760	.248	.28	.36
APR													
08...	.16	--	E.006	14.6	3.31	3.31	.013	.004	--	.451	.147	.155	.164
24...	1.9	.08	.059	6.40	1.45	1.46	.033	.010	1.9	.984	.321	.35	.72
JUN													
18...	E.09	--	E.007	10.0	2.27	2.27	.010	.003	--	.555	.181	.196	.196
AUG													
18...	.12	--	E.009	10.3	2.32	2.33	.007	.002	--	.445	.145	.166	.162

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
OCT				
30...	--	100	32	2.2
DEC				
09...	--	100	21	1.7
JAN				
18...	3.9	78	34	20
FEB				
18...	3.9	76	30	4.1
MAR				
04...	4.1	90	110	419
05...	4.6	78	80	213
APR				
08...	3.5	100	18	3.9
24...	3.4	92	365	3,180
JUN				
18...	--	94	30	5.3
AUG				
18...	2.4	91	29	6.3

07196090 ILLINOIS RIVER AT CHEWEY, OK

LOCATION.--Lat 36°06'15", long 94°46'57", in SE $^1/_4$ SE $^1/_4$, sec. 19, T.19 N., R.24 E., Adair County, Hydrologic Unit 11110103, at Hampton Bridge, 0.85 mi west of Chewey, Ok.

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

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
APR											
14...	1252	1028	1028	4.96	686	765	12.9	8.1	251	13.4	10.5
14...	1254	1028	1028	4.96	686	765	13.1	8.1	251	13.4	31.5
14...	1256	1028	1028	4.96	686	765	13.1	8.1	251	13.4	52.5
14...	1258	1028	1028	4.96	686	765	13.1	8.1	251	13.4	73.5
14...	1300	1028	1028	4.96	686	765	13.2	8.1	251	13.4	94.5
14...	1302	1028	1028	4.96	686	765	13.2	8.1	251	13.4	116
14...	1304	1028	1028	4.96	686	765	13.1	8.1	251	13.4	136
14...	1306	1028	1028	4.96	686	765	13.1	8.1	251	13.4	158
14...	1308	1028	1028	4.96	686	765	13.1	8.1	252	13.4	178
14...	1310	1028	1028	4.96	686	765	13.1	8.1	251	13.4	200
23...	1333	1028	1028	11.34	9,590	762	8.1	7.0	144	16.6	35.0
23...	1336	1028	1028	11.34	9,590	762	8.2	7.0	144	16.5	105
23...	1340	1028	1028	11.34	9,590	762	8.2	7.0	144	16.5	175
23...	1344	1028	1028	11.34	9,590	762	8.2	7.0	143	16.5	245
23...	1347	1028	1028	11.34	9,590	762	8.2	7.0	144	16.5	315
JUN											
17...	1210	1028	1028	4.95	367	762	8.3	7.7	315	24.4	10.0
17...	1215	1028	1028	4.95	367	762	8.3	7.8	313	24.8	50.0
17...	1218	1028	1028	4.95	367	762	8.3	7.8	313	24.8	80.0
17...	1221	1028	1028	4.95	367	762	8.3	7.8	313	24.8	110
17...	1226	1028	1028	4.95	367	762	8.3	7.8	313	24.8	140
17...	1228	1028	1028	4.95	367	762	8.2	7.8	313	24.8	170
17...	1232	1028	1028	4.95	367	762	8.3	7.8	313	24.8	200

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
28...	1530	1028	80020	4.05	162	<2.0	756	11.6	119	8.1	356	18.8	16.2
NOV													
18...	1605	1028	80020	6.58	1,600	34	750	8.6	86	8.1	339	8.8	14.8
DEC													
08...	1415	1028	80020	4.27	234	7.5	757	14.5	127	7.6	333	17.3	9.2
FEB													
19...	1530	1028	80020	4.59	421	2.1	760	14.9	135	8.2	296	21.5	10.9
MAR													
04...	1345	1028	80020	9.19	5,120	80	730	10.1	105	7.6	195	21.4	15.1
APR													
14...	1255	1028	80020	4.96	686	2.6	765	13.1	125	8.1	251	15.7	13.4
23...	1310	1028	80020	11.34	9,590	240	762	8.2	84	7.0	144	22.0	16.5
JUN													
17...	1225	1028	80020	4.95	367	2.4	762	8.3	100	7.8	313	26.9	24.8
AUG													
18...	1130	1028	80020	4.87	379	<2.0	760	8.1	96	7.8	304	24.6	23.4

07196090 ILLINOIS RIVER AT CHEWEY, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L (00660)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)
OCT													
28...	.18	--	E.005	5.41	1.22	1.23	.013	.004	--	.310	.101	.112	.122
NOV													
18...	.53	--	E.005	6.88	1.56	1.56	.010	.003	--	.350	.114	.128	.20
DEC													
08...	.17	--	E.005	9.26	2.09	2.09	.007	.002	--	.205	.067	.081	.088
FEB													
19...	.19	--	E.005	9.99	2.26	2.26	.020	.006	--	.095	.031	.040	.051
MAR													
04...	1.2	.11	.085	9.26	2.09	2.10	.036	.011	1.1	.549	.179	.20	.42
APR													
14...	.34	--	<.010	7.44	1.68	1.68	.013	.004	--	.150	.049	.062	.075
23...	2.0	.08	.064	5.11	1.16	1.17	.039	.012	1.9	.708	.231	.26	.77
JUN													
17...	.14	.01	.010	9.00	2.03	2.04	.013	.004	.13	.322	.105	.121	.199
AUG													
18...	.15	--	E.009	9.87	2.23	2.23	.013	.004	--	.276	.090	.103	.109

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
OCT				
28...	1.4	94	43	19
NOV				
18...	2.1	96	94	406
DEC				
08...	2.3	100	20	13
FEB				
19...	2.5	88	27	31
MAR				
04...	3.3	93	186	2,570
APR				
14...	2.0	82	31	57
23...	3.2	89	469	12,100
JUN				
17...	2.2	96	25	25
AUG				
18...	2.4	100	28	29

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK

LOCATION.--Lat 35°55'22", long 94°55'24", in SE ¼ NE ¼ sec.26, T.17 N., R.22 E., Cherokee County, Hydrologic Unit 11110103, near center of channel on downstream side of pier of bridge, 0.2 mi downstream from U.S. Highway 62, 2.2 mi northeast of Tahlequah, 6.5 mi upstream from Baron Fork, and at mile 55.8.

DRAINAGE AREA.--959 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 664.14 ft, U.S. Army Corps of Engineers datum. Prior to Feb. 23, 1939, nonrecord- ing gage.

REMARKS.--Records good except for estimated periods which are poor. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1916 reached a stage of about 26 ft.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 5	0830	9,870	10.26	Jul 4	1930	18,300	13.52
Apr 25	1930	*31,100	*17.08				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	177	380	670	625	336	1,020	2,220	432	466	2,580	296
2	136	175	e347	615	590	318	858	4,170	434	676	1,910	287
3	145	175	336	567	561	518	739	2,850	471	5,480	1,510	279
4	145	176	327	551	552	7,090	654	2,110	598	15,700	1,240	271
5	150	178	319	558	574	9,090	574	1,740	601	5,990	1,050	264
6	154	189	314	694	621	6,600	516	1,500	514	3,160	914	282
7	156	253	301	776	928	3,840	477	1,320	472	2,260	806	267
8	150	308	290	698	930	2,680	451	1,180	445	1,780	718	261
9	274	305	289	622	841	2,080	475	1,060	433	1,700	654	261
10	300	279	304	573	771	1,720	557	963	454	1,830	608	250
11	415	256	432	530	734	1,450	653	872	474	1,610	590	244
12	484	237	645	489	705	1,250	942	806	483	1,330	578	236
13	373	223	621	452	658	1,080	941	795	440	1,100	581	230
14	336	221	576	425	619	979	805	1,170	420	951	562	221
15	305	218	560	405	582	890	699	2,180	407	839	511	216
16	412	212	548	393	550	831	616	1,620	402	753	479	211
17	389	229	535	510	520	771	551	1,280	382	687	451	208
18	329	287	556	1,000	487	736	498	1,080	364	633	426	208
19	305	1,710	527	1,760	470	747	447	970	381	585	408	204
20	287	1,750	488	1,740	442	854	414	893	436	540	462	198
21	261	1,190	454	1,420	425	718	422	821	409	506	466	188
22	239	871	426	1,190	416	636	1,690	761	421	474	452	179
23	224	710	400	1,030	396	564	9,080	711	459	449	423	173
24	216	617	465	896	373	516	23,900	658	663	708	399	171
25	200	686	795	847	361	485	26,000	611	609	723	379	171
26	193	664	629	797	357	469	12,200	575	484	2,660	365	170
27	188	565	523	988	351	457	5,110	550	430	1,810	349	168
28	181	498	516	933	343	495	3,740	530	401	1,230	337	165
29	176	446	522	818	341	898	2,960	505	377	1,060	325	160
30	178	413	751	729	---	1,520	2,410	477	375	1,790	314	160
31	176	---	758	675	---	1,240	---	455	---	3,200	307	---
TOTAL	7,612	14,218	14,934	24,351	16,123	51,858	100,399	37,433	13,671	62,680	21,154	6,599
MEAN	246	474	482	786	556	1,673	3,347	1,208	456	2,022	682	220
MAX	484	1,750	795	1,760	930	9,090	26,000	4,170	663	15,700	2,580	296
MIN	135	175	289	393	341	318	414	455	364	449	307	160
AC-FT	15,100	28,200	29,620	48,300	31,980	102,900	199,100	74,250	27,120	124,300	41,960	13,090
CFSM	0.26	0.49	0.50	0.82	0.58	1.74	3.49	1.26	0.48	2.11	0.71	0.23
IN.	0.30	0.55	0.58	0.94	0.63	2.01	3.89	1.45	0.53	2.43	0.82	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2004, BY WATER YEAR (WY)

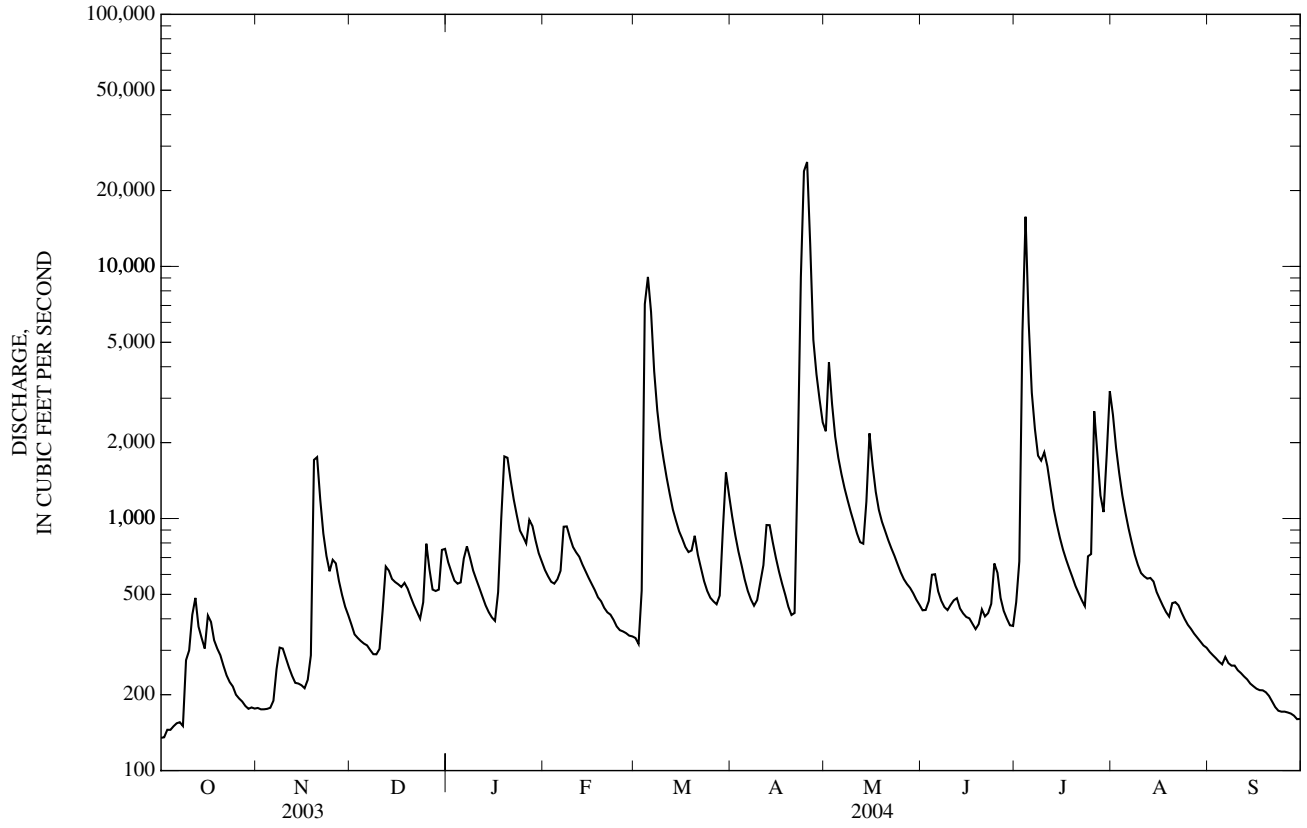
MEAN	529	902	914	848	1,130	1,455	1,585	1,640	1,064	519	356	359
MAX	5,222	4,659	4,258	3,355	4,661	6,695	6,864	8,397	5,993	2,491	3,907	1,913
(WY)	(1987)	(1974)	(1993)	(1998)	(1938)	(1945)	(1945)	(1950)	(1974)	(1958)	(1948)	(1974)
MIN	7.05	75.3	77.5	74.0	113	147	151	189	80.1	22.9	10.5	3.15
(WY)	(1957)	(1964)	(1956)	(1956)	(1964)	(1940)	(1954)	(1936)	(1936)	(1954)	(1936)	(1954)

e Estimated

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1936 - 2004	
ANNUAL TOTAL	174,443		371,032			
ANNUAL MEAN	478		1,014		940	
HIGHEST ANNUAL MEAN					1,980	1974
LOWEST ANNUAL MEAN					193	1954
HIGHEST DAILY MEAN	4,720	May 18	26,000	Apr 25	90,400	May 11, 1950
LOWEST DAILY MEAN	93	Aug 28	135	Oct 1	0.10	Oct 10, 1956
ANNUAL SEVEN-DAY MINIMUM	103	Aug 22	146	Oct 1	0.14	Oct 8, 1956
MAXIMUM PEAK FLOW			31,100	Apr 25	a150,000	May 10, 1950
MAXIMUM PEAK STAGE			17.08	Apr 25	27.94	May 10, 1950
ANNUAL RUNOFF (AC-FT)	346,000		735,900		680,900	
ANNUAL RUNOFF (CFSM)	0.498		1.06		0.980	
ANNUAL RUNOFF (INCHES)	6.77		14.39		13.32	
10 PERCENT EXCEEDS	944		1,730		1,920	
50 PERCENT EXCEEDS	324		519		426	
90 PERCENT EXCEEDS	165		212		122	

a From rating curve extended above 77,000 ft^3/s on basis of slope-area measurement of peak flow.



07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1975-79, October 1989 to August 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
APR											
24...	0933	1028	1028	15.51	25,100	741	11.4	7.2	108	16.1	25.0
24...	0937	1028	1028	15.51	25,100	741	10.8	7.2	109	16.1	125
24...	0939	1028	1028	15.51	25,100	741	10.4	7.2	109	16.1	225
24...	0941	1028	1028	15.51	25,100	741	10.8	7.2	109	16.1	325
24...	0945	1028	1028	15.51	25,100	741	10.8	7.2	109	16.1	525
24...	0947	1028	1028	15.51	25,100	741	10.6	7.2	109	16.0	625
24...	0948	1028	1028	15.51	25,100	741	10.6	7.2	109	16.0	725
JUL											
26...	1120	1028	1028	6.60	3,310	760	6.6	7.3	246	23.1	18.0
26...	1122	1028	1028	6.60	3,310	760	6.6	7.3	246	23.1	48.0
26...	1123	1028	1028	6.60	3,310	760	6.6	7.3	247	23.1	78.0
26...	1125	1028	1028	6.60	3,310	760	6.6	7.3	247	23.2	108
26...	1127	1028	1028	6.60	3,310	760	6.6	7.3	247	23.2	138
26...	1128	1028	1028	6.60	3,310	760	6.6	7.3	247	23.2	168
26...	1130	1028	1028	6.60	3,310	760	6.6	7.3	247	23.2	198

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
28...	1330	1028	80020	2.15	180	<2.0	757	10.9	113	8.1	324	20.0	16.6
NOV													
19...	1145	1028	80020	5.80	2,380	76	767	8.1	77	7.8	290	13.0	13.6
DEC													
08...	1145	1028	80020	2.51	293	5.5	757	13.2	115	8.4	309	14.1	9.2
FEB													
19...	1130	1028	80020	3.15	482	7.3	760	12.0	104	7.9	292	17.0	9.1
MAR													
05...	0830	1028	80020	10.26	9,870	170	730	10.0	98	6.8	182	12.6	12.6
APR													
13...	1400	1028	80020	3.98	926	<2.0	764	12.2	118	8.1	258	15.5	14.1
24...	1057	1028	80020	15.51	25,100	350	741	10.8	112	7.2	109	17.5	16.1
JUN													
23...	1050	1028	80020	3.34	439	<2.0	763	8.5	100	7.8	284	23.2	23.3
JUL													
26...	1115	1028	80020	6.60	3,310	35	760	6.6	77	7.3	247	--	23.2
AUG													
17...	1100	1028	80020	3.25	453	2.3	765	8.4	99	7.5	274	25.5	23.5

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L (00660)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)
OCT													
28...	.11	--	<.010	3.40	.77	.770	.007	.002	--	.209	.068	.077	.087
NOV													
19...	.96	--	E.007	6.47	1.46	1.47	.013	.004	--	.417	.136	.151	.31
DEC													
08...	.12	--	<.010	6.64	1.50	1.50	.007	.002	--	.135	.044	.055	.060
FEB													
19...	.16	--	<.010	8.63	1.95	1.96	.016	.005	--	.061	.020	.028	.035
MAR													
05...	1.5	.07	.056	8.76	1.98	1.99	.033	.010	1.4	.383	.125	.147	.47
APR													
13...	.25	--	<.010	7.04	1.59	1.60	.020	.006	--	.107	.035	.045	.056
24...	1.6	.03	.026	3.30	.74	.751	.020	.006	1.6	.356	.116	.136	.55
JUN													
23...	E.07	--	E.007	6.10	1.38	1.38	.007	.002	--	.215	.070	.082	.086
JUL													
26...	.49	.02	.016	8.29	1.87	1.88	.013	.004	.47	.509	.166	.189	.24
AUG													
17...	.12	--	E.009	7.37	1.66	1.67	.013	.004	--	.193	.063	.075	.081

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
OCT				
28...	.88	92	33	16
NOV				
19...	2.4	91	157	1,010
DEC				
08...	1.6	97	20	16
FEB				
19...	2.1	76	26	34
MAR				
05...	3.4	96	255	6,800
APR				
13...	1.9	71	32	80
24...	2.4	91	440	29,800
JUN				
23...	--	96	26	31
JUL				
26...	2.4	92	83	742
AUG				
17...	1.8	100	23	28

07197000 BARON FORK AT ELDON, OK

LOCATION.--Lat 35°55'16", long 94°50'18", in NE $^1/_4$ SE $^1/_4$ sec.27, T.17 N., R.23 E., Cherokee County, Hydrologic Unit 11110103, on downstream left abutment of bridge on State Highway 51, 0.4 mi southeast of Eldon, 6.0 mi downstream from Tyner Creek, and at mile 8.8.

DRAINAGE AREA.--307 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1948 to current year. Prior to October 1970 published as Barren Fork at Eldon.

REVISED RECORDS.--WDR OK-93-1: 1990 (M), WDR OK-99-1: 1987 (M).

GAGE.--Water-stage recorder. Datum of gage is 701.14 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Dec. 14, 1948, nonrecording gage at same site and datum.

REMARKS.--Records fair except for estimated periods which are poor. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 15, 1945, reached a stage of 23.8 ft, from information provided by local resident.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr 23	1400	27,300	20.38	Jul 3	1500	6,410	11.88
Apr 24	1200	*44,300	*24.54				

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	49	169	235	265	156	291	633	115	102	772	80
2	41	48	156	223	254	161	273	621	116	249	601	77
3	41	47	149	210	242	194	258	535	157	3,470	494	75
4	41	47	e135	206	231	944	247	449	147	1,560	425	73
5	42	48	126	220	236	1,930	233	391	138	960	363	71
6	41	61	123	226	315	1,370	224	343	131	699	309	78
7	41	89	119	205	306	936	220	303	123	547	269	73
8	41	103	115	193	284	722	226	270	122	513	239	70
9	77	97	108	185	271	588	230	242	120	476	215	67
10	298	89	178	177	267	490	230	217	122	481	192	65
11	271	82	281	164	262	425	292	194	138	412	183	63
12	189	74	254	158	254	380	327	177	127	347	180	61
13	148	67	239	154	247	348	299	178	117	300	160	58
14	141	65	228	149	237	330	274	504	109	263	144	56
15	143	66	224	143	230	311	256	477	102	234	132	54
16	144	66	219	139	223	294	243	366	98	209	122	55
17	127	76	228	152	214	279	229	315	96	190	113	57
18	113	1,640	214	345	206	339	214	282	94	173	106	57
19	105	959	189	473	200	382	200	261	93	155	103	54
20	96	580	177	405	194	311	193	238	90	141	127	51
21	87	409	169	366	191	279	188	219	95	129	115	49
22	80	322	162	332	185	260	794	201	223	118	106	47
23	73	283	258	306	180	246	12,900	187	611	109	101	46
24	68	306	340	285	176	235	16,900	175	363	227	98	46
25	63	286	243	290	172	229	4,600	163	257	1,050	96	46
26	59	249	206	435	167	228	2,420	155	201	766	93	45
27	56	227	185	401	163	225	1,590	147	165	521	92	45
28	55	207	192	355	160	231	1,150	143	138	413	89	51
29	53	199	297	324	158	451	893	140	120	442	88	50
30	52	184	286	301	---	381	735	137	111	1,280	85	48
31	50	---	253	281	---	321	---	123	---	1,040	82	---
TOTAL	2,877	7,025	6,222	8,038	6,490	13,976	47,129	8,786	4,639	17,576	6,294	1,768
MEAN	92.8	234	201	259	224	451	1,571	283	155	567	203	58.9
MAX	298	1,640	340	473	315	1,930	16,900	633	611	3,470	772	80
MIN	41	47	108	139	158	156	188	123	90	102	82	45
AC-FT	5,710	13,930	12,340	15,940	12,870	27,720	93,480	17,430	9,200	34,860	12,480	3,510
CFSM	0.30	0.76	0.65	0.84	0.73	1.47	5.12	0.92	0.50	1.85	0.66	0.19
IN.	0.35	0.85	0.75	0.97	0.79	1.69	5.71	1.06	0.56	2.13	0.76	0.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2004, BY WATER YEAR (WY)

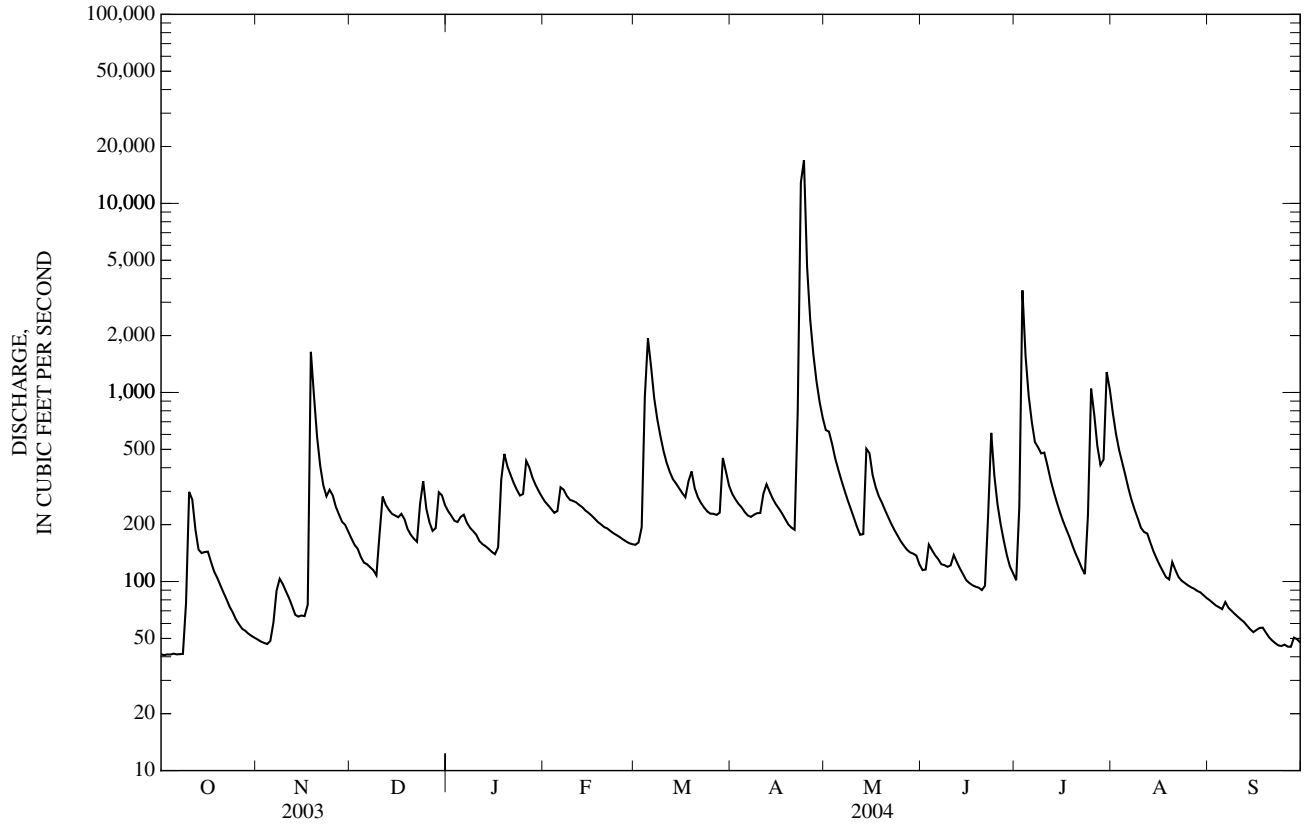
MEAN	171	320	322	305	398	537	590	619	351	155	77.4	116
MAX	2,077	1,641	1,692	1,602	1,441	1,702	2,105	2,605	2,290	903	437	927
(WY)	(1987)	(1997)	(1988)	(1998)	(1951)	(1973)	(1957)	(1957)	(2000)	(1958)	(1992)	(1970)
MIN	1.96	10.4	14.0	14.6	24.6	43.3	81.0	62.5	25.0	8.75	3.80	3.10
(WY)	(1957)	(1964)	(1964)	(1964)	(1964)	(1967)	(1954)	(1977)	(1977)	(1954)	(1954)	(1956)

e Estimated

07197000 BARON FORK AT ELDON, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1949 - 2004	
ANNUAL TOTAL	52,895		130,820			
ANNUAL MEAN	145		357		330	
HIGHEST ANNUAL MEAN					734	1993
LOWEST ANNUAL MEAN					55.7	1963
HIGHEST DAILY MEAN	1,640	Nov 18	16,900	Apr 24	34,300	Oct 1, 1986
LOWEST DAILY MEAN	23	Aug 27	41	Oct 1-4,6-8	a1.8	Oct 7, 1956
ANNUAL SEVEN-DAY MINIMUM	25	Aug 21	41	Oct 1	1.8	Oct 21, 1956
MAXIMUM PEAK FLOW			44,300	Apr 24	54,700	Jun 21, 2000
MAXIMUM PEAK STAGE			24.54	Apr 24	26.77	Jun 21, 2000
ANNUAL RUNOFF (AC-FT)	104,900		259,500		238,700	
ANNUAL RUNOFF (CFSM)	0.472		1.16		1.07	
ANNUAL RUNOFF (INCHES)	6.41		15.85		14.58	
10 PERCENT EXCEEDS	286		497		700	
50 PERCENT EXCEEDS	103		194		126	
90 PERCENT EXCEEDS	41		59		23	

a Also occurred Oct. 8, 21-28, 1956.



07197000 BARON FORK AT ELDON, OK—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1958-60, July 1991 to July 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Location in X-sect. looking dwnstrm ft from l bank (00009)
APR											
23...	1036	1028	1028	16.11	14,900	762	8.9	6.8	114	15.2	345
23...	1038	1028	1028	16.11	14,900	762	8.9	6.8	113	15.2	285
23...	1043	1028	1028	16.11	14,900	762	9.0	6.8	112	15.2	225
23...	1045	1028	1028	16.11	14,900	762	8.9	6.8	112	15.2	165
23...	1055	1028	1028	16.11	14,900	762	8.9	6.8	112	15.2	115
23...	1100	1028	1028	16.11	14,900	762	8.9	6.8	112	15.2	55.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Gage height, feet (00065)	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
28...	1245	1028	80020	4.38	56	<2.0	757	9.8	103	8.3	226	20.0	17.6
NOV													
18...	1325	1028	80020	8.55	2,300	150	750	8.2	84	8.0	166	19.6	15.8
DEC													
08...	1230	1028	80020	4.74	115	6.4	757	11.8	110	7.9	223	16.1	11.8
FEB													
19...	1220	1028	80020	4.92	202	<2.0	760	11.7	103	8.2	222	21.0	9.7
MAR													
04...	1645	1028	80020	6.74	996	27	731	9.5	98	7.6	174	16.1	14.7
05...	1415	1028	80020	8.62	2,370	95	737	9.7	97	7.6	187	19.4	14.1
APR													
13...	1245	1028	80020	5.20	297	<2.0	764	12.0	115	7.7	206	14.4	13.6
23...	1035	1028	80020	16.11	14,900	560	762	8.9	89	6.8	112	22.0	15.2
JUN													
23...	1140	1028	80020	5.87	609	11	763	8.1	93	7.7	211	--	22.3
AUG													
17...	1230	1028	80020	4.36	115	<2.0	765	8.5	99	7.3	208	27.0	23.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)
OCT													
28...	E.07	--	E.005	2.80	.63	.635	.007	.002	--	.046	.015	.019	.025
NOV													
18...	1.2	--	E.007	7.13	1.61	1.62	.016	.005	--	.343	.112	.133	.40
DEC													
08...	E.07	--	E.005	--	--	1.57	--	E.001	--	.052	.017	.024	.024
FEB													
19...	<.10	--	E.009	7.91	1.79	1.79	.010	.003	--	.028	.009	.012	.016
MAR													
04...	.52	.04	.029	9.02	2.04	2.04	.016	.005	.49	.135	.044	.054	.104
05...	.94	.04	.030	8.65	1.96	1.96	.020	.006	.91	.227	.074	.095	.31
APR													
13...	.16	--	<.010	5.04	1.14	1.14	.007	.002	--	--	E.005	.013	.015
23...	3.0	.05	.039	3.81	.86	.868	.023	.007	3.0	.457	.149	.178	1.08
JUN													
23...	.14	--	E.006	--	--	1.35	--	E.001	--	.086	.028	.038	.057
AUG													
17...	E.09	--	E.006	5.46	1.23	1.24	.010	.003	--	.052	.017	.023	.028

07197000 BARON FORK AT ELDON, OK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—CONTINUED

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
OCT				
28...	--	83	26	3.9
NOV				
18...	2.8	85	237	1,470
DEC				
08...	--	100	14	4.3
FEB				
19...	--	83	20	11
MAR				
04...	2.6	85	82	221
05...	2.9	86	228	1,460
APR				
13...	1.3	82	14	11
23...	3.9	84	1,170	47,000
JUN				
23...	1.5	89	39	64
AUG				
17...	--	100	17	5.3

07197360 CANEY CREEK NEAR BARBER, OK

LOCATION.--Lat 35°47'05", long 94°51'21", in SE ¼ SW ¼ sec.10, T.15 N., R.23 E., Cherokee County, Hydrologic Unit 11110103, on left downstream bank of county road bridge, 0.9 mi below Negro Jake Hollow, 1.9 mi northeast of Barber, and 0.5 mi upstream from Tenkiller Ferry Lake.

DRAINAGE AREA.--89.6 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 632.09 ft above sea level from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	13	41	49	73	25	88	e270	23	35	251	27
2	8.0	12	36	47	71	22	78	e250	26	1,320	197	28
3	8.5	12	33	44	62	42	68	e222	27	2,650	163	26
4	7.7	13	29	43	59	201	58	e205	23	905	134	24
5	9.2	14	26	38	75	410	51	e190	23	e591	117	24
6	9.7	15	23	35	74	322	46	e175	23	e431	102	26
7	9.1	15	20	33	82	254	46	e150	22	e365	90	24
8	8.5	15	18	31	81	202	41	e120	23	e337	82	23
9	128	17	29	29	79	169	38	122	24	269	73	23
10	62	19	41	28	74	153	53	103	41	234	67	22
11	47	23	81	26	71	e142	52	92	30	193	68	22
12	46	23	77	24	67	e126	55	87	23	171	e60	21
13	58	22	73	23	62	e110	54	203	22	e135	e57	21
14	70	23	64	22	58	e98	48	167	21	e114	e53	20
15	55	26	58	20	55	e84	44	108	20	e99	e49	20
16	48	23	53	21	53	e76	40	93	21	e87	e45	20
17	43	243	49	50	49	e253	37	80	19	e79	e43	20
18	37	654	44	75	46	e1,000	33	69	18	e69	e41	19
19	32	355	41	126	44	e420	31	62	19	e62	e37	18
20	30	241	38	119	41	e370	30	56	19	e53	43	18
21	27	177	35	102	39	e300	33	50	50	e46	39	17
22	24	132	33	88	36	e230	430	45	784	e40	37	17
23	22	125	32	77	34	e200	2,610	42	315	e36	36	17
24	20	121	28	73	31	192	e2,200	39	160	109	34	17
25	19	99	27	110	29	142	e1,700	37	102	453	31	17
26	17	85	25	131	28	117	e949	35	73	214	31	17
27	16	77	24	116	26	101	e488	33	57	150	30	16
28	15	64	45	103	25	144	e380	31	46	118	30	16
29	14	53	39	94	26	149	e300	28	40	478	30	16
30	13	46	43	85	---	124	e285	27	39	582	29	15
31	13	---	49	79	---	102	---	24	---	345	28	---
TOTAL	924.9	2,757	1,254	1,941	1,550	6,280	10,366	3,215	2,133	10,770	2,127	611
MEAN	29.8	91.9	40.5	62.6	53.4	203	346	104	71.1	347	68.6	20.4
MAX	128	654	81	131	82	1,000	2,610	270	784	2,650	251	28
MIN	7.7	12	18	20	25	22	30	24	18	35	28	15
AC-FT	1,830	5,470	2,490	3,850	3,070	12,460	20,560	6,380	4,230	21,360	4,220	1,210

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2004, BY WATER YEAR (WY)

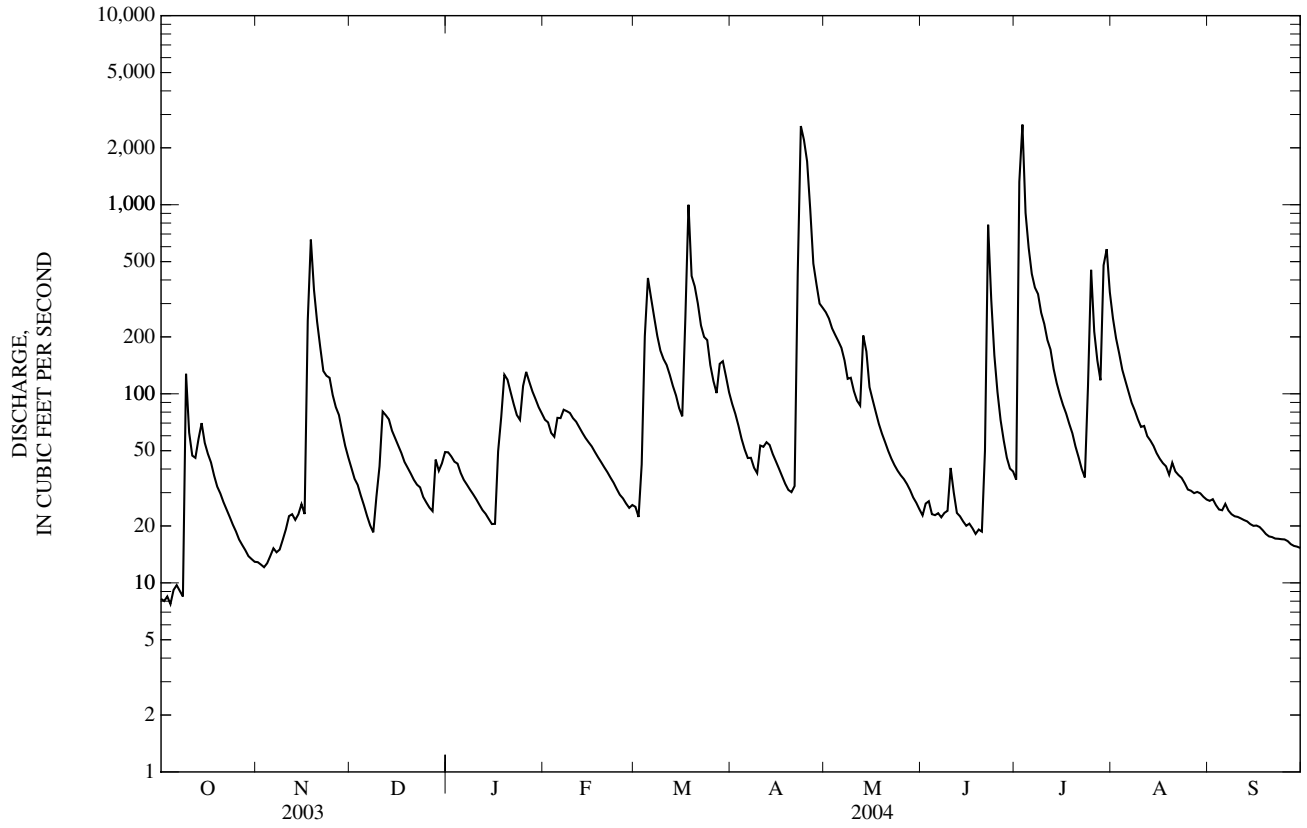
MEAN	39.4	64.6	87.0	122	125	173	148	86.3	122	85.1	28.5	16.8
MAX	129	117	218	537	492	316	346	172	514	347	68.6	20.4
(WY)	(1999)	(2001)	(2002)	(1998)	(2001)	(1998)	(2004)	(1999)	(2000)	(2004)	(2004)	(2004)
MIN	11.7	15.8	29.1	31.1	30.0	52.9	22.3	49.1	33.8	11.8	5.81	12.3
(WY)	(2000)	(2003)	(2003)	(2000)	(2000)	(2003)	(2003)	(2003)	(1998)	(2003)	(2003)	(2002)

e Estimated

07197360 CANEY CREEK NEAR BARBER, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1997 - 2004	
ANNUAL TOTAL	13,528.4		43,928.9			
ANNUAL MEAN	37.1		120		91.3	
HIGHEST ANNUAL MEAN					120	2004
LOWEST ANNUAL MEAN					28.3	2003
HIGHEST DAILY MEAN	654	Nov 18	2,650	Jul 3	3,600	Jan 4, 1998
LOWEST DAILY MEAN	2.7	Aug 27,28	7.7	Oct 4	2.7	Aug 27,28, 2003
ANNUAL SEVEN-DAY MINIMUM	3.1	Aug 22	8.6	Oct 1	3.1	Aug 22, 2003
MAXIMUM PEAK FLOW			6,450	Jul 3	9,720	Jun 21, 2000
MAXIMUM PEAK STAGE			a18.20	Apr 27	a20.74	Jun 30, 2000
ANNUAL RUNOFF (AC-FT)	26,830		87,130		66,120	
10 PERCENT EXCEEDS	73		245		170	
50 PERCENT EXCEEDS	22		46		41	
90 PERCENT EXCEEDS	8.2		18		12	

a Occurred during backwater from Tenkiller Ferry Lake.



07198000 ILLINOIS RIVER NEAR GORE, OK

LOCATION.--Lat 35°34'23", long 95°04'07", in NE $^1/_4$ SW $^1/_4$ sec.27, T.13 N., R.21 E., Sequoyah County, Hydrologic Unit 11110103, on right bank 4.2 mi downstream from Tenkiller Ferry Dam, 4.5 mi northeast of Gore, and at mile 8.5.

DRAINAGE AREA.--1,626 mi^2.

PERIOD OF RECORD.--March 1924 to April 1926, April 1939 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 468.00 ft above sea level. See WSP 1921 for history of changes prior to Feb. 19, 1952. Feb. 19, 1952 to Aug. 15, 1989, gage at same site and datum 5.00 ft higher.

REMARKS.--Records poor. Except for 16 mi^2 intervening area, flow completely regulated since July 1952 by Tenkiller Ferry Lake (station 07197500). U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	39	e640	62	108	e1,050	e3,600	11,100	772	2,650	3,790	939
2	52	453	e1,860	63	109	e1,260	e3,570	11,000	721	3,870	3,740	1,440
3	52	698	e1,890	64	117	e889	e3,610	10,900	638	680	3,580	949
4	51	684	e1,390	65	113	109	e3,620	11,400	541	2,460	3,680	124
5	51	650	e1,500	e1,460	131	422	e3,630	12,700	76	5,610	3,150	114
6	51	739	e689	e1,280	162	91	e3,170	13,100	297	7,200	2,170	599
7	51	1,010	e78	e1,110	207	e1,110	e2,740	13,000	1,270	8,180	72	797
8	47	39	e1,160	1,050	201	1,410	2,050	12,800	740	10,100	40	624
9	41	30	e651	1,000	200	88	2,120	12,800	339	9,170	1,080	440
10	36	1,310	e1,270	96	1,040	e401	108	10,800	650	7,670	1,050	546
11	35	1,580	e1,370	80	1,520	64	95	6,510	899	7,660	1,330	117
12	35	999	520	880	2,020	56	1,530	4,290	98	7,660	2,090	112
13	34	1,170	e1,060	1,030	924	49	1,130	3,890	86	5,940	2,470	582
14	79	1,250	673	1,080	171	49	1,170	3,880	1,500	3,700	e1,500	653
15	82	47	e815	1,360	159	2,060	2,060	3,890	622	3,700	e1,350	810
16	33	33	e854	1,290	1,080	e3,570	2,080	3,870	99	2,720	1,660	497
17	32	1,280	e660	143	1,050	e3,490	75	3,870	437	98	e1,310	498
18	32	410	704	141	2,160	3,560	63	109	427	44	1,400	455
19	31	370	693	1,430	e2,170	3,360	e1,150	40	102	1,120	934	118
20	326	544	70	1,270	e2,000	1,100	e1,930	1,110	97	1,580	138	599
21	188	456	58	1,020	e375	e3,570	e1,900	1,390	423	535	123	599
22	172	44	367	332	e101	e3,570	e770	47	629	e1,060	499	516
23	1,390	40	72	670	e561	e3,570	e75	37	1,410	e456	762	599
24	1,200	1,630	57	110	e1,040	e3,570	e75	985	1,330	e113	1,410	519
25	42	1,140	56	132	e2,410	e3,570	e2,030	1,010	1,320	66	1,170	774
26	28	984	55	133	e1,180	e3,540	e5,440	1,180	113	2,030	1,070	121
27	26	49	56	118	e859	e3,520	e9,170	1,010	103	2,360	1,210	539
28	26	301	61	113	65	e3,520	e10,900	1,010	1,450	2,210	128	120
29	827	467	61	110	58	e3,540	e11,000	85	1,400	2,260	913	351
30	2,590	e384	61	109	---	e3,480	11,100	77	1,650	2,230	1,070	517
31	2,020	---	62	108	---	e3,580	---	75	---	3,780	1,250	---
TOTAL	9,713	18,830	19,513	17,909	22,291	63,218	91,961	157,965	20,239	108,912	46,139	15,668
MEAN	313	628	629	578	769	2,039	3,065	5,096	675	3,513	1,488	522
MAX	2,590	1,630	1,890	1,460	2,410	3,580	11,100	13,100	1,650	10,100	3,790	1,440
MIN	26	30	55	62	58	49	63	37	76	44	40	112
AC-FT	19,270	37,350	38,700	35,520	44,210	125,400	182,400	313,300	40,140	216,000	91,520	31,080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2004, BY WATER YEAR (WY)

MEAN	771	1,204	1,649	1,619	1,647	2,077	2,632	2,288	1,814	1,443	881	635
MAX	8,165	4,538	9,652	6,204	5,740	5,358	8,340	10,940	7,177	8,046	2,358	2,174
(WY)	(1987)	(1992)	(1974)	(1998)	(1969)	(2001)	(1990)	(1990)	(1957)	(1957)	(1961)	(1993)
MIN	74.4	56.0	55.5	27.7	57.1	60.9	70.0	105	141	84.9	81.4	80.7
(WY)	(1981)	(1984)	(1981)	(1965)	(1981)	(1981)	(1980)	(1981)	(1963)	(1988)	(1963)	(1963)

e Estimated

07198000 ILLINOIS RIVER NEAR GORE, OK—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1954 - 2004	
ANNUAL TOTAL	260,962		592,358			
ANNUAL MEAN	715		1,618		1,554	
HIGHEST ANNUAL MEAN					3,199	1993
LOWEST ANNUAL MEAN					280	1964
HIGHEST DAILY MEAN	3,860	May 22	13,100	May 6	15,800	May 6, 1957
LOWEST DAILY MEAN	22	Mar 15	26	Oct 27,28	2.1	Sep 16, 1959
ANNUAL SEVEN-DAY MINIMUM	40	Oct 7	40	Oct 7	3.5	Feb 2, 1965
MAXIMUM PEAK FLOW			13,200	May 6	a18,100	Jun 9, 1957
MAXIMUM PEAK STAGE			16.97	May 6	b18.70	Jun 9, 1957
ANNUAL RUNOFF (AC-FT)	517,600		1,175,000		1,126,000	
10 PERCENT EXCEEDS	1,560		3,700		3,710	
50 PERCENT EXCEEDS	613		773		926	
90 PERCENT EXCEEDS	43		54		71	

a Maximum discharge, 180,000 ft^3/s, May 11, 1950, from rating curve extended above 42,000 ft^3/s by velocity area.
b Maximum gage height, 34.6 ft, May 11, 1950, from floodmark, present site and datum.