Water Resources Data for Oklahoma

Volume 2. Red River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OK-79-2

WATER YEAR 1979

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

CALENDAR FOR WATER YEAR 1979

1978

OCTOBER

S	M	T	W	T	F	S
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1979

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AUGUST

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SEPTEMBER

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Water Resources Data for Oklahoma

Volume 2. Red River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NV-79-2

WATER YEAR 1979

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

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Doyle G. Frederick, Acting Director

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1981

PREFACE

This report was prepared by personnel of the Oklahoma District of the Water Resources Division of the U.S. Geological Survey under the supervision of J. H. Irwin, District Chief, and A. Clebsch, Regional Hydrologist, Central Region. It was done in cooperation with the State of Oklahoma and with other agencies.

This report is one of a series issued by State. General direction for the series is by Philip Cohen, Chief Hydrologist, U.S. Geological Survey, and R. J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for Oklahoma are in two volumes as follows:

Volume 1. Arkansas River Basin
Volume 2. Red River Basin

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Water resources data for the 1979 water year for Oklahoma consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes or reservoirs. Volumes 1 and 2 of this report contain discharge records for 132 gaging stations; stage and contents for 26 lakes or reservoirs; water quality for 133 gaging stations and 3 lakes; water levels for 48 wells. Also included are 43 crest-stage partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Oklahoma.

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GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

(Letter after station name designates type of data: (d) discharge, (c) chemical, (b) biological, (e) contents, (m) microbiological, (t) water temperature, () sediment

WATER RESOURCES DATA FOR OKLAHOMA, 1979

Volume 2. Red River Basin

INTRODUCTION

Water resources data for Oklahoma for the 1979 water year are presented in two volumes, appropriately identified by river basins. Data in each volume consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground water. Volumes 1 and 2 of this report contain discharge records for 140 stations; stage and contents for 26 lakes and reservoirs; water quality for 135 gaging stations, 3 lakes, and 76 wells; and water levels for 48 observation wells. Also included are data for 42 crest-stage partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Oklahoma. Records are published for the water year, which begins on October 1 and ends on September 30.

Records of discharge or stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202.

For water years 1961 through 1974, stream flow data were released by the Geological Survey in annual reports on a state-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality and ground water are published as an official Survey report on a state-boundary basis. The official Survey reports carry an identification number consisting of the two letter State abbreviation, the last two digits of the water year, and the volume number. For example, volume 1 of this report is identified as "U.S. Geological Survey Water-Data Report OK-79-1." Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

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 data through cooperative agreement with the Survey are:

Oklahoma Water Resources Board, Gerald E. Borelli, chairman.
James R. Barnett, acting executive director.

Oklahoma Department of Transportation, Richard A. Ward, director.

Oklahoma City Water Department, Patrick M. Brian, director of water services.

Oklahoma Geological Survey, Charles J. Mankin, director.

Oklahoma State Department of Health, Environmental Health Services, Mark S. Coleman, deputy commissioner.

Oklahoma Pollution Control Coordinating Board, James F. Lovell, chairman succeeded by Cliff LeGate, acting chairman; Lawrence R. Edmison, director, Department of Pollution Control.

Assistance in the form of funds or services was given by the following Federal Agencies: Bureau of Land Management, U.S. Department of the Interior; Corps of Engineers, U.S. Army; Federal Emergency Management Agency; Science and Education Administration, U.S. Department of Agriculture; and Water and Power Resources Service, U.S. Department of the 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; the Cities of Ada, Altus, Claremore, Edmond, Guthrie, Lawton, Sapulpa, and Tulsa; and Oklahoma Gas and Electric Company.

Organizations that supplied data are acknowledged in station descriptions.

Some records have been collected and computed by contractors in accordance with U.S. Geological Survey specifications and under Geological Survey quality control.

HYDROLOGIC CONDITIONS

Runoff in streams continued to fall in the first quarter of 1979 water year. Discharge at the index station was in the lower 25 percent quartile during this period. Runoff continued to be below median for January and February. Generally heavy rains in March caused high runoff in streams over most of the State, resulting in peaks for the year at many stations. However, no historical extremes were experienced, during the year. Scattered showers continued over the State during April which kept the runoff at the index station near median. Streamflow was below normal for May except in isolated areas in the northwest and southwest where localized heavy rains caused minor flooding. Heavy rainfall on June 5-8 in the south-central section caused flooding on small streams and isolated minor flooding on major streams. July streamflow was near normal except in the northwest which was above normal. Rainfall occurred over most of the State in August which kept the streamflow above normal for the month. Rainfall for September was not sufficient to keep the streamflow normal over the State, see figure 2. Reservoir contents were near or above average for the entire year.

Water quality, when related to specific conductance at the index station, remained above average through February. This probably was a result of less than median flows. However, in March the unusually high runoff reduced the specific conductance to near or below average where it remained for five months. Beginning in June, the monthly mean specific conductance showed a gradual increase relative to the long-term average to the end of the year, see figure 3.

General ground water conditions are indicated in figure 8 which shows the depth to water in selected representative wells.

DEFINITION OF TERMS

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

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

Adenosine triphosphate (ATP) is the primary energy donor in cellular life process. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

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

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditons. 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.

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

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

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their persence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

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

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

Bottom material: See Bed material.

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

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

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

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

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

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

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

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

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

Cubic foot per second (FT^3/s), ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

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

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

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

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

Diversity index is the numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

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

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity 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 samples are different.

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

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

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

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

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.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formulation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram (ug/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

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

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

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

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

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 meters (m^2), acres, or hectares. Periphyton benthic organisms, and macrophytes are expressed in these terms.

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

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

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

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

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcomittee on Sediment Terminology.

The classification is as follows:

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

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

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

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

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

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

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

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

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

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

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

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.

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 by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m^2·time) for periphyton and macrophytes and mt C/(m^3·time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time /mg O_2/(m^2·time) for periphyton and macrophytes and mg O_2/(m^3·time)/ for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made with 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only 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.

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

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

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

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

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

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying ft^3/s (daily mean discharge) times mg/L times 0.0027.

Suspended-sediment load is the quantity of suspended sediment passing a section in a specified period.

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

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

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

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

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

Substrate is the physical surface upon which an organism lived.

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

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

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

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

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

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 um 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 comparibility of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analtyical results.

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

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

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

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexageria
Species	Hexagenia limbata

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

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

Tons per day is the quanity of substance in solution or suspension that passes a stream section during a 24-hour day.

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

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of a 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 load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying ft^3/s (sum of daily mean discharges) times the mg/L of the constituent, times the factor 0.0027.

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

Water year is the 12-month period ending September 30 each year. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months.

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.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

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

DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 03041000, which appears just to the left of the station name, includes the 2-digit part number "03" plus the 6-digit downstream order number "041000".

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

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.

The well and miscellaneous site numbering system of the U.S. Geological Survey 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, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 1 below.

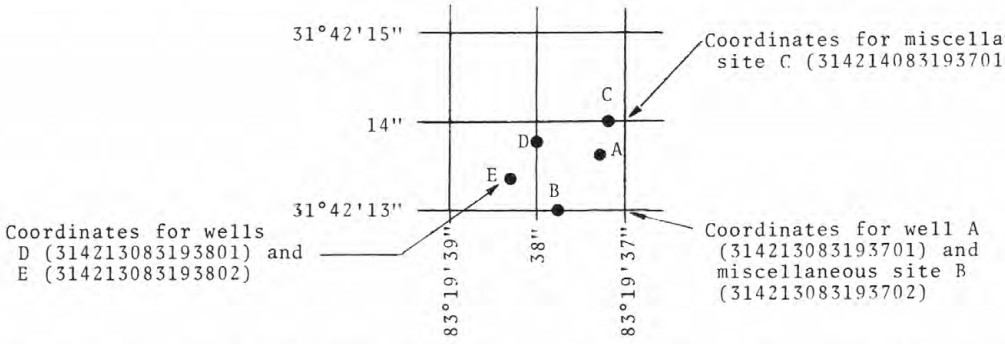

Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in natural or regional qater-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents 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 either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text-books, in Water-Supply Paper 88ɔ, and in U.S. Geological Sruvey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or 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 discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in 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 control, the daily mean discharge is computed by what is basically the shifting-control method.

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

At some northern stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. 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 for other stations in the same or nearby basins.

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

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD".

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges are revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use; the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE". National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 5 .

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents) it is given separately. Similiarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

Skeleton rating tables are published, immediately following EXTREMES, for stream-gaging stations where they serve a useful purpose and the dates of applicability can be easily identified.

The daily table for stream-gaging station gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

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 is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage 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. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

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 station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures 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 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 figure. The same rounding rules apply to discharge figures 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, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustement or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most 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.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses ususally are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations. A continuing record station is a specific site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly.

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, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

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

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross eection is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representatvie 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 chemial-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperatures

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

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may have been 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 loads 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 were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

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

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

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

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.

Water-level measurements in this report are given in feet with reference to either National Geodetic Vertical Datum of 1929 (NGVD) or landsurface datum (lsd). National Geodetic Vertical Datum of 1929 is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the landsurface datum above National Geodetic Vertical Datum 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 to 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 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.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing 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) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office). Prices are subject to change.

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H.H. Stevens Jr., J.F. Ficke, and G.F. Smoot: USGS--TWRI Book 1, Chapter D1, 1976, 65 pages, $1.60.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS--TWRI Book 1, Chapter D2, 1976, 24 pages, $0.85.

2-D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS--TWRI Book 2, Chapter D1, 1974, 116 pages, $1.90.

2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS--TWRI Book 2, Chapter E1, 1971, 126 pages, $1.75.

3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1, 1967, 30 pages, $1.00.

3-A2. *Measurement of peak discharge by the slope-area method*, Tate Dalrymple and M.A. Benson: USGS--TWRI Book 3, Chapter A2, 1967, 12 pages, $0.35.

3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS--TWRI Book 3, Chapter A3, 1968, 60 pages, $0.40.

3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS--TWRI Book 3, Chapter A4, 1967, 44 pages, $1.00.

3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5, 1967, 29 pages, $0.35.

3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6, 1968, 13 pages, $1.00.

3-A7. *State measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A7, 1968, 28 pages, $1.40.

3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A8, 1969, 65 pages, $1.25.

3-A11. *Measurement of discharge by moving-boat method*, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 3, Chapter A11, 1969, 22 pages, $1.20.

3-A12. *Fluorometric procedures for dye tracing*, by J.F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A12, 1968, 31 pages, $0.35. Not currently available.

3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS--TWRI Book 3, Chapter B1, 1971, 26 pages, $0.70.

3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G.D. Bennett: USGS--TWRI Book 3, Chapter B2, 1976, 172 pages, $2.50.

3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS--TWRI Book 3, Chapter C1, 1970, 55 pages, $0.65.

3-C2. *Field methods for measurement of fluvial sediment*, by H.P. Guy and V.W. Norman: USGS--TWRI Book 3, Chapter C2, 1970, 59 pages, $2.50.

3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3, 1972, 66 pages, $2.10.

4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS--TWRI Book 4, Chapter A1, 1968, 39 pages, $1.60.

4-A2. *Frequency curves*, by H.C. Riggs: USGS--TWRI Book 4, Chapter A2, 1968, 15 pages, $0.35.

4-B1. *Low-flow investigations*, by H.C. Riggs: USGS--TWRI Book 4, Chapter B1, 1972, 18 pages, $0.65.

4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS--TWRI Book 4, Chapter B2, 1973, 20 pages, $0.75.

4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS--TWRI Book 4, Chapter B3, 1973, 15 pages, $0.65.

4-D1. *Computations of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS--TWRI Book 4, Chapter D1, 1970, 17 pages, $1.10.

5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M.W. Skougstad, and M.J. Fishman: USGS--TWRI Book 5, Chapter A1, 1970, 160 pages, $2.40.

5-A2. *Determination of minor elments in water by emission spectroscopy,* by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages. $0.80.

5-A3. *Methods for analysis of organic substances in water,* by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages. $0.90.

5-A4.* *Methods for collection and analysis of aquatic biological and microbiological samples,* edited by P.E. Greeson, T.A. Ehlke, G.A. Irwin, B.W. Lium, and K.V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages. $20.00.

5-A5.* *Methods for determination of radioactive substances in water and fluvial sediments,* by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages. $16.00.

5-C1. *Laboratory theory and methods for sediment analysis,* by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages. $2.10.

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments,* by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages. $2.30.

8-A1. *Methods of measuring water levels in deep wells,* by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages. $0.70.

8-B2. *Calibration and maintenance of vertical-axis type current meters,* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages. $1.10.

*These publications are available ONLY from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. They are in looseleaf format and are subscription items. Additional supplements will be issued to subscribers at no extra cost. Checks should be made payable to Superintendent of Documents. Requester should emphasize to Superintendent of Documents that this is a subscription item.

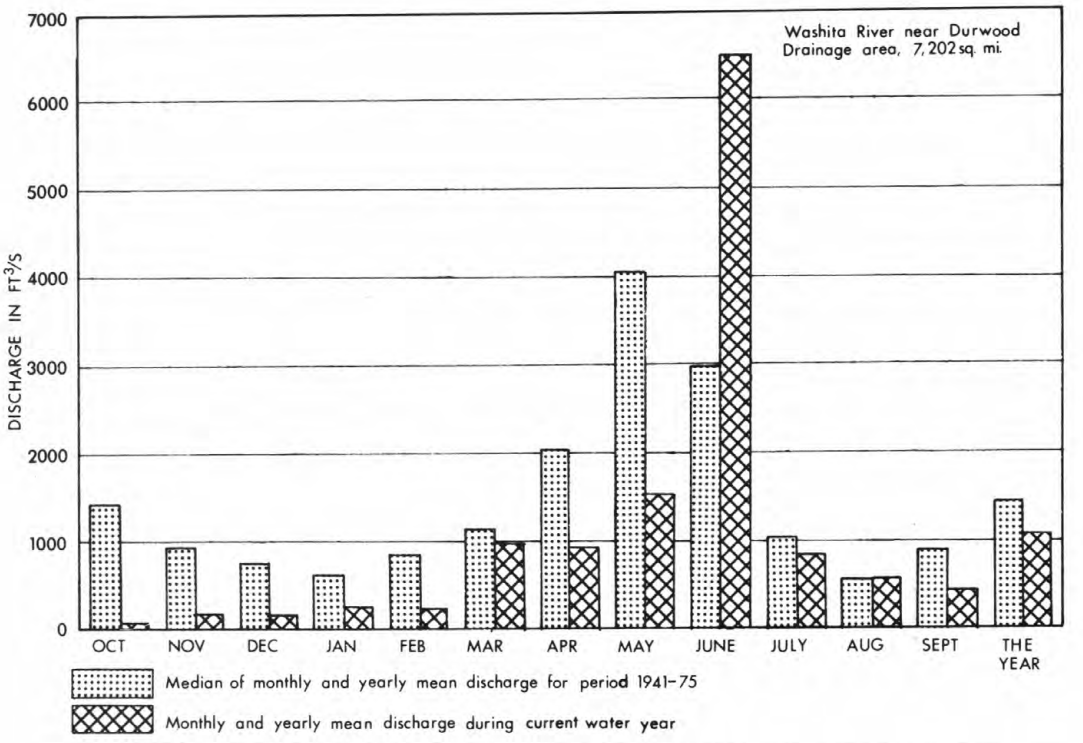

FIGURE 2.--Discharge during 1979 water year compared with median discharge for perid 1941-75 for one representative gaging station.

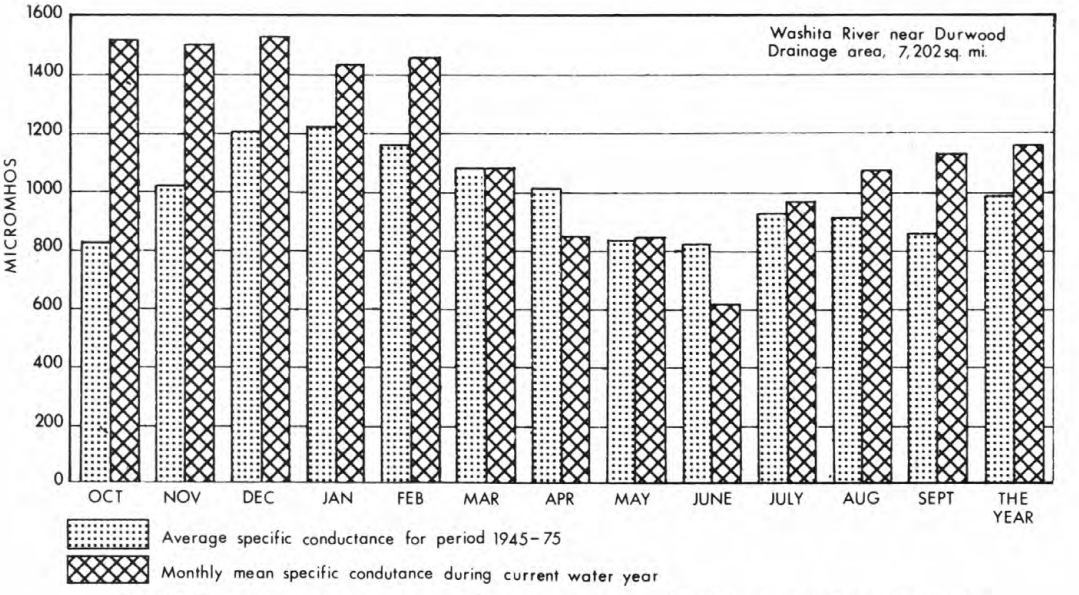

FIGURE 3.-- Specific conductance during 1979 water year compared with average specific conductance for period 1945-75 at one site.

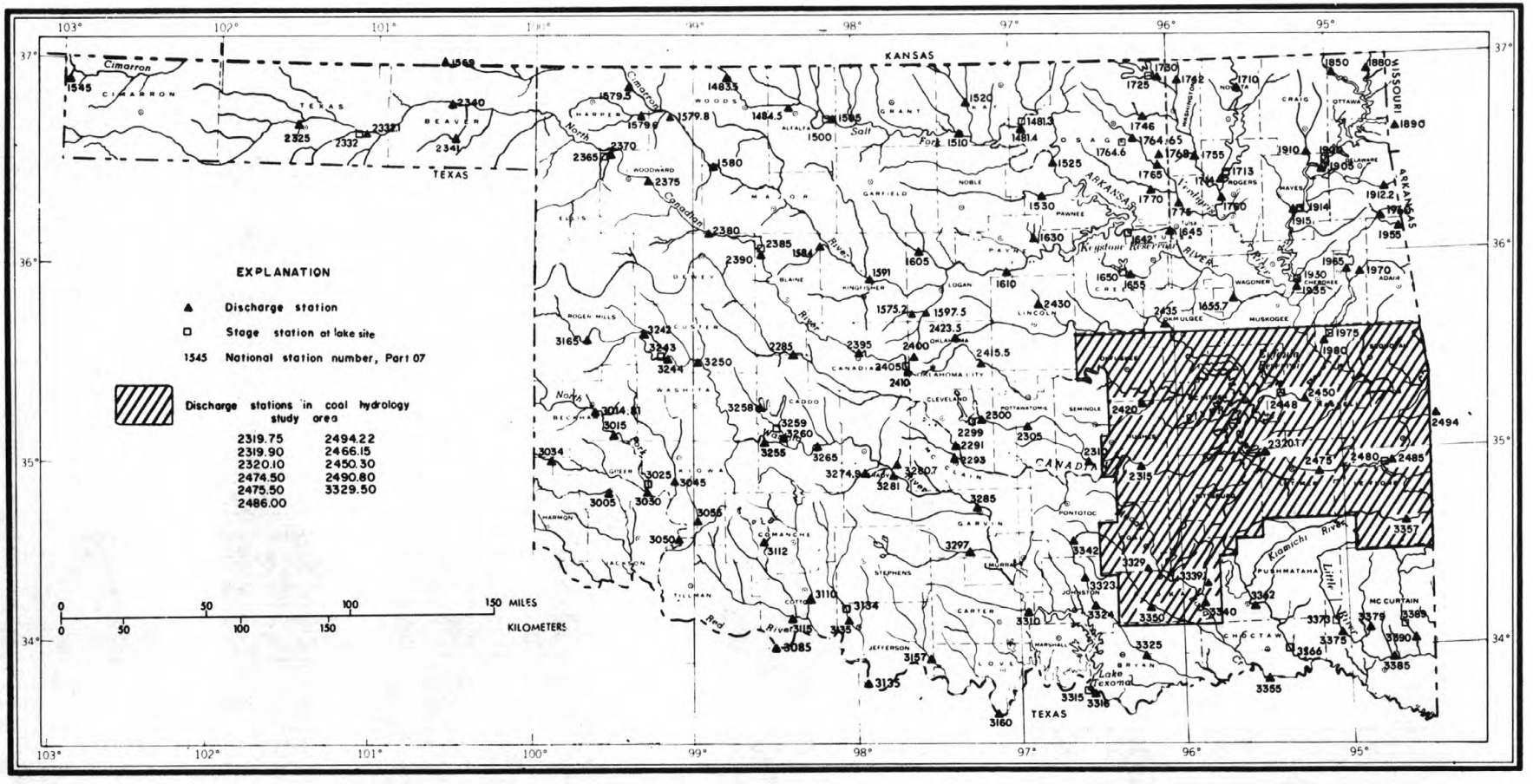

Figure 4.--Locations of continuous-record surface-water stations, water year 1979.

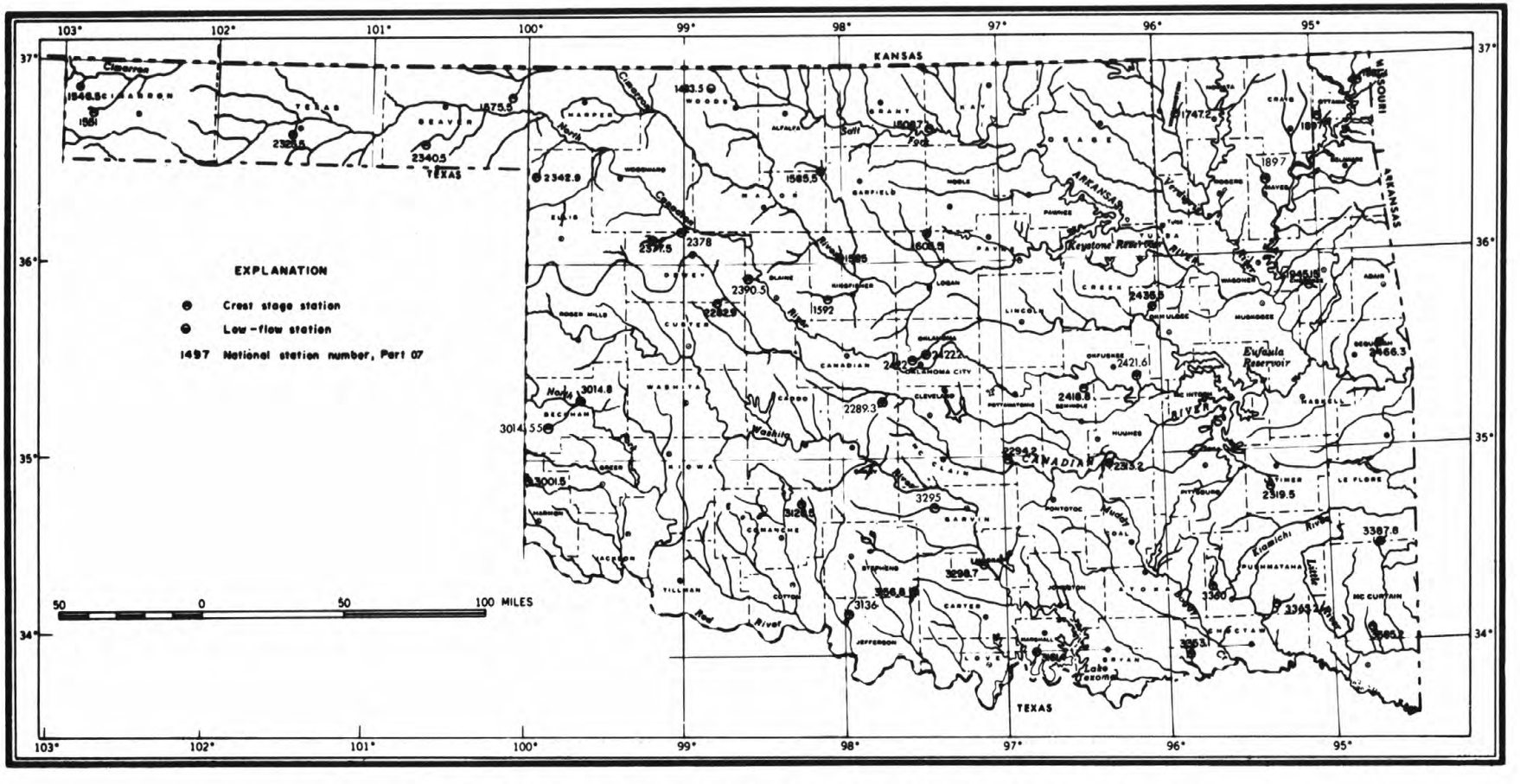

Figure 5.--Locations of partial record stations, water year 1979.

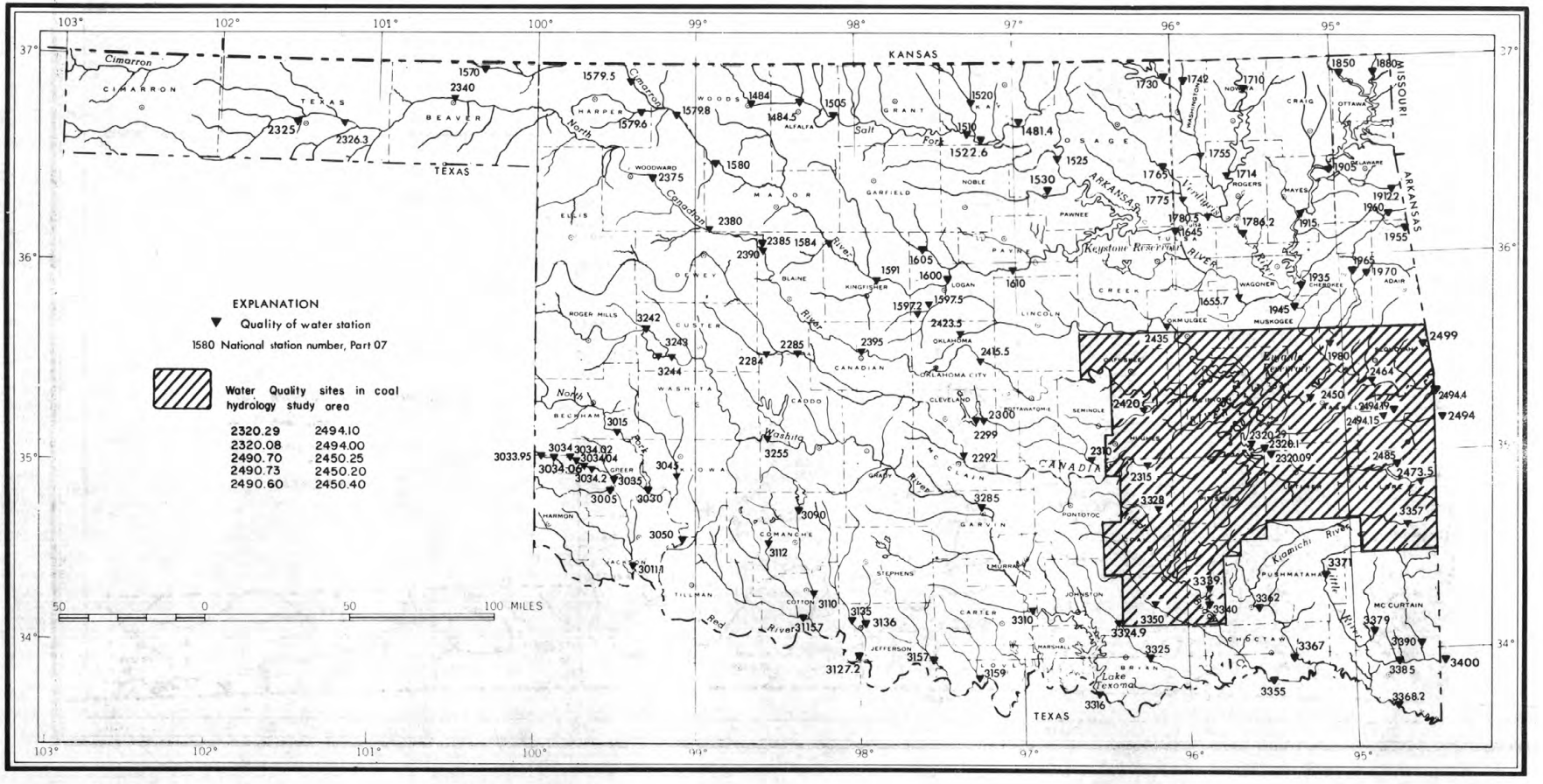

Figure 6.--Locations of water-quality stations, water year 1979.

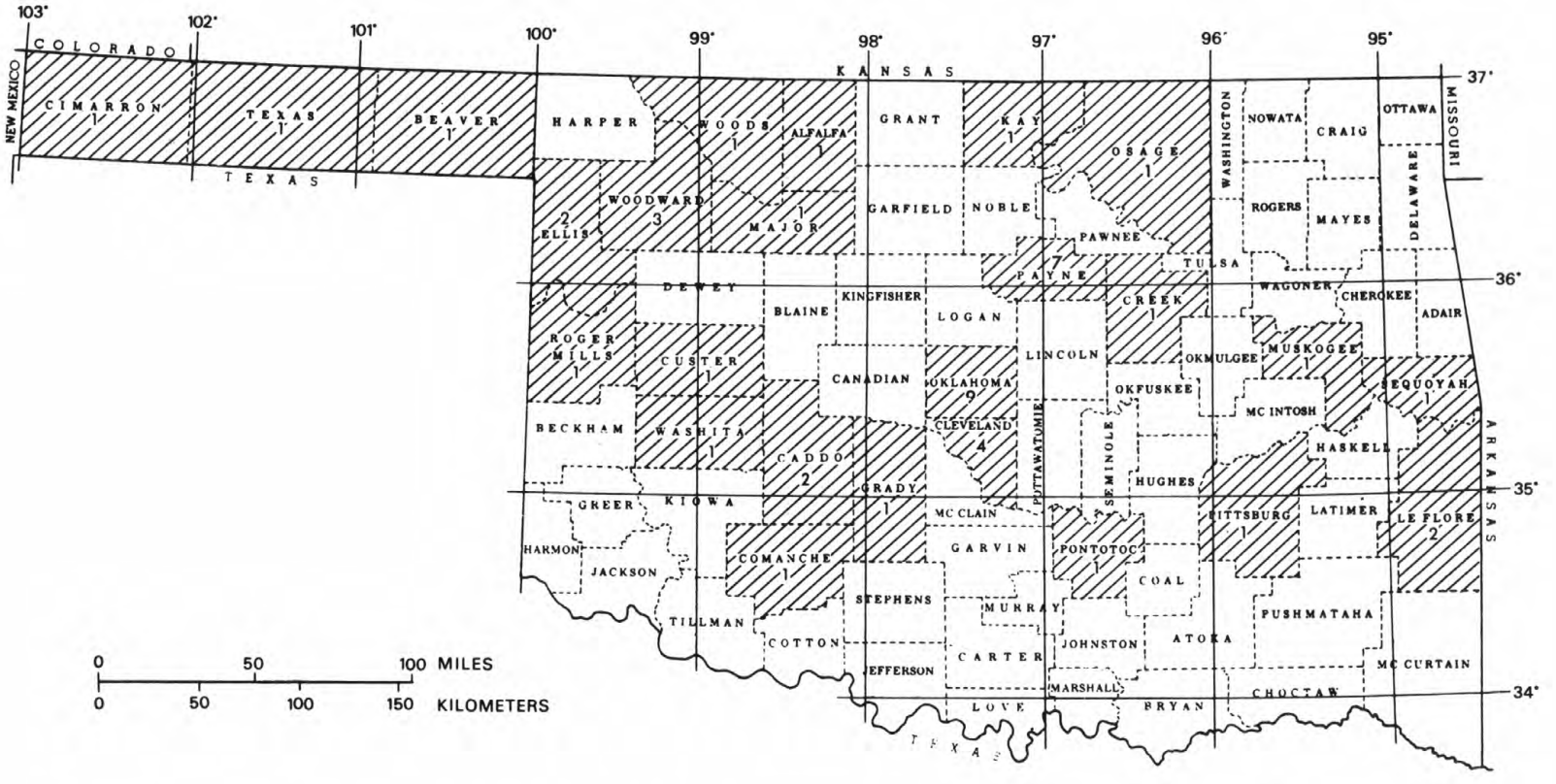

Figure 7.--Counties (hatched) containing observation wells measured more than once a year, and number of wells in each county, water year 1979.

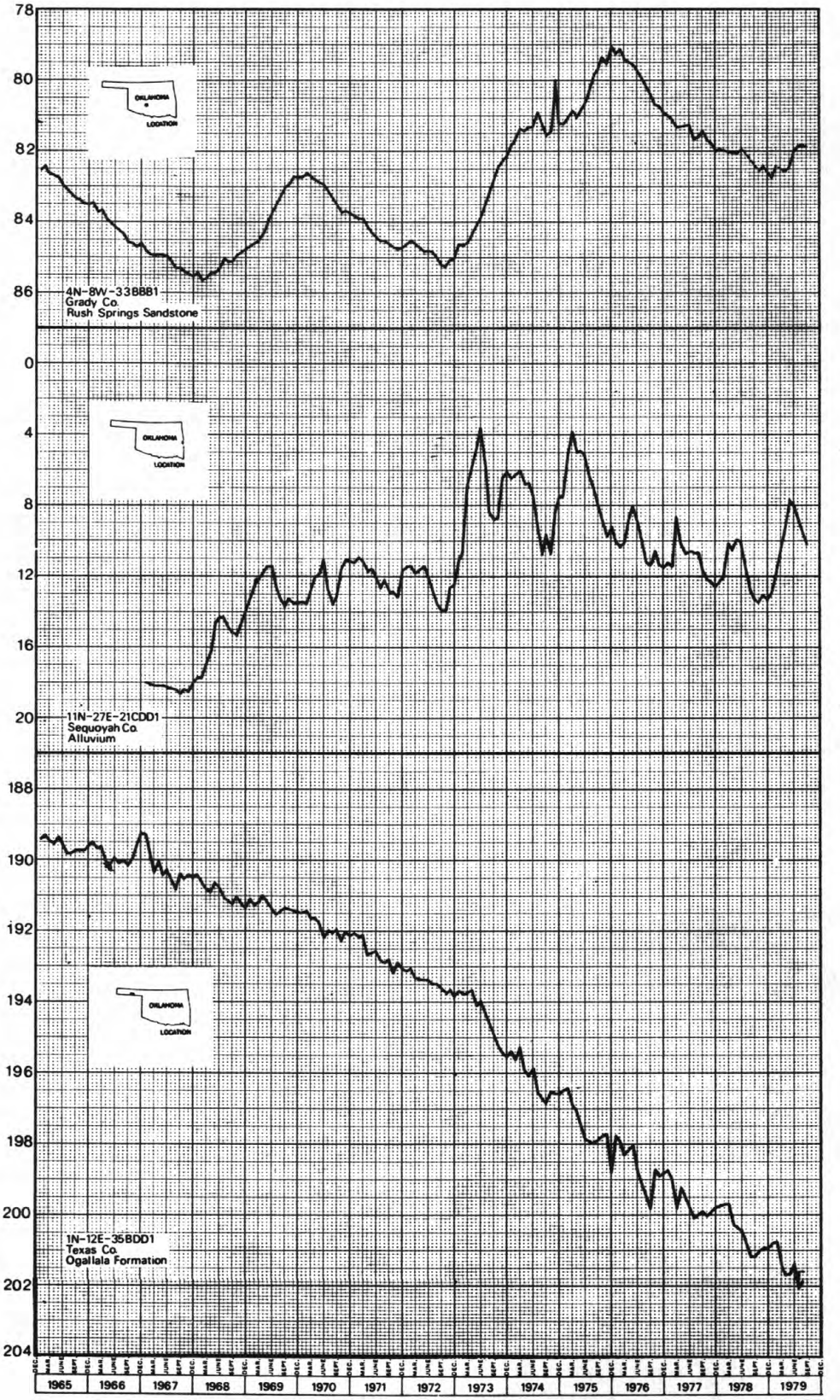

Figure 8.--Depth to water in selected wells in Oklahoma.

07300500 SALT FORK RED RIVER AT MANGUM, OK

LOCATION.--Lat 34°51'32", long 99°30'28", in SW¼SE¼ sec.34, T.5 N., R.22 W., Greer County, Hydrologic Unit 11120202, near left bank on downstream side of pier of bridge on State Highway 34, 0.5 mi (0.8 km) south of Mangum, 13.0 mi (21 km) downstream from Fish Creek, and at mile 35.5 (57.1 km).

DRAINAGE AREA.--1,566 mi^2 (4,056 km^2), of which 209 mi^2 (541 km^2) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,490.87 ft (454.417 m) National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Apr. 11, 1905, to June 30, 1906, nonrecording gage at site 0.2 mi (0.3 km) upstream at different datum. Oct. 1, 1937, to Nov. 8, 1938, nonrecording gage at present site and datum.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--42 years (water years 1937-79), 88.1 ft^3/s (2.495 m^3/s), 63,830 acre-ft/yr (78.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft^3/s (2,039 m^3/s) May 16, 1957, gage height, 14.55 ft (4.435 m); maximum gage height 14.7 ft (4.48 m) June 16, 1938; no flow at times in each year except 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,190 ft^3/s (147 m^3/s) June 9, gage height, 10.18 ft (3.103 m), no peaks above base of 6,000 ft^3/s (170 m^3/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	5.8	18	10	27	34	52	23	37	8.0	7.0	23
2	12	6.1	18	9.0	35	32	45	34	62	6.4	6.1	11
3	12	6.7	15	8.6	50	41	45	41	78	5.0	4.4	8.3
4	10	7.3	15	8.2	64	40	45	51	84	3.5	3.1	6.9
5	8.4	7.7	16	7.8	44	34	44	42	71	4.0	3.7	6.2
6	6.7	11	18	8.2	37	43	49	31	121	27	1.9	6.0
7	6.4	11	19	7.8	65	37	49	23	253	11	1.3	5.8
8	5.5	12	11	7.4	64	29	42	18	130	20	6.8	5.4
9	5.8	10	11	8.2	60	27	38	14	1930	14	.00	5.2
10	5.8	7.8	13	7.6	64	25	43	11	1030	27	.00	5.0
11	6.4	6.2	16	8.2	79	23	47	8.8	150	20	12	4.5
12	6.7	9.9	14	7.8	66	22	147	9.2	76	15	63	4.4
13	6.4	12	22	8.0	59	21	88	8.8	63	9.0	15	4.0
14	5.2	17	28	9.0	53	18	55	9.6	29	6.0	4.5	3.9
15	4.2	28	22	15	55	21	49	8.8	25	4.5	1.7	3.5
16	3.7	29	20	78	40	25	43	8.0	18	3.5	20	3.3
17	3.1	28	21	52	46	30	39	7.7	12	4.0	48	3.2
18	2.7	25	22	52	49	550	41	7.7	8.0	6.4	18	3.0
19	3.1	22	23	62	39	433	53	8.5	6.7	17	28	2.7
20	3.5	21	23	161	75	118	79	10	5.8	25	35	1.8
21	3.3	21	24	155	71	116	53	34	4.7	17	18	1.3
22	3.1	21	24	102	70	996	43	69	3.1	12	9.0	1.2
23	2.7	20	25	59	67	362	40	56	3.1	9.0	7.7	.81
24	3.1	20	24	59	58	131	34	40	264	4.4	4.4	.44
25	3.7	23	23	42	52	100	28	31	96	72	45	.19
26	3.7	26	23	49	49	81	23	29	58	142	20	.12
27	4.2	23	23	52	38	70	25	36	85	94	517	.00
28	5.2	20	24	46	37	70	27	55	49	42	186	.00
29	5.5	19	22	40	---	67	26	56	45	20	76	.00
30	5.5	18	14	27	---	62	24	48	14	10	30	.00
31	6.4	---	11	24	---	58	---	33	---	8.0	51	---
TOTAL	179.0	494.5	602	1190.8	1513	3716	1416	862.1	4811.4	666.7	1243.60	121.16
MEAN	5.77	16.5	19.4	38.4	54.0	120	47.2	27.8	160	21.5	40.1	4.04
MAX	15	29	28	161	79	996	147	69	1930	142	517	23
MIN	2.7	5.8	11	7.4	27	18	23	7.7	3.1	3.5	.00	.00
AC-FT	355	981	1190	2360	3000	7370	2810	1710	9540	1320	2470	240

CAL YR 1978 TOTAL 48647.08 MEAN 133 MAX 22600 MIN .00 AC-FT 96490
WTR YR 1979 TOTAL 16816.26 MEAN 46.1 MAX 1930 MIN .00 AC-FT 33360

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947-52, 1954-56, 1960-63, 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1946 to September 1948.
WATER TEMPERTURE: December 1946 to September 1948.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT										
04...	1000	10	3400	8.0	17.0	10	9.4	103	10	--
NOV										
08...	0945	12	3500	8.2	7.5	4.0	12.6	112	8	--
DEC										
28...	0945	24	3050	7.5	4.5	10	12.3	103	14	1555
JAN										
30...	0845	25	3200	8.3	.0	18	13.4	96	2	--
FEB										
21...	1330	73	2900	8.2	8.0	58	12.6	114	19	1454
MAR										
20...	1200	95	2000	7.9	10.0	9.0	11.7	107	109	--
APR										
17...	1230	39	3000	8.0	21.0	--	7.9	94	19	1558
MAY										
15...	1230	9.6	4100	7.8	28.0	4.0	8.2	112	9	--
JUN										
27...	1320	59	2100	8.3	29.5	66	7.8	108	105	1459
JUL										
26...	1200	104	1700	7.4	28.0	>1000	7.4	101	311	--
AUG										
16...	1145	25	2000	8.4	27.0	250	8.5	113	64	97
SEP										
19...	1330	2.5	3700	8.0	27.0	1.0	5.0	67	8	--

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT									
04...	--	--	--	--	--	1621	455	.4	17
NOV									
08...	--	--	--	--	--	1653	277	.4	<1
DEC									
28...	470	1175	92	191	--	1334	--	.4	230
JAN									
30...	--	--	--	--	--	1390	285	.5	34
FEB									
21...	280	700	84	170	5.1	1291	226	.4	161
MAR									
20...	--	--	--	--	--	816	143	.6	1780
APR									
17...	470	1175	92	220	7.4	1246	282	.6	104
MAY									
15...	--	--	--	--	--	2056	--	.5	19
JUN									
27...	420	1050	85	145	9.9	858	--	.7	1833
JUL									
26...	--	--	--	--	--	606	116	.2	5926
AUG									
16...	25	62	7.5	93	7.8	819	125	.2	1375
SEP									
19...	--	--	--	--	--	1746	--	.4	2

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

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
OCT 04...	--	--	--	--	<.100	--	--	--	--
NOV 08...	--	.86	--	--	--	--	--	--	--
DEC 28...	--	1.2	--	--	<.001	--	--	--	--
JAN 30...	<1.0	2.0	2.0	--	.200	--	--	--	--
FEB 21...	1.4	1.1	2.5	11	.150	<2	3	22	9
MAR 20...	.50	5.0	5.5	25	1.050	--	--	--	--
APR 17...	.30	1.2	1.5	6.6	.100	--	--	--	--
MAY 15...	.20	.83	1.0	4.6	.025	--	--	--	--
JUN 27...	<.50	4.8	4.8	--	.840	--	--	--	--
JUL 26...	<.50	--	15	--	2.600	--	--	--	--
AUG 16...	<.50	4.2	4.2	--	.645	<5	<2	<10	12
SEP 19...	<.50	1.8	1.8	--	.045	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 04...	--	--	--	--	--	--	--	--	2.0
NOV 08...	--	--	--	--	--	--	--	--	--
DEC 28...	510	--	40	--	--	--	--	--	--
JAN 30...	--	--	--	--	--	--	--	--	--
FEB 21...	5200	47	140	<.5	--	4	5	25	--
MAR 20...	--	--	--	--	--	--	--	--	--
APR 17...	2000	--	130	--	--	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--
JUN 27...	32000	--	1100	--	--	--	--	--	--
JUL 26...	--	--	--	--	--	--	--	--	--
AUG 16...	1550	<20	570	<.5	<10	<5	5	22	--
SEP 19...	--	--	--	--	--	--	--	--	--

07301110 SALT FORK RED RIVER NEAR ELMER, OK

(National stream-quality accounting network station)

LOCATION.--Lat 34°28'44", long 99°22'55", in NW¼ of NE¼ sec.15, T.01 S., R.21 W., Jackson County, Hydrologic Unit 11120202, at bridge on County Highway 5, 1.7 mi (2.7 km) west of Elmer, 3.5 mi (5.6 km) from mouth at Red River.

DRAINAGE AREA.--1,878 mi^2 (4,864 km^2).

PERIOD OF RECORD.--October 1978 to September 1979.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to September 1979.
WATER TEMPERATURE: October 1978 to September 1979.

REMARKS.--Samples were collected by a local observer on a daily basis. Additional samples were collected monthly and specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,100 micromhos Sept. 30, 1979; minimum daily, 334 micromhos Aug. 27, 1979.
WATER TEMPERATURE: Maximum daily, 35.5°C Aug. 3, 1979; minimum daily, 0.0°C Feb. 16, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,100 micromhos Sept. 30; minimum daily, 334 micromhos Aug. 27.
WATER TEMPERATURE: Maximum daily, 35.5°C Aug. 3; minimum daily, 0.0°C Feb. 16.

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT												
18...	1445	5.0	4860	8.0	23.0	2.4	10.5	128	40	190	1600	1400
NOV												
21...	0800	15	3670	8.1	5.0	9.0	12.1	99	280	520	1500	1400
DEC												
12...	0750	10	4560	8.2	.0	23	16.6	118	92	345	1700	1500
JAN												
16...	1530	20	4600	8.1	3.0	2.9	18.8	148	K7	111	1700	1500
FEB												
14...	1525	50	3500	7.7	5.5	410	10.3	86	42	218	1400	1300
MAR												
14...	1435	60	4400	8.3	18.0	3.8	12.0	130	K5	K5	1700	1500
APR												
11...	1625	850	1370	7.8	12.0	1200	9.1	91	K970	960	460	380
MAY												
01...	1430	50	3990	7.7	22.0	15	7.2	88	K24	3550	1700	1300
JUN												
05...	1100	82	3250	8.5	24.0	72	7.2	91	510	<2	1500	1400
JUL												
10...	1430	70	3300	7.6	33.5	81	9.7	143	--	--	1200	1000
AUG												
14...	1300	112	2500	8.1	31.5	230	5.0	71	32	115	830	710
SEP												
25...	1600	112	5550	8.2	30.0	5.3	5.1	71	36	140	1600	1400

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

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 18...	350	170	440	38	4.8	--	8.9	170	1100	890	.5	5.6
NOV 21...	420	110	290	29	3.3	--	8.3	130	1400	440	.5	12
DEC 12...	440	150	420	35	4.4	--	8.9	210	1400	640	.5	13
JAN 16...	430	150	450	37	4.8	--	7.8	210	1300	760	.4	10
FEB 14...	400	100	310	32	3.6	--	4.9	160	--	400	.5	14
MAR 14...	430	140	--	--	--	--	7.9	140	1600	540	.5	5.2
APR 11...	130	33	92	30	1.9	--	7.0	82	400	140	.4	6.3
MAY 01...	450	140	400	34	4.2	410	6.5	--	1400	490	.5	8.4
JUN 05...	400	110	240	26	2.7	250	7.1	86	1300	370	.6	7.5
JUL 10...	300	100	300	36	3.8	310	9.4	120	950	--	.5	11
AUG 14...	220	69	250	39	3.8	260	9.5	120	770	340	.6	12
SEP 25...	360	160	530	42	5.8	540	11	140	1400	800	.5	5.3

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)
OCT 18...	3500	3070	4.76	47.2	.90	--	.13	--	--	.85	--
NOV 21...	2910	--	3.96	118	1.2	--	.14	--	--	.86	--
DEC 12...	3620	3200	4.92	97.7	1.9	--	.28	--	--	1.3	--
JAN 16...	3320	3230	4.52	179	2.2	--	2.0	--	--	.90	--
FEB 14...	2660	--	3.62	359	1.2	--	.66	--	--	.64	--
MAR 14...	3390	--	4.61	549	.37	--	.26	--	--	.36	--
APR 11...	897	858	1.22	2060	--	--	--	--	--	--	--
MAY 01...	3200	3160	4.35	432	.09	--	.22	--	.27	.77	--
JUN 05...	2700	2490	3.67	599	.01	--	.17	--	.21	1.3	--
JUL 10...	2370	--	3.22	451	1.4	--	.06	--	.07	1.1	--
AUG 14...	1800	1740	2.45	544	.50	--	.48	--	.58	.42	--
SEP 25...	3630	3350	4.94	1100	.28	.25	.35	.16	.42	2.0	1.4

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

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, DISSOLVED (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS PO4)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
OCT 18...	.98	.16	.82	1.9	--	8.3	.080	--	--	.050	--
NOV 21...	1.0	.24	.76	2.2	--	9.7	.220	--	--	.140	3
DEC 12...	1.6	.60	1.0	3.5	--	16	.430	--	--	.330	--
JAN 16...	2.9	.70	2.2	5.1	--	23	.740	--	--	.610	--
FEB 14...	1.3	.00	1.3	2.5	--	11	.550	--	--	.230	3
MAR 14...	.62	.06	.56	.99	--	4.4	.180	--	--	.160	--
APR 11...	--	--	--	--	--	--	1.200	3.7	3.7	.150	--
MAY 01...	.99	.58	.41	1.1	--	4.8	.100	.31	.31	.010	6
JUN 05...	1.5	.62	.88	1.5	--	6.7	.190	.58	.58	.020	--
JUL 10...	1.2	.39	.81	2.6	--	12	.250	--	.77	.090	--
AUG 14...	.90	.00	.91	1.4	--	6.2	.350	--	1.1	.000	5
SEP 25...	2.3	.70	1.6	2.6	1.9	11	.060	--	.18	.000	--

DATE	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)
OCT 18...	--	--	--	--	--	--	--	--	--	--	--
NOV 21...	3	0	0	0	18	10	8	20	0	20	1
DEC 12...	--	--	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	--	--	--	--	--	--	--	--	--
FEB 14...	3	0	0	0	0	0	3	20	10	10	0
MAR 14...	--	--	--	--	--	--	--	--	--	--	--
APR 11...	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	6	100	0	100	1	1	0	30	20	10	4
JUN 05...	--	--	--	--	--	--	--	--	--	--	--
JUL 10...	--	--	--	--	--	--	--	--	--	--	--
AUG 14...	3	300	300	0	2	0	2	10	10	0	5
SEP 25...	--	--	--	--	--	--	--	--	--	--	--

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

DATE	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)
OCT 18...	--	--	--	--	--	--	--	--	--	--	--
NOV 21...	1	0	2	0	2	640	560	80	86	14	72
DEC 12...	--	--	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	--	--	--	--	--	--	--	--	--
FEB 14...	0	0	7	0	10	2300	2300	20	16	15	1
MAR 14...	--	--	--	--	--	--	--	--	--	--	--
APR 11...	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	4	0	0	0	0	340	310	30	10	10	0
JUN 05...	--	--	--	--	--	--	--	--	--	--	--
JUL 10...	--	--	--	--	--	--	--	--	--	--	--
AUG 14...	5	0	18	7	11	8200	8200	0	12	12	0
SEP 25...	--	--	--	--	--	--	--	--	--	--	--

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)
OCT 18...	--	--	--	--	--	--	--	--	--	--	--
NOV 21...	80	20	60	.1	.1	.0	9	0	9	0	0
DEC 12...	--	--	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	--	--	--	--	--	--	--	--	--
FEB 14...	120	80	40	.1	.1	.0	5	0	5	0	0
MAR 14...	--	--	--	--	--	--	--	--	--	--	--
APR 11...	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	70	20	50	.2	.1	.1	4	0	4	0	0
JUN 05...	--	--	--	--	--	--	--	--	--	--	--
JUL 10...	--	--	--	--	--	--	--	--	--	--	--
AUG 14...	310	290	20	.1	.0	.1	2	0	2	0	0
SEP 25...	--	--	--	--	--	--	--	--	--	--	--

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

DATE	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, SUS-PENDED RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 18...	--	--	--	--	6.8	--	--	--	135	1.8	92
NOV 21...	0	20	0	60	--	4.1	2.0	150000	333	13	86
DEC 12...	--	--	--	--	5.0	--	--	--	565	15	94
JAN 16...	--	--	--	--	6.6	--	--	--	244	13	99
FEB 14...	0	30	0	30	5.4	--	--	--	388	52	97
MAR 14...	--	--	--	--	4.4	--	--	14000	661	107	98
APR 11...	--	--	--	--	52	--	--	--	4530	10400	54
MAY 01...	0	30	10	20	--	5.7	--	53000	258	35	96
JUN 05...	--	--	--	--	9.7	--	--	100000	--	--	--
JUL 10...	--	--	--	--	7.4	--	--	200000	524	100	96
AUG 14...	0	40	20	20	--	10	5.1	520000	666	201	84
SEP 25...	--	--	--	--	8.8	--	--	200000	348	105	100

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

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	NOV 21,78		MAR 14,79		MAY 1,79		JUN 5,79	
TIME	0800		1435		1430		1300	
TOTAL CELLS/ML	150000		14000		53000		100000	
DIVERSITY: DIVISION	0.5		1.1		0.2		1.3	
.CLASS	0.5		1.2		0.2		1.3	
..ORDER	0.7		1.4		1.2		1.8	
...FAMILY	0.8		2.4		1.2		2.0	
....GENUS	0.8		2.5		1.5		2.0	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...COELASTRACEAE								
....COELASTRUM	--	-	3200#	24	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	*	0	230	2	--	-	1800	2
....MICRACTINIUM	*	0	--	-	--	-	1800	2
...OOCYSTACEAE								
....ANKISTRODESMUS	1200	1	*	0	--	-	1800	2
....CHLORELLA	--	-	--	-	--	-	--	-
....CHODATELLA	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	*	0	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	510	1
...SCENEDESMACEAE								
....ACTINASTRUM	*	0	--	-	--	-	--	-
....SCENEDESMUS	6000	4	6100#	45	1700	3	6100	6
....TETRASTRUM	--	-	230	2	--	-	--	-
..TETRASPORALES								
...COCCOMYXACEAE								
....ELAKATOTHRIX	--	-	--	-	--	-	--	-
...TETRASPORACEAE								
....TETRASPORA	1000	1	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	*	0	*	0	430	1	1000	1
....CHLOROGONIUM	--	-	*	0	--	-	*	0
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	1500	1	930	7	26000#	48	15000	14
....MELOSIRA	--	-	--	-	860	2	--	-
....STEPHANODISCUS	--	-	--	-	1300	2	--	-
..PENNALES								
...FRAGILARIACEAE								
....FRAGILARIA	--	-	120	1	--	-	--	-
....SYNEDRA	--	-	120	1	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	--	-	--	-	--	-
...NAVICULACEAE								
....GYROSIGMA	--	-	--	-	--	-	--	-
....NAVICULA	--	-	980	7	--	-	*	0
...NITZSCHIACEAE								
....NITZSCHIA	1500	1	350	3	23000#	44	5900	6
...SURIRELLACEAE								
....SURIRELLA	--	-	--	-	--	-	*	0
.CHRYSOPHYCEAE								
..CHRYSOMONADALES								
...OCHROMONADACEAE								
....OCHROMONAS	--	-	120	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	*	0	--	-	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	2500	2	870	6	--	-	5100	5
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	130000#	90	--	-	--	-	61000#	61
....SCHIZOTHRIX	--	-	--	-	--	-	--	-
....SPIRULINA	*	0	--	-	--	-	--	-

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

ORGANISM								
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	--	-
....PHACUS	--	-	*	0	--	-	--	-
....TRACHELOMONAS	--	-	120	1	--	-	--	-

DATE	JUL 10,79	AUG 14,79	SEP 25,79
TIME	0143	1300	1600
TOTAL CELLS/ML	200000	520000	200000
DIVERSITY: DIVISION	0.9	0.1	1.2
.CLASS	0.9	0.1	1.2
..ORDER	1.5	0.3	1.6
...FAMILY	1.6	0.3	1.6
....GENUS	1.7	0.3	2.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	--	-
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
....MICRACTINIUM	2300	1	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	1500	1	--	-	*	0
....CHLORELLA	--	-	--	-	3900	2
....CHODATELLA	--	-	--	-	*	0
....DICTYOSPHAERIUM	9500	5	*	0	--	-
....TREUBARIA	--	-	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	5200	3	--	-	--	-
....SCENEDESMUS	2300	1	*	0	--	-
....TETRASTRUM	--	-	--	-	--	-
..TETRASPORALES						
...COCCOMYXACEAE						
....ELAKATOTHRIX	--	-	*	0	--	-
...TETRASPORACEAE						
....TETRASPORA	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	*	0	--	-	--	-
....CHLAMYDOMONAS	4100	2	--	-	*	0
....CHLOROGONIUM	--	-	--	-	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	9100	5	*	0	94000#	47
....MELOSIRA	*	0	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-
..PENNALES						
...FRAGILARIACEAE						
....FRAGILARIA	--	-	--	-	--	-
....SYNEDRA	--	-	*	0	*	0
...GOMPHONEMATACEAE						
....GOMPHONEMA	*	0	--	-	--	-
...NAVICULACEAE						
....GYROSIGMA	--	-	*	0	--	-
....NAVICULA	--	-	*	0	--	-
...NITZSCHIACEAE						
....NITZSCHIA	2700	1	*	0	6800	3
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
.CHRYSOPHYCEAE						
..CHRYSOMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	*	0	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	*	0

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

CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	18000	3	--	-
....ANACYSTIS	21000	10	*	0	8800	4
..HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	140000#	70	500000#	95	46000#	23
....SCHIZOTHRIX	--	-	--	-	39000#	19
....SPIRULINA	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	*	0	--	-
....PHACUS	--	-	--	-	--	-
....TRACHELOMONAS	--	-	*	0	--	-

NOTE: # = DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* = OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2900	4910	4050	---	3840	3950	---	3940	3400	---	2360	2360
2	3040	4900	4070	---	4000	3920	3660	3960	3750	3570	2790	2520
3	---	---	4150	---	3750	3620	3650	1120	3290	---	3040	2700
4	3650	4940	4320	---	3600	3300	3680	1110	3160	4380	3410	3120
5	3670	4930	4180	---	3600	3490	3670	2070	3150	4130	3150	3380
6	4140	4940	4220	---	---	3430	3710	2880	3110	589	2850	3610
7	4260	4940	4280	---	3920	3590	3870	3270	2550	1010	2820	3880
8	4240	4960	4430	---	---	3770	3870	---	1640	1860	2820	3880
9	4320	5000	4540	---	3120	4000	3860	3900	695	2720	2800	4120
10	4330	5000	4540	---	3010	---	1220	4220	1160	3120	---	4280
11	4340	5010	4710	---	3020	4090	1220	---	1700	3260	2600	4400
12	4480	4910	4280	---	3230	4160	3080	---	---	3490	2590	4810
13	4490	4900	4500	---	3250	4260	3060	4530	1940	3740	---	4740
14	4520	4790	4280	---	3450	4270	---	4530	2250	3690	2490	4820
15	4510	4660	4180	---	3420	---	3170	---	2560	---	2550	4780
16	4570	3980	4010	---	3700	4120	3160	4770	3010	2530	2610	4820
17	4640	3400	4020	4120	4070	4020	3380	4920	3260	2710	2580	4810
18	4740	3360	4120	3740	3860	3280	---	4960	3500	1900	2560	4760
19	4650	3540	4070	2880	---	1900	3470	5000	3660	2380	2530	4900
20	4620	3580	4100	3320	3290	2130	3450	5010	3780	2390	2350	4920
21	4800	3640	4100	2830	3310	2300	3370	3560	3490	---	2180	4930
22	4730	3750	4080	2810	3320	2560	3410	1760	4060	2800	2330	4930
23	4700	---	3900	2690	3380	---	3370	---	---	1840	---	4980
24	4770	3840	3900	2700	3550	1900	3630	3120	4360	2780	2620	4850
25	4810	3840	---	2720	3550	2150	3820	2860	2260	2970	---	4940
26	4870	3620	3840	3000	3630	2400	4030	3170	2060	3240	1830	5090
27	4910	3400	3830	3160	3740	2710	3900	---	2060	2370	334	5090
28	4900	3730	3830	3170	3840	---	---	2870	1840	1880	600	5000
29	4890	3730	3830	3330	---	3180	4030	---	2420	2090	912	5040
30	4890	3960	3860	3550	---	3310	3940	3390	2660	2480	1670	5100
31	4900	---	---	3880	---	---	---	3300	---	---	2080	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	20.0	10.0	---	4.5	14.0	---	22.0	26.0	---	28.0	31.0
2	27.0	.0	9.0	---	3.0	11.0	15.5	29.0	24.5	32.5	35.0	31.0
3	---	---	4.5	---	3.5	8.0	10.5	17.0	30.0	---	35.5	32.0
4	26.0	---	5.0	---	2.5	11.0	17.5	19.5	28.0	30.5	31.5	32.5
5	19.0	---	10.5	---	1.5	15.0	22.0	23.5	28.5	30.0	30.5	33.0
6	23.5	---	10.0	---	---	17.0	20.0	25.0	28.0	25.5	30.0	31.5
7	22.5	---	9.0	---	1.0	20.0	---	27.5	32.5	30.5	30.5	31.5
8	22.0	---	1.0	---	---	19.0	20.5	---	24.0	32.0	30.0	31.0
9	23.0	16.5	.5	---	2.0	12.0	15.0	27.5	22.5	29.0	30.5	30.0
10	23.0	16.0	.5	---	5.0	---	16.0	23.0	23.0	34.0	---	30.0
11	23.5	14.5	1.0	---	7.0	18.0	15.0	---	23.0	34.0	30.5	30.0
12	24.0	18.0	3.0	---	5.0	18.0	14.5	---	---	34.0	31.0	30.5
13	22.0	18.5	5.5	---	5.0	17.0	20.5	28.0	27.0	32.5	---	26.5
14	21.0	8.0	6.0	---	7.5	17.0	---	23.5	27.0	35.0	32.0	22.5
15	21.5	6.5	8.0	---	6.0	---	24.5	---	28.5	---	31.5	26.5
16	19.0	7.0	6.0	---	.0	10.0	26.0	29.0	28.0	22.0	33.0	27.0
17	19.0	7.0	6.5	1.0	1.0	13.0	20.5	26.0	29.5	30.0	31.0	28.5
18	20.0	12.5	12.5	2.0	2.0	20.0	---	27.5	30.0	26.5	31.0	28.5
19	20.5	9.0	15.0	1.5	---	12.0	23.5	30.0	27.0	26.5	31.5	25.5
20	19.5	9.0	14.0	2.5	7.5	12.5	24.0	24.0	32.5	31.0	31.0	28.0
21	20.0	8.0	9.5	4.5	7.0	16.0	24.0	24.5	34.0	---	31.5	28.0
22	21.5	11.0	9.0	4.5	12.0	17.5	25.5	22.0	32.5	30.5	33.0	27.5
23	14.5	---	10.0	5.0	12.0	---	27.5	---	---	31.5	---	30.0
24	14.0	16.5	8.0	2.5	5.0	13.0	25.0	27.0	33.0	34.0	30.5	30.0
25	17.5	8.0	---	3.0	12.0	16.5	26.0	19.0	28.5	32.0	---	30.0
26	15.5	8.0	6.5	2.5	12.0	18.5	25.5	25.5	30.5	30.0	24.0	27.5
27	18.5	8.0	5.0	4.0	14.0	14.5	19.0	---	34.0	33.0	23.0	28.0
28	17.5	10.5	7.5	4.5	15.0	---	---	29.5	33.0	31.0	26.0	27.0
29	16.5	8.5	7.0	1.5	---	21.0	22.5	---	33.5	33.0	29.0	26.5
30	16.5	9.5	.5	2.0	---	21.5	25.0	28.0	35.0	30.0	31.0	28.0
31	19.5	---	---	3.5	---	---	---	26.5	---	---	31.5	---

07301481 NORTH FORK RED RIVER NEAR SAYRE, OK

LOCATION.--Lat 35°17'05", long 99°37'18", in SE¼NW¼ sec.3, T.9 N., R.23 W., Beckham County, Hydrological Unit 11120302, on left bank at end of downstream bridge of Interstate 40, 1.2 mi (1.9 km) upstream from Deep Fork Creek 1.8 mi (2.9 km) southeast of Sayre, and at mile 124.7 (200.6 km).

DRAINAGE AREA.--2,159 mi^2 (5,592 km^2) of which 399 mi^2 (1,033 km^2) is probably noncontributing.

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,775.98 ft (541.319 m) Oklahoma State Highway Department datum.

REMARKS.--Records poor.

EXTREMES FOR CURRENT PERIOD.--May to September 1978: Maximum discharge during period, 12,700 ft^3/s (360 m^3/s) May 28, gage height, 9.00 ft (2.743 m); no flow Aug. 14-27.

Water year 1979: Maximum discharge, 3,650 ft^3/s (103 m^3/s) June 9, gage height, 6.04 ft (1.841 m); minimum daily discharge, 3.0 ft^3/s (0.085 m^3/s) Sept. 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								30	230	24	1.5	3.5
2								40	200	22	1.0	3.5
3								100	600	20	1.5	2.9
4								200	300	18	2.0	2.9
5								155	525	16	3.0	2.3
6								125	595	14	2.0	1.8
7								125	308	12	1.5	1.8
8								151	234	11	1.0	1.2
9								149	245	10	.70	2.3
10								97	145	9.0	.50	2.9
11								80	125	8.0	.30	2.3
12								66	85	7.0	.20	1.2
13								55	76	5.0	.10	.40
14								60	74	4.0	.00	.58
15								57	69	3.0	.00	1.2
16								54	55	2.0	.00	1.8
17								52	48	1.5	.00	1.8
18								54	45	1.0	.00	56
19								53	45	.90	.00	28
20								180	43	.80	.00	700
21								355	43	.70	.00	550
22								460	43	.60	.00	200
23								355	35	.50	.00	100
24								245	32	.40	.00	70
25								220	32	.30	.00	40
26								220	31	.25	.00	150
27								5040	31	.20	.00	120
28								8040	30	.20	23	60
29								1080	28	.20	11	40
30								490	26	.20	5.3	30
31								385	---	1.0	4.0	---
TOTAL								18773	4378	193.75	58.60	2178.38
MEAN								606	146	6.25	1.89	72.6
MAX								8040	600	24	23	700
MIN								30	26	.20	.00	.40
AC-FT								37240	8680	384	116	4320

07301481 NORTH FORK RED RIVER NEAR SAYRE, OK--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	12	21	22	26	50	122	35	400	61	154	12
2	26	12	21	22	35	54	122	90	300	52	96	10
3	25	12	21	22	30	60	147	100	250	40	57	9.0
4	23	12	21	22	27	72	150	150	200	71	46	8.0
5	22	17	21	22	25	90	128	100	180	165	36	7.2
6	21	15	21	22	23	80	122	100	160	325	30	6.5
7	20	13	21	22	22	71	117	80	250	90	25	6.0
8	20	20	21	22	30	65	100	70	200	45	23	5.5
9	28	17	21	22	45	57	95	60	1880	35	22	5.0
10	25	13	21	22	55	50	100	50	1850	30	21	4.5
11	22	11	21	21	60	46	117	55	498	25	35	4.6
12	20	14	22	21	62	41	170	130	328	22	30	4.6
13	19	16	23	21	75	38	153	100	236	20	25	4.0
14	18	19	23	21	90	35	185	70	192	19	23	3.5
15	17	21	23	21	80	32	163	50	146	20	21	4.5
16	17	25	23	21	70	30	140	40	111	19	19	4.2
17	16	28	24	21	63	35	119	30	129	34	17	4.0
18	16	30	24	21	55	850	106	35	118	61	15	3.8
19	15	30	24	21	50	500	114	40	109	40	14	3.6
20	15	29	24	21	75	250	119	60	91	32	13	3.5
21	14	28	23	27	130	200	117	300	89	27	12	3.4
22	14	25	23	35	107	1500	90	177	91	23	11	3.3
23	14	25	23	31	100	400	70	161	726	20	11	3.2
24	14	24	23	27	85	300	60	144	462	20	10	3.2
25	13	24	23	25	75	200	40	119	361	18	110	3.1
26	13	26	23	24	68	170	30	116	280	16	85	3.1
27	13	25	23	23	60	153	25	114	168	13	60	3.1
28	13	24	23	22	55	147	30	114	105	11	35	3.0
29	12	23	23	22	---	143	30	138	79	10	25	3.0
30	12	22	23	21	---	128	35	851	72	20	20	3.0
31	12	---	23	21	---	117	---	588	---	90	15	---
TOTAL	557	612	694	708	1678	5964	3116	4267	10059	1474	1116	145.4
MEAN	18.0	20.4	22.4	22.8	59.9	192	104	138	335	47.5	36.0	4.85
MAX	28	30	24	35	130	1500	185	851	1880	325	154	12
MIN	12	11	21	21	22	30	25	30	72	10	10	3.0
AC-FT	1100	1210	1380	1400	3330	11830	6180	8460	19950	2920	2210	288

WTR YR 1979 TOTAL 30390.4 MEAN 83.3 MAX 1880 MIN 3.0 AC-FT 60280

07301500 NORTH FORK RED RIVER NEAR CARTER, OK

LOCATION.--Lat°10'05", long 99°30'25", in NW¼SE¼ sec.15, T.8 N., R.22 W., Beckham County, Hydrologic Unit 11120302, near left bank on downstream side of pier of bridge on State Highway 34, 3.0 mi (4.8 km) south of Carter, 10.8 mi (17.4 km) downstream from Timber Creek, and at mile 110.5 (177.8 km).

DRAINAGE AREA.--2,337 mi^2 (6,053 km^2), of which 399 mi^2 (1,033 km^2) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,673.71 ft (510.147 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--32 years (1944-62, 1964-79), 123 ft^3/s (3.483 m^3/s), 89,110 acre-ft/yr (110 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,400 ft^3/s (1,510 m^3/s) May 26, 1959; maximum gage height, 14.98 ft (4.566 m) May 17, 1977; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,200 ft^3/s (90.6 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 22	1230	3,780	107	7.30	2.225	June 9	1915	*6,140	174	*8.90	2.713
May 30	1630	5,060	143	8.23	2.509						

No flow Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	14	34	47	64	68	123	58	475	70	106	24
2	38	13	34	46	71	75	123	120	526	60	152	20
3	35	14	29	44	64	90	129	143	350	50	98	17
4	34	13	27	43	58	87	151	190	292	65	70	15
5	33	19	37	42	54	104	136	140	230	150	60	12
6	32	16	34	43	50	104	123	137	193	454	50	9.8
7	31	14	34	39	45	89	120	120	319	248	40	7.5
8	29	19	33	38	60	83	118	95	302	150	35	6.3
9	40	18	34	37	80	75	115	80	2790	80	30	5.3
10	35	17	34	38	95	70	115	70	2890	72	25	4.4
11	30	16	35	37	99	66	113	74	908	56	35	3.8
12	28	17	38	35	106	62	143	169	646	41	145	3.3
13	26	20	44	34	117	57	149	126	301	32	96	2.9
14	25	25	43	33	125	55	156	100	252	29	64	2.4
15	23	41	42	34	115	50	162	62	196	26	44	2.3
16	22	42	41	33	105	47	140	59	150	23	38	2.1
17	21	49	39	32	95	51	126	52	135	60	26	2.1
18	20	49	40	30	88	601	100	56	150	170	23	2.1
19	19	43	42	37	80	901	110	64	130	130	18	1.7
20	20	39	45	45	144	268	80	86	120	107	19	1.3
21	19	36	45	60	171	299	72	539	115	85	15	1.1
22	18	36	45	68	131	2440	64	291	110	66	13	.84
23	17	37	45	66	109	675	58	221	571	60	12	.70
24	16	38	44	62	97	353	50	171	655	57	12	.60
25	17	41	44	58	86	240	46	145	410	48	125	.47
26	16	42	43	52	81	193	43	128	529	40	75	.39
27	17	40	43	48	74	161	40	128	281	35	60	.28
28	16	37	44	45	71	148	45	155	120	30	62	.13
29	15	36	44	41	---	139	50	136	90	25	66	.03
30	16	35	45	47	---	134	54	1660	80	49	41	.00
31	15	---	46	56	---	129	---	642	---	105	30	---
TOTAL	763	876	1227	1370	2535	7914	3054	6217	14316	2673	1685	149.84
MEAN	24.6	29.2	39.6	44.2	90.5	255	102	201	477	86.2	54.4	4.99
MAX	40	49	46	68	171	2440	162	1660	2890	454	152	24
MIN	15	13	27	30	45	47	40	52	80	23	12	.00
AC-FT	1510	1740	2430	2720	5030	15700	6060	12330	28400	5300	3340	297

CAL YR 1978 TOTAL 51382.82 MEAN 141 MAX 12000 MIN .00 AC-FT 101900
WTR YR 1979 TOTAL 42779.84 MEAN 117 MAX 2890 MIN .00 AC-FT 84850

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-51, 1958-63, 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to September 1976.
WATER TEMPERATURE: July 1968 to September 1976.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT										
03...	1400	35	3400	8.0	23.0	16	7.4	91	22	--
NOV										
07...	1530	14	3200	7.8	15.0	2.0	11.4	120	13	--
DEC										
27...	1530	41	2850	8.0	7.0	11	11.8	106	13	1317
JAN										
29...	1440	41	2600	8.4	.0	12	13.1	96	9	--
FEB										
21...	1545	182	2000	6.4	7.0	97	14.5	127	37	1041
MAR										
20...	1355	244	2200	8.0	10.0	42	10.7	98	71	--
APR										
17...	1500	132	3150	8.9	21.0	37	8.1	96	22	1255
MAY										
15...	1445	126	2000	6.6	28.0	90	8.4	114	30	--
JUN										
27...	1555	252	2000	8.4	31.0	82	7.7	110	--	811
AUG										
16...	0935	43	2300	8.4	24.0	30	9.2	116	17	716
SEP										
19...	1545	1.3	4000	8.1	26.5	2.0	6.1	80	--	--

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT									
03...	--	--	--	--	--	1024	480	.3	34
NOV									
07...	--	--	--	--	--	1124	364	.4	<1
DEC									
27...	350	875	107	290	5.8	1075	404	.4	30
JAN									
29...	--	--	--	--	--	936	430	.6	29
FEB									
21...	270	675	67	256	4.9	835	411	.5	488
MAR									
20...	--	--	--	--	--	658	278	.6	1012
APR									
17...	340	750	97	340	6.5	777	433	.6	101
MAY									
15...	--	--	--	--	--	857	--	.7	599
JUN									
27...	220	550	60	173	7.9	562	223	.5	386
AUG									
16...	171	428	70	162	8.0	--	195	.3	82
SEP									
19...	--	--	--	--	--	1162	491	.3	4

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

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 03...	--	--	--	--	.110	--	--	--	--
NOV 07...	--	1.3	--	--	--	--	--	--	--
DEC 27...	.60	1.4	2.0	9.0	<.001	--	--	--	--
JAN 29...	.20	1.2	1.4	6.3	.200	--	--	--	--
FEB 21...	.80	2.0	2.8	13	.400	8	3	35	16
MAR 20...	.50	3.6	4.1	18	.800	--	--	--	--
APR 17...	.10	1.2	1.3	5.8	.120	--	--	--	--
MAY 15...	<.10	1.8	1.8	--	.135	--	--	--	--
JUN 27...	.40	2.2	2.6	12	.280	--	--	--	--
AUG 16...	<.50	1.5	1.5	--	.060	<5	4	<10	7
SEP 19...	<.50	1.5	1.5	--	.035	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 03...	--	--	--	--	--	--	--	--	4.0
NOV 07...	--	--	--	--	--	--	--	--	--
DEC 27...	560	--	50	--	--	--	--	--	--
JAN 29...	--	--	--	--	--	--	--	--	--
FEB 21...	10000	71	320	<.5	--	1	5	86	--
MAR 20...	--	--	--	--	--	--	--	--	--
APR 17...	2900	--	--	--	--	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--
JUN 27...	7600	--	380	--	--	--	--	--	--
AUG 16...	450	<20	20	<.5	<10	<5	4	14	--
SEP 19...	--	--	--	--	--	--	--	--	--

07302500 LAKE ALTUS AT LUGERT, OK

LOCATION.--Lat 34°53'15", long 99°17'47", in SW¼ SE¼ sec.22, T.5 N., R.20 W., Kiowa County, Hydrologic Unit 11120303, on upstream face of Altus Dam on North Fork Red River, 1.0 mi (1.6 km) west of Lugert, 2.6 mi (4.2 km) upstream from Elm Fork of North Fork, and at mile 73.5 (118.3 km).

DRAINAGE AREA.--2,515 mi^2 (6,514 km^2), of which 399 mi^2 (1,033 km^2) is probably noncontributing.

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

GAGE.-Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Nov. 19, 1948, nonrecording or float gage at same site and datum.

REMARKS.--Reservoir is formed by concrete and coursed masonry dam. Storage began in December 1943. Capacity, 134,600 acre-ft (166 hm^3) at elevation 1,559.0 ft (475.18 m) crest of uncontrolled spillway and 72,500 acre-ft (89.4 hm^3) at elevation 1,547.0 ft (471.53 m) crest of controlled spillway. Dead storage, 1,660 acre-ft (2.05 hm^3) below elevation 1,517.5 ft (462.53 m) sill of headgate at irrigation canal. Figures given herein represent total contents. Reservoir is used for flood control, municipal water supply for city of Altus, and irrigation of about 48,000 acres (194 km^2). Revised capacity table used since Jan. 1, 1969. From 1927 to 1943, a dam to form reservoir for municipal water supply was at same site. Elevation of crest was 1,514.31 ft (461.56 m).

COOPERATION.--Data on diversions furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 170,600 acre-ft (210 hm^3) May 19, 1951, elevation, 1,562.10 ft (476.128 m); minimum after initial storage, 4,690 acre-ft (5.78 hm^3) Aug. 25, 1944, elevation, 1,520.2 ft (463.357 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 129,300 acre-ft (159 hm^3) June 30, elevation, 1,558.15 ft (474.924 m); minimum, 58,640 acre-ft (72.3 hm^3) Nov. 9, elevation, 1,543.52 ft (470.465 m).

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

1543	56,760	1552	95,180
1545	64,170	1556	116,600
1548	76,680	1559	134,500

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60850	59670	60330	61460	64890	70450	86490	93200	107600	128900	115500	90520
2	60960	59560	60480	61380	65080	70810	86730	94530	108300	120900	115400	90570
3	60890	59670	60330	61420	65150	71010	86980	95480	108900	128300	115200	90570
4	60850	59630	60330	61530	65340	71090	87170	95780	109400	127700	114700	90470
5	60780	59670	60520	61450	65380	71290	87450	95780	109900	128300	113700	90420
6	60740	59520	60400	61520	65830	71490	87450	95930	110200	119100	112500	90380
7	60400	59300	60480	61480	65830	71690	87920	96430	110200	128800	110700	90140
8	60480	59080	60400	61560	65940	71810	88110	96480	111500	128300	108800	90140
9	60660	58820	60290	61600	66060	71940	88490	96780	113400	127900	107000	89900
10	60630	59120	60290	61600	66210	71980	88770	97210	119400	127500	105100	89670
11	60660	59010	60290	61600	66470	72060	88940	97210	121800	126800	103500	89660
12	60660	59080	60330	61630	66890	72100	89340	97310	122900	125900	101700	89610
13	60480	59120	60480	61630	67350	72300	89610	97520	123500	124700	99950	89420
14	60440	59370	60440	61670	67780	72380	89900	97520	123500	123800	98630	89230
15	60480	59370	60550	61710	67930	72420	89990	97520	123900	122600	97520	89080
16	60330	59480	60630	61740	67970	72500	90420	97440	123800	122400	96250	89040
17	60110	59520	60480	61780	68090	72460	90960	97390	124100	121800	95180	88900
18	60260	59630	60740	61930	68010	72910	91100	97670	124100	121200	93660	88850
19	60140	59670	60890	62080	68360	75150	91460	97770	124700	120500	92680	88750
20	60140	59740	60970	62160	68710	76000	91750	98840	124800	120100	91730	88750
21	59920	59780	60860	62380	68980	76590	91930	99900	124700	119700	91250	88660
22	60180	59850	61010	62650	69300	80140	90280	100400	124800	119300	90910	88520
23	59890	59920	61120	63330	69500	82690	92240	100800	125700	118700	90670	88520
24	59780	59960	61080	63520	69810	83500	92240	101200	127100	118400	90420	88370
25	59850	60040	61190	63780	69850	84180	92730	101300	127600	118500	90420	88230
26	59780	60330	61230	63940	70090	84640	92560	101500	128200	118400	90420	88140
27	59780	60220	61120	64010	69850	84870	92800	101900	128400	118100	90760	87990
28	59740	60040	61190	64050	70290	85100	92850	101800	128900	117200	90520	87900
29	59590	60260	61460	64090	---	85800	93050	102100	129200	116100	90570	87850
30	59590	60330	61500	64170	---	86030	93050	103500	129000	115900	90670	87810
31	59740	---	61650	64890	---	86490	---	106300	---	115700	90670	---
MAX	60960	60330	61650	64890	70290	86490	93050	106300	129200	128900	115500	90570
MIN	59590	58820	60290	61380	64890	70450	86490	93200	107600	115700	90420	87810
†	1543.82	1543.98	1544.33	1545.05	1546.45	1550.20	1551.27	1554.14	1558.10	1555.84	1551.08	1550.48
‡	-1,370	+590	+1,320	+3,240	+5,400	+16,200	+6,560	+13,250	+22,700	-13,300	-25,030	-2,860
††	0	594	0	0	0	0	0	0	0	18,974	22,777	0

CAL YR 1978 MAX 141100 MIN 54880 ‡-34530 ††71727
WTR YR 1979 MAX 129200 MIN 58820 ‡+26700 ††42345

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Total diversions, in acre-feet.

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

LOCATION.--Lat 34°53'26", long 99°18'22", in SW¼ sec.22, T.5 N., R.20 W., Greer County, Hydrologic Unit 11120303, on right bank at State Highway 44A bridge, 3,500 ft (1,067 m) downstream from Altus Dam, 1.9 mi (3.1 km) upstream from Elm Fork of North fork, 2.0 mi (3.2 km) west of Lugert, and at mile 72.8 (117.1 km).

DRAINAGE AREA.--2,515 mi^2 (6,514 km^2), of which 399 mi^2 (1,033 km^2) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1311: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,471.81 ft (448.608 m) National Geodetic Vertical Datum of 1929. Mar. 19, 1930, to Dec. 21, 1932, nonrecording gage at former Lugert Dam, 0.7 mi (1.1 km) upstream at datum 1,504.31 ft (458.514 m) National Geodetic Vertical Datum of 1929, unadjusted.

REMARKS.--Records poor. Some regulation at low flow by Lugert Lake prior to December 1943 capacity, 13,500 acre-ft (16.6 hm^3) and completely regulated thereafter by Lake Altus (station 07302500). Diversions at Lake Altus bypass most of streamflow. Seepage from Altus Dam not included for period February 1953 to September 1977.

EXTREMES OR PERIOD OF RECORD.--Maximum discharge, 16,100 ft^3/s (456 m^3/s) May 18, 1951, gage height, 12.70 ft (3.87 m) maximum gage height, 16.37 ft (4.990 m) May 21, 1977 (backwater from Elm Fork of the North Fork Red River); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 16, 1928, reached a stage of 14.5 ft (4.42 m), site and datum in use 1930-32, discharge, 14,300 ft^3/s (405 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 90 ft^3/s (2.55 m^3/s) Mar. 29, gage height, 6.01 ft (1.832 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	.05	1.5	1.3	2.2	4.3	5.7	.00	.60	.00	2.3	1.3
2	1.8	.09	1.6	1.1	2.5	5.0	5.7	.05	.71	.00	1.9	1.0
3	2.0	.09	1.7	1.0	2.3	6.4	6.7	.55	.66	.00	1.5	.81
4	2.1	.05	1.4	.90	2.7	6.2	7.2	.77	.60	.00	1.1	.65
5	2.3	.14	1.3	.80	2.4	5.7	6.2	.89	.55	.14	1.0	.51
6	2.4	.28	1.5	.74	2.2	5.4	4.8	.83	.51	1.1	.83	.41
7	2.2	.32	1.4	.80	2.5	5.2	3.9	.60	.37	1.1	.71	.44
8	2.1	.42	1.5	.90	3.0	4.6	3.1	.46	.37	.89	.89	.45
9	2.0	.32	1.5	.99	3.5	3.9	3.0	.28	1.3	.77	1.1	.39
10	1.9	.37	1.4	.90	4.5	3.6	3.4	.09	1.4	.71	1.2	.31
11	1.8	.28	1.6	1.0	5.7	3.7	3.7	.00	1.1	.60	1.3	.34
12	1.5	.42	1.4	1.2	5.9	3.9	3.3	.00	.77	.71	1.4	.31
13	1.3	.60	1.5	1.1	6.2	4.1	3.4	.00	.55	1.5	1.3	.33
14	.89	.83	1.6	.90	6.4	4.1	3.0	.00	.37	1.6	1.8	.32
15	.66	1.1	1.7	.96	6.4	4.1	2.7	.00	.23	1.5	1.0	.28
16	.71	1.5	1.6	1.2	6.2	3.9	2.3	.00	.05	5.0	.98	.39
17	.60	1.7	1.6	1.5	5.4	4.1	2.2	.00	.00	11	.95	.36
18	.51	2.4	1.5	2.8	3.0	4.1	2.3	.00	.00	7.0	.93	.34
19	.42	3.4	1.5	3.0	4.5	3.6	2.2	.00	.00	5.7	1.0	.24
20	.42	2.5	1.5	3.9	6.7	3.0	2.0	.00	.00	4.8	1.4	.18
21	.28	2.7	1.1	4.1	7.0	2.8	1.4	.66	.00	4.3	1.9	.22
22	.37	2.9	1.1	3.9	7.2	4.1	1.0	.55	.00	3.4	1.8	.17
23	.23	2.3	1.1	4.1	7.0	3.7	.89	.66	.00	3.0	1.4	.19
24	.23	2.0	1.1	3.9	6.2	3.7	.60	.66	.00	2.2	1.1	.11
25	.18	2.2	1.1	4.3	5.7	3.9	.32	.55	.00	1.8	1.7	.13
26	.09	2.4	1.0	4.4	5.2	4.1	.09	.55	.00	1.6	1.4	.01
27	.14	1.9	1.0	3.0	4.8	4.3	.05	.60	.00	1.3	2.3	.00
28	.23	1.4	1.0	2.0	4.4	4.1	.18	.60	.00	1.1	2.5	.02
29	.14	1.2	1.1	1.7	---	13	.32	.51	.00	.89	1.9	.00
30	.14	1.4	1.1	1.9	---	7.2	.18	.51	.00	1.4	1.7	.00
31	.05	---	1.4	1.8	---	6.2	---	.51	---	2.8	1.7	---
TOTAL	31.39	37.26	42.4	62.09	131.7	146.0	81.83	10.88	10.14	67.91	43.99	10.21
MEAN	1.01	1.24	1.37	2.00	4.70	4.71	2.73	.35	.34	2.19	1.42	.34
MAX	2.4	3.4	1.7	4.4	7.2	13	7.2	.89	1.4	11	2.5	1.3
MIN	.05	.05	1.0	.74	2.2	2.8	.05	.00	.00	.00	.71	.00
AC-FT	62	74	84	123	261	290	162	22	20	135	87	20

CAL YR 1978	TOTAL	28091.89	MEAN	77.0	MAX	6300	MIN	.05	AC-FT 55720
WTR YR 1979	TOTAL	675.80	MEAN	1.85	MAX	13	MIN	.00	AC-FT 1340

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963, November 1975 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)
NOV												
08...	0800	.37	2000	8.4	11.0	10	11.9	114	28	--	--	--
DEC												
28...	0815	1.0	2250	8.4	5.5	2.0	12.8	109	25	904	220	550
JAN												
30...	1025	4.4	1950	6.9	1.0	9.0	13.1	96	17	--	--	--
FEB												
21...	1200	7.0	2100	8.2	9.0	16	13.4	123	26	760	150	375
MAR												
20...	1030	3.0	2700	8.0	11.0	8.0	13.0	120	23	--	--	--
APR												
17...	1100	2.1	2250	8.1	21.5	9.0	7.8	93	24	825	220	550
MAY												
15...	1100	.00	2600	7.9	21.0	10	8.8	105	22	--	--	--
JUN												
27...	1145	.00	2600	8.3	29.0	23	8.2	112	33	993	250	625
SEP												
19...	1215	.23	2800	8.1	23.0	39	5.6	69	37	--	--	--

DATE	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV												
08...	--	--	--	653	319	.5	13	--	2.1	--	--	--
DEC												
28...	86	248	9.3	713	220	.5	--	.10	1.3	1.4	6.3	<.001
JAN												
30...	--	--	--	734	290	.5	38	--	2.2	--	--	.200
FEB												
21...	47	201	6.7	581	313	.4	31	.20	1.2	1.4	6.4	.050
MAR												
20...	--	--	--	658	356	.5	15	--	1.3	--	--	.100
APR												
17...	66	210	8.4	596	295	--	20	.10	1.5	1.6	7.1	.040
MAY												
15...	--	--	--	785	--	.6	26	.40	1.4	1.8	8.1	.055
JUN												
27...	89	250	9.6	808	--	.5	53	<.10	1.7	1.7	--	.075
SEP												
19...	--	--	--	669	364	.5	78	<.50	3.0	3.0	--	.160

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

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV 08...	--	--	--	--	--	--	--	--	--	--	--
DEC 28...	--	--	--	--	190	--	30	--	--	--	--
JAN 30...	--	--	--	--	--	--	--	--	--	--	--
FEB 21...	<2	2	21	8	530	53	50	<.5	<1	4	12
MAR 20...	--	--	--	--	--	--	--	--	--	--	--
APR 17...	--	--	--	--	800	--	100	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--	--	--
JUN 27...	--	--	--	--	960	--	170	--	--	--	--
SEP 19...	--	--	--	--	--	--	--	--	--	--	--

07303395 ELM FORK OF NORTH FORK RED RIVER AT SALTON CROSSING NEAR CARL, OK

LOCATION.--Lat 35°01'15", long 99°56'58", in NE¼SW¼ sec.3, T.6 N., R.26 W., Harmon County, Hydrologic Unit 11120304, 0.1 mi (0.2 km) upstream from ford at saltworks, 2.6 mi (4.2 km) upstream from Carl gage, 3.5 mi (5.6 km) northeast of Carl, and at mile 56.6 (91.9 km).

DRAINAGE AREA.--411 mi^2 (1,023 km^2).

PERIOD OF RECORD.--Water years 1960, 1961, 1973 to September 1979 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1973 to September 1979 (discontinued).
WATER TEMPERATURE: April 1973 to September 1979 (discontinued).

INSTRUMENTATION.--Water-quality monitor since April 1973.

REMARKS.--In addition to water quality monitor, samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples having maximum, minimum and mean specific conductance for the month. Mean daily sulfate, chloride, and dissolved solids concentrations, and loads for those parameters were calculated from specific conductance values.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: **Maximum, 80,700 micromhos** Aug. 2, 1974; minimum, 1,330 micromhos May 21, 1974.
WATER TEMPERATURE: **Maximum, 35.0°C May 19, 1978;** minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO
OCT												
01...	1845	21	5980	8.2	25.5	1700	1600	550	82	780	50	8.2
11...	1820	16	6540	7.7	25.5	1800	1700	540	100	830	50	8.6
27...	1615	11	7220	7.8	18.0	1900	1800	560	120	970	53	9.7
NOV												
04...	1700	12	6920	7.7	17.5	1900	1800	570	110	970	53	9.7
19...	1715	30	5940	7.8	16.0	1600	1600	490	100	740	49	8.0
24...	1715	28	6080	7.7	12.0	1700	1600	490	110	740	49	7.9
DEC												
09...	1700	15	8650	7.7	.0	2000	1900	600	120	--	--	--
14...	1710	13	7490	7.7	1.5	1700	1600	480	120	1100	55	12
19...	1625	13	6120	7.8	11.5	1800	1700	550	100	770	48	7.9
FEB												
15...	1700	9.7	5580	7.8	1.5	1700	1600	530	100	700	47	7.3
21...	1140	21	6170	7.7	4.0	1700	1600	510	100	830	52	8.8
26...	1020	18	6800	7.7	8.0	1800	1700	540	110	900	52	9.2
MAR												
02...	1100	18	7020	8.1	9.5	1800	1700	540	110	850	51	8.7
23...	1100	148	5150	8.2	14.0	1600	1500	520	85	560	42	6.0
29...	1810	30	6530	8.0	18.0	1800	1700	550	110	760	47	7.7
APR												
01...	1810	27	6490	7.9	15.5	--	--	--	110	800	--	--
12...	1820	25	6780	7.6	--	1900	1800	590	110	850	49	8.4
26...	1700	14	7500	7.9	19.5	--	--	--	120	1100	--	--
MAY												
10...	1710	12	8720	7.9	26.5	2000	1900	610	120	1400	67	14
18...	1710	38	5200	7.7	25.5	1500	1400	470	86	600	52	6.7
27...	1755	17	7880	7.7	26.5	1900	1800	590	110	1200	64	12
JUN												
04...	1700	18	3940	7.4	25.5	1200	1100	370	58	--	--	--
17...	1440	28	7000	7.7	31.0	1700	1600	570	77	1000	55	10
29...	1850	9.3	10400	7.7	29.0	2200	2100	690	120	1700	62	16
JUL												
04...	2000	5.4	10800	7.8	27.5	2200	2200	680	130	1700	62	16
11...	1520	4.1	11000	7.9	33.0	2300	2200	690	130	1900	65	17
25...	1006	34	11000	7.7	26.0	1900	1800	590	110	1900	68	19
AUG												
01...	1040	12	8760	8.0	28.0	1800	1700	560	97	1400	68	14
11...	1850	126	5830	7.4	27.5	1300	1300	430	52	850	59	10
14...	1850	14	7360	8.0	27.0	1600	1500	510	72	1100	65	12
SEP												
01...	1840	137	8320	7.5	27.0	2100	2000	640	120	1200	62	11

07303395 ELM FORK NORTH FORK RED RIVER AT SALTON CROSSING, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM+ POTASSIUM DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
OCT											
01...	--	10	120	0	98	1.2	1600	1200	4470	6.08	253
11...	--	11	110	0	90	3.5	--	1300	4830	6.57	209
27...	--	9.9	110	0	90	2.8	1600	1600	5240	7.13	156
NOV											
04...	--	9.3	--	--	89	--	1800	1500	5010	6.81	162
19...	--	10	--	--	84	--	1500	1100	4430	6.02	359
24...	--	11	--	--	92	--	1400	1200	4460	6.07	337
DEC											
09...	--	10	--	--	120	--	1700	2100	6160	--	249
14...	--	9.0	--	--	98	--	1500	1700	5350	7.28	188
19...	--	8.1	--	--	120	--	1500	1300	4520	6.15	159
FEB											
15...	710	6.1	--	--	110	--	1500	1000	4220	5.74	111
21...	--	6.1	--	--	57	--	1600	1200	4420	6.01	251
26...	910	6.8	--	--	--	--	1600	1300	4810	6.54	234
MAR											
02...	860	6.9	--	--	72	--	1400	1400	4730	6.43	230
23...	570	7.6	--	--	140	--	1400	940	3900	5.30	1560
29...	770	7.5	--	--	110	--	1600	1300	4770	6.49	386
APR											
01...	810	8.1	--	--	76	--	1600	1300	4700	--	343
12...	860	8.5	--	--	93	--	1600	1500	4930	6.70	333
26...	1100	8.4	--	--	67	--	2000	1700	5300	--	200
MAY											
10...	1400	9.0	--	--	100	--	1700	2000	6320	8.60	205
16...	610	8.8	--	--	110	--	1300	1000	3850	5.24	395
27...	1200	9.3	--	--	100	--	1700	1800	5820	7.92	267
JUN											
04...	510	7.8	--	--	100	--	890	680	3030	--	147
17...	1000	9.6	--	--	100	--	1700	1600	5380	7.32	407
29...	1700	12	--	--	88	--	1700	2800	7500	10.2	188
JUL											
04...	1700	12	--	--	80	--	2000	2800	7530	10.2	110
11...	1900	12	--	--	71	--	1900	3100	7980	10.9	88.3
25...	1900	12	--	--	88	--	1700	3100	7550	10.3	693
AUG											
01...	1400	11	--	--	93	--	1700	1900	6160	8.38	200
11...	860	11	--	--	38	--	1200	1400	3980	5.41	1350
14...	1100	11	--	--	85	--	1400	1800	5050	6.87	191
SEP											
01...	1200	12	--	--	92	--	1700	2000	5980	8.13	2210

07303395 ELM FORK NORTH FORK RED RIVER AT SALTON CROSSING, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5980	6580	---		---	6930	6490	---	5920	10600	8760	8320
2	6380	6850	---		---	7020	6520	---	5260	10600	---	8400
3	6410	6900	---		---	6910	6530	8580	5840	10600	---	8280
4	6400	6920	---		---	6880	6650	8560	3940	10800	---	8280
5	6440	6870	---		---	6800	6530	8560	4180	---	---	8300
6	6410	---	---		---	6810	6490	8450	4030	---	---	---
7	6390	---	---		---	6800	6520	8130	---	---	---	---
8	6420	---	8540		---	---	6610	8110	---	11400	---	---
9	6510	---	8650		---	---	6620	8110	---	11400	5840	---
10	6520	---	8630		---	---	6600	8720	---	11400	5840	---
11	6540	---	8630		---	---	6630	8700	---	11000	5830	---
12	---	---	---		---	---	6780	8720	---	---	5830	---
13	---	---	---		---	---	6760	8720	---	---	7400	---
14	---	---	7490		---	---	6740	8510	7250	---	7360	---
15	---	---	7490		5580	---	6760	8510	7210	---	7390	---
16	---	---	7460		5680	---	---	8520	7340	---	---	---
17	---	---	7460		5680	---	---	5240	7000	---	---	---
18	---	---	6160		5660	---	---	5200	7920	---	---	---
19	---	5940	6120		6200	---	---	5220	8380	---	---	---
20	---	5950	6120		6200	---	---	5220	8320	---	---	---
21	---	5940	6240		6170	---	---	---	---	---	---	---
22	---	5980	6220		6260	5280	---	---	---	11100	---	---
23	6890	6070	6250		6260	5150	---	---	---	11000	7680	---
24	6890	6080	6220		6250	5290	---	7950	---	11000	7650	---
25	6920	6060	---		6240	5340	---	7940	---	11000	7660	---
26	7210	6070	6220		6800	5880	7500	7850	---	8790	7660	---
27	7220	6270	6220		6800	5790	7490	7880	---	8610	---	---
28	7220	6280	---		6800	5780	7500	5910	10000	8880	---	---
29	7200	6300	---		---	6530	7480	5870	10400	8850	---	---
30	6620	---	---		---	6570	---	5920	10200	8660	8350	---
31	6590	---	---		---	6600	---	5860	---	8530	8360	---

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4230	6560	7000		---	---		---	---	12900	9560	8420
2	4830	6840	8130		---	---		---	---	12600	---	8100
3	5360	6890	10400		---	5510		---	---	13300	---	9980
4	6800	6880	9030		---	6380		---	---	12900	---	7860
5	6590	6860	7520		---	5550		---	---	13400	---	8700
6	6660	6710	8240		---	6860		---	---	17600	---	---
7	6840	6600	9010		---	7900		---	---	20300	---	---
8	7220	6650	10000		---	5910		---	---	13300	---	---
9	6650	6640	8610		---	5790		---	---	11800	---	---
10	6580	6580	8770		---	5610		---	---	12300	---	---
11	6540	---	8080		---	5490		---	---	11800	---	---
12	6540	---	5570		---	5370		---	---	10500	---	---
13	6650	---	6520		---	6290		---	---	---	---	---
14	6870	---	6760		---	6670		---	7160	---	---	---
15	7130	---	---		5580	6900		---	9310	---	---	---
16	7210	---	---		6080	7150		---	7940	---	---	---
17	7230	---	---		5580	7500		---	7100	---	---	---
18	7200	---	---		5610	---		---	8120	---	---	---
19	7150	---	---		5460	7210		---	8880	---	---	---
20	7260	---	6280		6230	7240		---	8220	---	---	---
21	7380	---	6660		6180	6830		---	6590	---	---	---
22	7400	---	5460		6280	5660		---	6960	9300	---	---
23	6980	---	---		5950	5460		---	---	10100	---	---
24	6960	6050	---		---	5900		---	---	10900	---	---
25	6940	5810	---		---	5740		---	---	9290	6960	---
26	7200	5820	---		---	6920		---	---	---	7160	---
27	7160	6420	---		---	6630		---	---	13500	5610	---
28	7180	6330	---		---	6360		---	12700	9680	6360	---
29	7180	6500	---		---	5370		6320	15100	14300	7200	---
30	6600	6330	---		---	---		---	11500	9960	7050	---
31	6600	---	---		---	---		---	---	13600	8060	---

07303395 ELM FORK NORTH FORK RED RIVER AT SALTON CROSSING, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.5	20.0	---		---	10.5	15.5	---	28.5	30.5	28.0	27.0
2	25.0	17.0	---		---	9.5	14.0	---	28.0	29.5	---	27.0
3	24.0	18.5	---		---	6.5	11.5	14.5	27.0	29.5	---	27.5
4	25.5	17.5	---		---	9.0	15.5	20.0	25.5	27.5	---	28.5
5	25.0	18.0	---		---	10.5	12.0	20.0	25.5	---	---	27.5
6	24.5	---	---		---	11.5	17.0	20.0	24.0	---	---	---
7	23.5	---	---		---	12.0	16.5	27.0	---	---	---	---
8	23.5	---	.5		---	---	14.0	25.5	---	30.0	---	---
9	25.0	---	.0		6.5	---	15.5	26.0	---	30.0	27.5	---
10	24.0	---	1.0		6.0	---	12.5	26.5	---	29.0	27.0	---
11	25.5	---	2.5		7.5	---	13.5	26.5	---	33.0	27.5	---
12	---	---	---		10.0	---	---	27.0	---	---	27.5	---
13	---	---	---		---	---	---	24.5	---	---	24.5	---
14	---	---	1.5		---	---	---	26.0	27.0	---	27.0	---
15	---	---	2.5		1.5	---	---	22.0	30.0	---	26.0	---
16	---	---	2.5		.0	---	---	26.0	29.5	---	---	---
17	---	---	1.0		.0	---	---	24.5	31.0	---	---	---
18	---	---	12.0		1.0	---	---	25.5	30.0	---	---	---
19	---	16.0	11.5		.0	---	---	26.0	29.0	---	---	---
20	---	16.5	9.0		5.0	---	---	26.0	31.0	---	---	---
21	---	14.0	2.0		4.0	---	---	---	---	---	---	---
22	---	14.5	2.5		7.0	13.0	---	---	---	29.5	---	---
23	18.0	13.0	2.5		6.5	14.0	---	---	---	28.0	25.0	---
24	19.0	12.0	3.0		4.5	14.5	---	27.0	---	29.0	26.0	---
25	20.5	11.5	---		6.5	16.0	---	27.0	---	26.0	25.0	---
26	16.5	11.5	3.0		8.0	17.0	19.5	28.0	---	27.0	25.0	---
27	16.0	13.0	3.5		7.5	16.5	18.5	26.5	---	27.5	---	---
28	17.5	13.0	---		10.0	17.0	17.0	27.5	27.0	29.0	---	---
29	11.5	14.0	---		---	18.0	17.0	26.5	29.0	29.5	---	---
30	16.0	---	---		---	18.5	---	26.0	29.0	27.0	28.5	---
31	19.0	---	---		---	17.0	---	28.0	---	27.5	27.0	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.5	6.0	.5	.0	---	14.5				---	28.0
2	19.5	15.0	7.5	.5	.5	---	12.5				---	29.0
3	20.0	16.0	3.5	.5	.5	---	9.0				---	28.0
4	20.0	16.0	2.0	.0	.5	---	11.0				---	27.5
5	16.5	14.0	3.5	.5	.0	---	14.5				---	27.5
6	15.5	9.0	3.0	.5	.0	---	16.0				---	28.0
7	15.0	8.5	2.0	.5	.0	---	17.0				---	28.5
8	17.0	10.0	1.0	.0	1.0	---	17.5				---	27.5
9	16.5	11.5	1.0	.0	.5	---	14.5				---	26.0
10	18.5	10.5	.5	.0	2.0	---	13.5				---	24.0
11	20.0	5.5	.5	.0	3.0	---	13.0				---	24.5
12	19.0	6.0	.5	.0	4.0	---	12.5				---	25.5
13	14.0	11.0	2.0	.5	4.0	---	---				---	22.5
14	13.0	6.5	3.0	.0	6.0	---	---				---	18.0
15	14.5	2.5	2.5	.0	6.0	---	---				---	21.0
16	14.5	3.0	2.5	.5	1.5	---	---				---	21.5
17	14.0	5.0	1.5	.5	.5	---	---				---	23.0
18	15.5	6.5	4.5	.5	.5	---	---				---	22.5
19	15.5	7.0	9.5	.5	1.5	---	---				---	22.5
20	15.5	5.5	8.5	.5	4.0	---	---				---	25.0
21	15.0	3.5	4.5	.5	5.0	---	---				---	23.0
22	15.5	5.5	4.0	.5	7.5	---	---				---	23.0
23	9.0	8.5	4.0	1.0	7.0	---	---				28.5	24.0
24	10.0	9.5	3.5	1.0	---	---	---				25.0	24.5
25	12.0	10.5	3.5	.5	---	---	---				25.5	25.0
26	12.0	10.0	3.0	1.0	---	---	---				24.0	22.5
27	11.5	7.5	2.5	.5	---	---	---				23.5	22.0
28	12.5	6.5	4.0	.5	---	---	---				27.0	23.0
29	13.5	6.5	4.5	.5	---	18.5	---				27.5	23.5
30	14.0	8.0	1.5	.0	---	15.5	---				28.0	23.5
31	13.0	---	.5	.0	---	14.5	---				28.0	---

07303395 ELM FORK NORTH FORK RED RIVER AT SALTON CROSSING, OK--Continued

SULFATE, DISSOLVED (MG/L AS SO4), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	1500	1600		---	---		---	---	2100	1800	1700
2	1400	1500	1700		---	---		---	---	2100	---	1700
3	1400	1500	1900		---	1400		---	---	2100	---	1800
4	1500	1500	1700		---	1500		---	---	2100	---	1600
5	1500	1500	1600		---	1400		---	---	2100	---	1700
6	1500	1500	1700		---	1500		---	---	2500	---	---
7	1500	1500	1700		---	1600		---	---	2800	---	---
8	1600	1500	1800		---	1500		---	---	2100	---	---
9	1500	1500	1700		---	1400		---	---	2000	---	---
10	1500	1500	1700		---	1400		---	---	2000	---	---
11	1500	---	1700		---	1400		---	---	2000	---	---
12	1500	---	1400		---	1400		---	---	1900	---	---
13	1500	---	1500		---	1500		---	---	---	---	---
14	1500	---	1500		---	1500		---	1600	---	---	---
15	1600	---	---		1400	1500		---	1800	---	---	---
16	1600	---	---		1500	1600		---	1600	---	---	---
17	1600	---	---		1400	1600		---	1600	---	---	---
18	1600	---	---		1400	---		---	1700	---	---	---
19	1600	---	---		1400	1600		---	1700	---	---	---
20	1600	---	1500		1500	1600		---	1700	---	---	---
21	1600	---	1500		1500	1500		---	1500	---	---	---
22	1600	---	1400		1500	1400		---	1500	1800	---	---
23	1600	---	---		1500	1400		---	---	1800	---	---
24	1500	1500	---		---	1500		---	---	1900	---	---
25	1500	1400	---		---	1400		---	---	1800	1500	---
26	1600	1400	---		---	1500		---	---	---	1600	---
27	1600	1500	---		---	1500		---	---	2200	1400	---
28	1600	1500	---		---	1500		---	2100	1800	1500	---
29	1600	1500	---		---	1400		1500	2300	2200	1600	---
30	1500	1500	---		---	---		---	2000	1800	1600	---
31	1500	---	---		---	---		---	---	2200	1700	---

SULFATE, DISSOLVED (TONS PER DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73.7	48.6	95.0		---	---		---	---	40.8	58.3	1100.0
2	64.3	48.6	101.0		---	---		---	---	36.9	---	413.0
3	52.9	48.6	97.5		---	83.2		---	---	34.0	---	253.0
4	68.8	48.6	73.4		---	85.0		---	---	30.6	---	156.0
5	56.7	56.7	64.8		---	75.6		---	---	30.6	---	124.0
6	64.8	76.9	73.4		---	76.9		---	---	43.9	---	---
7	64.8	72.9	68.8		---	82.1		---	---	49.1	---	---
8	73.4	72.9	68.0		---	72.9		---	---	34.0	---	---
9	68.8	76.9	68.8		---	64.3		---	---	27.0	---	---
10	64.8	85.0	59.7		---	64.3		---	---	27.0	---	---
11	64.8	---	64.3		---	60.5		---	---	22.1	---	---
12	60.7	---	56.7		---	56.7		---	---	19.5	---	---
13	56.7	---	56.7		---	60.7		---	---	---	---	---
14	48.6	---	52.6		---	60.7		---	181.0	---	---	---
15	51.8	---	---		56.7	60.7		---	165.0	---	---	---
16	51.8	---	---		72.9	69.1		---	130.0	---	---	---
17	47.5	---	---		136.0	86.4		---	121.0	---	---	---
18	47.5	---	---		140.0	---		---	124.0	---	---	---
19	41.9	---	---		98.3	687.0		---	110.0	---	---	---
20	41.9	---	48.6		89.1	363.0		---	101.0	---	---	---
21	40.2	---	48.6		89.1	409.0		---	76.9	---	---	---
22	40.2	---	36.7		81.0	2420.0		---	72.9	53.5	---	---
23	40.2	---	---		81.0	329.0		---	---	45.2	---	---
24	37.7	97.2	---		---	263.0		---	---	40.0	---	---
25	44.5	110.0	---		---	208.0		---	---	165.0	202.0	---
26	47.5	90.7	---		---	198.0		---	---	---	4320.0	---
27	47.5	101.0	---		---	162.0		---	---	143.0	1130.0	---
28	47.5	89.1	---		---	146.0		---	62.4	82.6	324.0	---
29	47.5	93.1	---		---	113.0		44.5	57.8	77.2	389.0	---
30	44.5	89.1	---		---	---		---	45.9	53.5	225.0	---
31	44.5	---	---		---	---		---	---	101.0	156.0	---

07303395 ELM FORK NORTH FORK RED RIVER AT SALTON CROSSING, OK--Continued

CHLORIDE, DISSOLVED (MG/L), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	590	1400	1500		---	---		---	---	3600	2400	2000
2	790	1500	1900		---	---		---	---	3500	---	1900
3	980	1500	2700		---	1000		---	---	3700	---	2600
4	1500	1500	2200		---	1300		---	---	3600	---	1800
5	1400	1500	1700		---	1000		---	---	3800	---	2100
6	1400	1400	2000		---	1500		---	---	5200	---	---
7	1500	1400	2200		---	1900		---	---	6100	---	---
8	1600	1400	2600		---	1200		---	---	3700	---	---
9	1400	1400	2100		---	1100		---	---	3200	---	---
10	1400	1400	2200		---	1100		---	---	3400	---	---
11	1400	---	1900		---	1000		---	---	3200	---	---
12	1400	---	1000		---	980		---	---	2700	---	---
13	1400	---	1400		---	1300		---	---	---	---	---
14	1500	---	1500		---	1400		---	1600	---	---	---
15	1600	---	---		1100	1500		---	2300	---	---	---
16	1600	---	---		1200	1600		---	1900	---	---	---
17	1600	---	---		1100	1700		---	1600	---	---	---
18	1600	---	---		1100	---		---	1900	---	---	---
19	1600	---	---		1000	1600		---	2200	---	---	---
20	1600	---	1300		1300	1600		---	2000	---	---	---
21	1700	---	1400		1300	1500		---	1400	---	---	---
22	1700	---	1000		1300	1100		---	1500	2300	---	---
23	1500	---	---		1200	1000		---	---	2600	---	---
24	1500	1200	---		---	1200		---	---	2900	---	---
25	1500	1100	---		---	1100		---	---	2300	1500	---
26	1600	1100	---		---	1500		---	---	---	1600	---
27	1600	1300	---		---	1400		---	---	3800	1100	---
28	1600	1300	---		---	1300		---	3500	2500	1300	---
29	1600	1400	---		---	980		1300	4300	4100	1600	---
30	1400	1300	---		---	---		---	3100	2600	1600	---
31	1400	---	---		---	---		---	---	3800	1900	---

CHLORIDE, DISSOLVED (TONS PER DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.5	45.4	89.1		---	---		---	---	70.0	77.8	1300.0
2	36.3	48.6	113.0		---	---		---	---	61.4	---	462.0
3	37.0	48.6	139.0		---	59.4		---	---	59.9	---	365.0
4	68.6	48.6	95.0		---	73.7		---	---	52.5	---	175.0
5	52.9	56.7	68.8		---	54.0		---	---	55.4	---	153.0
6	60.5	71.8	86.4		---	76.9		---	---	91.3	---	---
7	64.8	68.0	89.1		---	97.5		---	---	107.0	---	---
8	73.4	68.0	98.3		---	58.3		---	---	59.9	---	---
9	64.3	71.8	85.0		---	50.5		---	---	43.2	---	---
10	60.5	79.4	77.2		---	50.5		---	---	45.9	---	---
11	60.5	---	71.8		---	43.2		---	---	35.4	---	---
12	56.7	---	40.5		---	39.7		---	---	27.7	---	---
13	52.9	---	52.9		---	52.6		---	---	---	---	---
14	48.6	---	52.6		---	56.7		---	181.0	---	---	---
15	51.8	---	---		44.5	60.7		---	211.0	---	---	---
16	51.8	---	---		58.3	69.1		---	154.0	---	---	---
17	47.5	---	---		107.0	91.8		---	121.0	---	---	---
18	47.5	---	---		110.0	---		---	139.0	---	---	---
19	41.9	---	---		70.2	687.0		---	143.0	---	---	---
20	41.9	---	42.1		77.2	363.0		---	119.0	---	---	---
21	42.7	---	45.4		77.2	409.0		---	71.8	---	---	---
22	42.7	---	26.2		70.2	1900.0		---	72.9	68.3	---	---
23	37.7	---	---		64.8	235.0		---	---	65.3	---	---
24	37.7	77.8	---		---	211.0		---	---	61.1	---	---
25	44.5	86.1	---		---	163.0		---	---	211.0	202.0	---
26	47.5	71.3	---		---	198.0		---	---	---	4320.0	---
27	47.5	87.7	---		---	151.0		---	---	246.0	891.0	---
28	47.5	77.2	---		---	126.0		---	104.0	115.0	281.0	---
29	47.5	86.9	---		---	79.4		38.6	108.0	144.0	389.0	---
30	41.6	77.2	---		---	---		---	71.1	77.2	225.0	---
31	41.6	---	---		---	---		---	---	174.0	174.0	---

07303395 ELM FORK NORTH FORK RED RIVER AT SALTON CROSSING, OK--Continued

SOLIDS, RESIDUE ON EVAPORATION AT 180 DEG C, DISSOLVED, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3190	4760	5060		---	---		---	---	9030	6780	6020
2	3600	4950	5820		---	---		---	---	8830	---	5800
3	3960	4990	7350		---	4060		---	---	9300	---	7070
4	4930	4980	6430		---	4640		---	---	9030	---	5650
5	4780	4970	5410		---	4080		---	---	9370	---	6210
6	4830	4870	5900		---	4970		---	---	12200	---	---
7	4950	4790	6410		---	5670		---	---	14000	---	---
8	5210	4820	7080		---	4330		---	---	9300	---	---
9	4820	4820	6140		---	4250		---	---	8290	---	---
10	4780	4780	6250		---	4120		---	---	8630	---	---
11	4750	---	5790		---	4040		---	---	8290	---	---
12	4750	---	4100		---	3960		---	---	7420	---	---
13	4820	---	4740		---	4580		---	---	---	---	---
14	4970	---	4900		---	4840		---	5170	---	---	---
15	5150	---	---		4100	4990		---	6620	---	---	---
16	5200	---	---		4440	5160		---	5690	---	---	---
17	5220	---	---		4100	5400		---	5130	---	---	---
18	5200	---	---		4120	---		---	5810	---	---	---
19	5160	---	---		4020	5200		---	6330	---	---	---
20	5240	---	4580		4540	5220		---	5880	---	---	---
21	5320	---	4830		4510	4950		---	4780	---	---	---
22	5330	---	4020		4580	4160		---	5030	6610	---	---
23	5050	---	---		4350	4020		---	---	7150	---	---
24	5030	4420	---		---	4320		---	---	7690	---	---
25	5020	4260	---		---	4210		---	---	6600	5030	---
26	5200	4270	---		---	5010		---	---	---	5170	---
27	5170	4670	---		---	4810		---	---	9440	4120	---
28	5180	4610	---		---	4630		---	8900	6870	4630	---
29	5180	4720	---		---	3960		4600	10500	9980	5200	---
30	4790	4610	---		---	---		---	8090	7050	5090	---
31	4790	---	---		---	---		---	---	9510	5770	---

SOLIDS, DISSOLVED (TONS PER DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181.0	154.0	301.0		---	---		---	---	176.0	220.0	3900.0
2	165.0	160.0	346.0		---	---		---	---	155.0	---	1410.0
3	150.0	162.0	377.0		---	241.0		---	---	151.0	---	993.0
4	226.0	161.0	278.0		---	263.0		---	---	132.0	---	549.0
5	181.0	188.0	219.0		---	220.0		---	---	137.0	---	453.0
6	209.0	250.0	255.0		---	255.0		---	---	214.0	---	---
7	214.0	233.0	260.0		---	291.0		---	---	246.0	---	---
8	239.0	234.0	268.0		---	210.0		---	---	151.0	---	---
9	221.0	247.0	249.0		---	195.0		---	---	112.0	---	---
10	206.0	271.0	219.0		---	189.0		---	---	117.0	---	---
11	205.0	---	219.0		---	175.0		---	---	91.8	---	---
12	192.0	---	166.0		---	160.0		---	---	76.1	---	---
13	182.0	---	179.0		---	185.0		---	---	---	---	---
14	161.0	---	172.0		---	196.0		---	586.0	---	---	---
15	167.0	---	---		166.0	202.0		---	608.0	---	---	---
16	168.0	---	---		216.0	223.0		---	461.0	---	---	---
17	155.0	---	---		399.0	292.0		---	388.0	---	---	---
18	154.0	---	---		412.0	---		---	424.0	---	---	---
19	135.0	---	---		282.0	2230.0		---	410.0	---	---	---
20	137.0	---	148.0		270.0	1180.0		---	349.0	---	---	---
21	134.0	---	156.0		268.0	1350.0		---	245.0	---	---	---
22	134.0	---	105.0		247.0	7190.0		---	244.0	196.0	---	---
23	127.0	---	---		235.0	944.0		---	---	180.0	---	---
24	126.0	286.0	---		---	758.0		---	---	162.0	---	---
25	149.0	334.0	---		---	625.0		---	---	606.0	679.0	---
26	154.0	277.0	---		---	663.0		---	---	---	14000.0	---
27	154.0	315.0	---		---	519.0		---	---	612.0	3340.0	---
28	154.0	274.0	---		---	450.0		---	264.0	315.0	1000.0	---
29	154.0	293.0	---		---	321.0		137.0	264.0	350.0	1260.0	---
30	142.0	274.0	---		---	---		---	186.0	209.0	715.0	---
31	142.0	---	---		---	---		---	---	437.0	530.0	---

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

LOCATION.--Lat 35°00'42", long 99°54'12", in SW¼NW¼ sec.12, T.6 N., R.26 W., Harmon County, Hydrologic Unit 11120304, near left bank on downstream side of pier of bridge on State Highway 30, 4.0 mi (6.4 km) northeast of Carl, and at mile 54.0 (86.9 km).

DRAINAGE AREA.--416 mi^2 (1,077 km^2).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1731: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,714.95 ft (552.717 m) Oklahoma State Highway Department datum.

REMARKS.-Records fair.

AVERAGE DISCHARGE.--20 years, 41.8 ft^3/s (1.184 m^3/s), 30,280 acre-ft/yr (37.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft^3/s (626 m^3/s) May 17, 1977, gage height, 12.60 ft (3.840 m), from rating curve extended above 1,000 ft^3/s (28.3 m^3/s) on basis of slope-area measurement at gage height 11.45 ft (3.490 m); no flow Sept. 4, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s (56.6 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
June 9	1600	*5,710	162	*7.19	2.192	Aug. 26	Unknown	3,250	92.0	5.95	1.814

Minimum daily discharge, 2.5 ft^3/s (0.071 m^3/s) July 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	12	22	11	34	18	27	18	28	7.5	12	240
2	17	12	22	10	41	20	27	55	32	6.8	10	90
3	14	12	19	12	42	22	27	68	24	6.3	13	52
4	17	12	16	11	42	21	25	49	18	5.7	11	36
5	14	14	15	12	42	20	28	30	17	5.7	7.5	27
6	16	19	16	14	42	19	26	10	116	6.8	6.3	24
7	16	18	15	15	46	19	24	13	63	6.8	5.3	19
8	17	18	14	12	49	18	24	13	45	6.3	4.8	17
9	17	19	15	10	48	17	22	13	2610	5.3	4.1	16
10	16	21	13	11	44	17	27	12	837	5.3	4.1	13
11	16	21	14	10	36	16	25	12	188	4.4	584	12
12	15	22	15	11	27	15	25	12	112	4.1	35	11
13	14	21	14	12	27	15	30	11	80	3.4	20	10
14	12	32	13	10	25	15	28	11	42	3.1	15	10
15	12	40	13	11	15	15	24	11	34	2.8	14	8.1
16	12	40	13	11	18	16	22	12	30	2.5	214	8.1
17	11	38	13	12	36	20	22	11	28	25	38	8.8
18	11	34	14	28	37	342	24	38	27	102	77	8.8
19	10	30	13	35	26	159	24	90	24	55	38	8.8
20	10	28	12	58	22	84	24	36	22	22	24	8.8
21	9.6	28	12	72	22	101	22	74	19	16	19	9.6
22	9.6	29	10	60	20	640	21	60	18	11	14	9.6
23	9.6	28	10	40	20	87	19	32	80	9.6	12	9.6
24	9.6	24	10	34	19	65	18	24	34	8.1	10	9.6
25	11	29	11	34	19	55	17	19	22	34	50	8.8
26	11	24	12	30	19	49	14	19	16	77	1000	8.1
27	11	25	11	18	19	40	21	17	13	24	300	8.1
28	11	22	10	22	19	36	18	12	11	17	80	7.5
29	11	23	11	27	---	30	18	11	9.6	13	90	7.5
30	11	22	17	30	---	28	17	28	8.8	11	52	6.8
31	11	---	13	30	---	27	---	27	---	17	34	---
TOTAL	403.4	717	428	713	856	2046	690	848	4608.4	524.5	2798.1	713.6
MEAN	13.0	23.9	13.8	23.0	30.6	66.0	23.0	27.4	154	16.9	90.3	23.8
MAX	21	40	22	72	49	640	30	90	2610	102	1000	240
MIN	9.6	12	10	10	15	15	14	10	8.8	2.5	4.1	6.8
AC-FT	800	1420	849	1410	1700	4060	1370	1680	9140	1040	5550	1420

CAL YR 1978 TOTAL 18223.4 MEAN 49.9 MAX 3960 MIN 3.1 AC-FT 36150
WTR YR 1979 TOTAL 15346.0 MEAN 42.0 MAX 2610 MIN 2.5 AC-FT 30440

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to current year.
WATER TEMPERATURE: July 1968 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1971.

REMARKS.--In addition to water quality monitor, samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples having maximum, minimum and mean specific conductance for the month. An additional sample was collected monthly and specific conductance, pH, water temperature, and dissolved oxygen were determined in the field. Mean daily sulfate, chloride, and dissolved solids concentrations, and loads for those parameters were calculated from specific conductance values.

COOPERATION.--Monthly samples were collected by the U.S. Geological Survey and selected parameters were analyzed by Oklahoma State Department of Health.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 224,000 micromhos Sept. 15, 1971; minimum, 2,190 micromhos June 2, 1973.
WATER TEMPERATURES: Maximum, 39.0°C June 22, 1969, Aug. 17, 1970; minimum, 0.0°C on several days during winter period.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum daily, 33.0°C July 11; minimum, 0.0°C Dec. 8.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO
OCT												
05...	1800	14	23500	7.6	25.0	1600	1500	340	170	5000	87	55
11...	1840	16	23800	7.7	25.5	1500	1400	330	170	5100	87	57
25...	1653	11	24400	7.8	20.5	2400	2300	660	180	4800	81	43
NOV												
05...	1410	14	24700	7.9	18.0	2400	2400	680	180	5500	83	48
19...	1710	30	20500	7.8	16.0	2300	2100	640	160	4300	80	39
25...	1550	28	24800	7.9	11.0	2300	2200	640	180	5400	83	49
DEC												
09...	1630	15	49100	7.7	.5	2100	2000	600	150	13000	93	123
15...	1705	13	33000	7.8	2.5	2200	2100	540	210	7500	88	69
26...	1545	12	20200	7.9	3.0	2000	1800	520	160	4100	82	40
FEB												
15...	1710	16	17200	7.8	1.5	1900	1800	520	140	3500	85	36
22...	1230	20	20800	7.7	7.0	2400	2300	700	170	4300	79	38
26...	1040	18	23000	7.8	8.0	2300	2200	610	180	5000	83	46
MAR												
06...	1210	19	22600	8.2	11.5	--	--	620	--	4200	--	--
22...	1040	231	12800	8.0	13.0	--	--	550	--	2200	--	--
29...	1800	30	17200	8.0	18.0	--	--	600	--	3300	--	--
APR												
05...	2150	28	18200	7.8	12.0	2100	2000	590	150	3700	79	35
15...	1750	24	19600	7.7	--	2200	2100	600	160	4000	80	37
26...	1650	14	22300	7.6	19.5	2200	2100	610	170	4400	81	41
MAY												
02...	1400	55	13000	8.4	20.5	--	--	--	--	--	--	--
05...	1700	30	28000	7.6	20.0	1800	2300	660	28	5900	88	61
15...	0910	11	24400	7.4	22.0	2200	2100	630	160	5000	83	46
25...	1500	19	27400	7.6	27.0	2000	1900	670	79	6000	87	58
JUN												
05...	1640	17	7120	7.6	25.5	1300	1200	390	67	1100	65	14
15...	1700	34	51000	7.3	30.0	3900	3800	1000	350	12000	87	83
28...	1800	11	65100	7.4	27.0	5200	5000	1300	480	17000	87	102
JUL												
04...	1940	5.7	63900	7.7	27.5	5500	5300	1400	480	16000	86	94
11...	1510	4.4	36800	7.4	33.0	3000	2900	780	250	8600	86	69
25...	1020	34	54000	6.9	26.0	4100	4000	1000	400	13000	87	88
AUG												
09...	1755	4.1	12200	7.8	27.5	1400	1300	430	72	2300	78	27
15...	1745	12	17200	7.4	26.0	1800	1700	540	110	3300	84	34
25...	1810	11	22100	7.6	25.0	2100	2000	580	150	4600	83	44
SEP												
05...	1735	22	32200	7.5	27.5	2600	2500	700	210	7100	90	60

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM+ POTASSIUM DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
OCT											
05...	--	30	110	0	90	4.4	1600	7900	15800	21.5	597
11...	--	58	99	0	81	3.2	2000	7800	16200	22.0	700
25...	--	28	83	0	68	2.1	1900	7800	16500	22.4	490
NOV											
05...	--	25	--	--	90	--	2000	8600	16600	22.6	627
19...	--	18	--	--	110	--	1800	6800	13600	18.5	1100
25...	--	23	--	--	110	--	1900	8600	16500	22.4	1250
DEC											
09...	--	51	--	--	73	--	2900	19000	35700	48.6	1450
15...	--	34	--	--	89	--	1900	12000	22400	30.5	786
26...	--	21	--	--	130	--	1600	6700	13400	18.2	434
FEB											
15...	3500	13	--	--	63	--	1500	--	11500	15.6	497
22...	4300	18	--	--	100	--	1700	6800	14100	19.2	761
26...	5000	19	--	--	94	--	1800	8200	15500	21.1	753
MAR											
06...	--	--	--	--	--	--	1800	7400	15000	20.4	769
22...	--	--	--	--	--	--	1400	2700	8510	11.6	5310
29...	--	--	--	--	--	--	1700	4400	--	--	--
APR											
05...	3700	16	--	--	130	--	1800	6000	12000	16.3	907
15...	4000	16	--	--	96	--	--	6900	13200	18.0	855
26...	4400	22	--	--	92	--	1800	7000	15300	20.8	578
MAY											
02...	--	--	--	--	--	--	1600	4400	--	--	--
05...	5900	21	--	--	95	--	2000	9400	18800	25.6	1520
15...	5000	19	--	--	89	--	1800	8100	16800	22.8	499
25...	6000	25	--	--	89	--	1900	9400	18900	25.7	970
JUN											
05...	1100	10	--	--	91	--	--	2000	4830	6.57	222
15...	12000	45	--	--	130	--	1100	21000	38900	52.9	3570
28...	17000	70	--	--	180	--	4300	28000	52400	71.3	1560
JUL											
04...	16000	71	--	--	160	--	3800	26000	51300	69.8	790
11...	8600	34	--	--	60	--	2300	14000	26500	36.0	315
25...	13000	53	--	--	160	--	3000	22000	41300	56.2	3790
AUG											
09...	2300	16	--	--	69	--	1000	3600	7580	10.3	83.9
15...	3300	20	--	--	80	--	--	4800	11700	15.9	379
25...	4600	2.5	--	--	94	--	1500	7000	--	--	--
SEP											
05...	7100	33	--	--	64	--	1800	11000	21500	29.2	1280

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19800	23200	---		---	21500	17100	---	5040	64500	29400	32100
2	23700	24800	---		---	21600	18000	---	5890	62000	---	32400
3	23600	24700	---		---	21800	18100	25400	5920	64000	---	32000
4	23600	24700	---		---	21600	18000	24900	7850	63900	---	32400
5	23500	24700	---		---	22400	18200	26800	7120	---	---	32200
6	23600	---	---		---	22600	18100	26300	7250	---	---	---
7	23500	---	---		---	22500	18000	26900	6080	---	---	---
8	23600	---	---		---	---	17900	26900	6110	36900	---	---
9	23900	---	49100		---	---	17900	27200	---	37000	12200	---
10	24000	---	48900		---	---	18000	27200	---	36700	12100	---
11	23800	---	49500		---	---	18100	27400	6220	36800	12000	---
12	---	---	49300		---	---	19600	27500	6110	---	12200	---
13	---	---	---		---	---	19500	27300	6130	---	17200	---
14	---	---	33100		---	---	19500	24200	50600	---	17300	---
15	---	---	33000		17200	---	19600	24400	51000	---	17200	---
16	---	---	33000		17300	---	---	24600	50100	---	---	---
17	---	---	33000		17200	---	---	11200	50700	---	---	---
18	---	---	20800		17200	---	---	11100	52600	---	---	---
19	---	20500	20700		19500	---	---	10500	53800	---	---	---
20	---	20500	20800		19400	---	---	10700	52600	---	---	---
21	---	20500	22300		19400	---	---	---	---	---	---	---
22	---	20500	22400		20800	12800	---	---	---	52400	---	---
23	24300	24600	22500		20800	12800	---	---	---	52200	22000	---
24	24500	24600	22500		20900	12800	---	26900	---	51900	22100	---
25	24400	24800	---		20800	12800	---	27400	---	54000	22100	---
26	25000	24600	20200		23000	16200	22300	27100	---	25400	22200	---
27	24900	24000	20200		23000	16100	22500	27900	---	26600	---	---
28	25200	24200	---		23000	16100	22600	5860	65100	26600	---	---
29	25000	24200	---		---	17200	22400	5940	63600	26800	---	---
30	23300	---	---		---	17200	---	5180	63800	29100	32200	---
31	23200	---	---		---	17200	---	15900	---	26900	32200	---

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17400	21500	23300	17300		---	16900	24300	5240	68000	---	43200
2	20200	23400	23100	17200		---	17800	24600	5090	64200	---	42900
3	21800	26800	22000	17300		---	18600	28400	5620	63800	---	43400
4	24800	24400	21300	17800		---	18100	24900	7550	66400	---	41400
5	24300	22600	21100	17900		---	17900	26300	11100	---	---	39600
6	23100	24600	---	17600		---	18700	24500	---	---	---	39900
7	24300	15200	---	17300		---	18500	25000	---	---	---	39500
8	22800	9430	---	16900		---	17800	26900	---	40500	---	39200
9	19900	8340	---	17200		---	18200	---	---	35100	---	39700
10	24900	14900	---	17400		---	18700	---	---	40200	---	39000
11	28800	17400	---	17500		---	18000	---	---	44200	---	38300
12	29600	18400	---	17600		---	19700	---	---	38400	---	37900
13	21800	18400	---	17700		---	---	---	---	29500	---	37000
14	29000	15400	---	17300		---	---	---	---	21700	---	37000
15	45600	18400	32600	17400		---	22900	---	50200	18400	---	36500
16	39100	19100	33100	17400		---	19000	24400	50000	14100	---	36600
17	41800	19800	32400	16500		---	20300	11300	48800	76200	---	35700
18	41900	20200	20200	15800		---	21100	11600	54300	89400	---	35200
19	32200	20800	20600	19700		---	20600	10600	55000	91700	---	35200
20	34900	20200	21400	20800		---	19900	9480	53100	78900	---	34400
21	36300	20200	21700	17100		---	19600	10900	55400	82300	---	35100
22	30600	20500	22700	21800		---	20800	13200	69000	63400	---	36700
23	19800	24000	22700	22700		---	21800	19700	64900	74200	27600	38000
24	25400	24600	22900	22400		---	22700	25800	58100	56900	32900	39200
25	30300	25100	21500	---		---	22300	26700	67300	24000	60700	40400
26	22300	24100	19800	---		---	22100	25200	63400	48400	47700	41000
27	19200	24100	19900	---		---	23700	24900	67300	57600	84000	41200
28	19400	23900	19900	---		---	22200	28000	69000	43600	62500	42000
29	30600	25700	19600	---		---	21800	27600	65700	---	52600	43900
30	22900	23500	20300	---		17000	23100	13300	64900	---	47700	44100
31	22600	---	18000	---		17200	---	13700	---	---	44600	---

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.5	20.0	---		---	10.5	15.5	---	28.5	30.5	28.0	27.0
2	25.0	17.0	---		---	9.5	14.0	---	28.0	29.5	---	27.0
3	24.0	18.5	---		---	6.5	11.0	19.0	27.0	29.5	---	27.5
4	25.5	17.5	---		---	9.0	15.5	19.5	26.5	27.5	---	28.5
5	25.0	18.0	---		---	10.5	12.0	20.0	25.5	---	---	27.5
6	24.5	---	---		---	11.5	17.0	21.0	24.0	---	---	---
7	23.5	---	---		---	12.0	16.5	27.0	28.0	---	---	---
8	23.0	---	---		---	---	14.0	25.5	27.5	30.0	---	---
9	25.0	---	.5		---	---	15.5	26.0	---	30.5	27.5	---
10	24.0	---	1.5		---	---	12.5	26.5	---	29.0	27.0	---
11	25.5	---	2.5		---	---	13.5	26.5	27.5	33.0	27.5	---
12	---	---	2.5		---	---	---	27.0	27.0	---	29.5	---
13	---	---	---		---	---	---	24.5	27.0	---	24.5	---
14	---	---	1.5		---	---	---	26.0	27.0	---	27.0	---
15	---	---	2.5		1.5	---	---	22.0	30.0	---	26.0	---
16	---	---	2.5		.0	---	---	26.0	29.5	---	---	---
17	---	---	1.0		.0	---	---	24.5	31.0	---	---	---
18	---	---	12.0		1.0	---	---	25.5	30.0	---	---	---
19	---	16.0	11.5		.0	---	---	26.0	29.0	---	---	---
20	---	16.5	9.0		4.0	---	---	26.0	31.0	---	---	---
21	---	14.0	2.0		5.0	---	---	---	---	---	---	---
22	---	14.5	2.5		7.0	13.0	---	---	---	29.5	---	---
23	18.0	13.0	2.5		6.5	14.0	---	---	---	28.0	25.0	---
24	19.0	12.0	3.0		4.5	14.5	---	27.0	---	29.0	26.0	---
25	20.5	11.0	---		6.5	16.0	---	27.0	---	26.0	25.0	---
26	16.5	11.5	3.0		8.0	17.0	19.5	28.0	---	27.0	25.0	---
27	18.0	13.0	3.5		7.5	16.5	18.5	26.5	---	27.5	---	---
28	17.5	13.0	---		10.5	17.0	19.0	27.5	27.0	29.0	---	---
29	11.5	14.0	---		---	18.0	17.0	26.5	29.0	29.5	---	---
30	18.0	---	---		---	18.5	---	26.0	29.0	29.0	28.5	---
31	19.0	---	---		---	17.0	---	28.0	---	27.5	28.5	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	17.5	11.0	1.5		---	18.0	21.5	18.5	28.5	29.5	29.0
2	---	19.5	9.0	1.5		---	16.5	23.0	22.0	28.0	30.0	30.0
3	---	21.0	2.5	1.5		---	12.5	18.0	25.5	27.5	30.0	29.5
4	25.0	21.0	3.0	1.5		---	14.5	17.5	27.5	28.0	29.5	29.0
5	20.0	19.0	6.0	1.5		---	20.0	20.0	25.0	28.0	29.5	29.5
6	19.5	14.0	3.0	1.5		---	20.5	22.5	25.5	26.5	30.0	29.0
7	19.5	11.5	2.0	1.5		---	22.0	26.0	29.5	29.0	30.0	30.0
8	21.5	13.5	.0	1.5		---	22.0	26.0	25.0	31.0	31.5	27.5
9	20.5	15.0	.5	1.5		---	18.0	25.0	19.0	29.5	31.5	27.0
10	23.0	14.0	1.0	1.5		---	16.5	18.5	23.0	29.0	31.5	24.5
11	25.0	9.0	2.0	1.0		---	16.0	17.0	26.0	30.0	27.5	24.0
12	24.5	8.5	3.5	1.0		---	18.5	19.5	27.5	29.5	26.0	24.0
13	19.5	13.5	4.0	1.0		---	20.5	21.5	28.5	29.5	26.0	23.0
14	17.5	9.5	3.5	1.0		---	23.0	23.5	29.0	30.0	27.5	20.0
15	19.5	5.0	4.0	1.0		---	23.5	23.5	28.0	30.0	28.0	20.5
16	20.5	4.5	4.0	1.0		12.5	23.0	23.5	27.0	30.0	27.5	21.0
17	20.0	7.0	3.0	1.5		12.5	21.5	22.0	28.0	27.5	28.0	21.5
18	21.0	9.5	8.0	1.5		15.5	22.0	26.0	28.5	26.0	27.5	21.5
19	21.0	9.5	14.0	2.0		15.0	21.0	27.5	28.0	25.5	28.0	22.0
20	21.0	7.5	11.5	2.5		14.0	23.0	25.0	28.5	27.5	27.0	23.5
21	21.5	5.0	6.5	3.5		15.0	23.0	21.5	31.0	30.5	26.5	22.5
22	22.0	6.5	6.5	3.5		16.5	23.5	22.5	29.5	30.0	27.0	23.0
23	15.5	10.5	6.5	2.0		15.0	25.0	25.0	27.0	30.0	26.5	23.5
24	14.0	12.5	5.0	3.0		15.5	25.0	23.5	27.0	30.0	26.0	24.5
25	16.0	14.0	5.0	3.0		16.0	25.5	21.0	25.5	30.0	26.5	25.0
26	16.0	12.0	5.0	---		17.0	22.5	22.5	26.5	30.0	24.0	24.0
27	15.5	9.0	5.0	---		16.5	19.5	26.0	28.0	31.0	22.5	23.0
28	16.5	8.0	7.5	---		17.0	16.0	26.0	29.0	31.5	26.5	23.0
29	18.0	9.5	7.0	---		20.5	20.0	25.5	30.0	30.5	28.5	24.0
30	18.0	11.5	2.0	---		20.0	22.5	23.5	30.5	29.0	29.0	24.5
31	17.5	---	1.5	---		18.5	---	22.5	---	29.5	29.5	---

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

SULFATE, DISSOLVED (MG/L AS SO4), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1500	1600	1700	1500		---	1400	1700	940	3600	---	2500
2	1600	1700	1700	1400		---	1500	1800	940	3400	---	2500
3	1600	1900	1700	1500		---	1500	1900	960	3400	---	2600
4	1800	1800	1600	1500		---	1500	1800	1000	3500	---	2500
5	1700	1700	1600	1500		---	1500	1800	1200	---	---	2400
6	1700	1800	---	1500		---	1500	1800	---	---	---	2400
7	1700	1400	---	1500		---	1500	1800	---	---	---	2400
8	1700	1100	---	1400		---	1500	1900	---	2400	---	2400
9	1600	1100	---	1400		---	1500	---	---	2200	---	2400
10	1800	1400	---	1500		---	1500	---	---	2400	---	2400
11	1900	1500	---	1500		---	1500	---	---	2600	---	2300
12	2000	1500	---	1500		---	1600	---	---	2300	---	2300
13	1600	1500	---	1500		---	---	---	---	2000	---	2300
14	1900	1400	---	1500		---	---	---	---	1600	---	2300
15	2600	1500	2100	1500		---	1700	---	2800	1500	---	2300
16	2400	1500	2100	1500		---	1500	1800	2800	1300	---	2300
17	2500	1600	2100	1400		---	1600	1200	2800	3900	---	2200
18	2500	1600	1600	1400		---	1600	1200	3000	4500	---	2200
19	2100	1600	1600	1600		---	1600	1200	3000	4600	---	2200
20	2200	1600	1600	1600		---	1600	1100	3000	4000	---	2200
21	2300	1600	1600	1400		---	1500	1200	3100	4200	---	2200
22	2000	1600	1700	1600		---	1600	1300	3600	3400	---	2300
23	1600	1700	1700	1700		---	1600	1600	3500	3800	1900	2300
24	1800	1800	1700	1700		---	1700	1800	3200	3100	2100	2400
25	2000	1800	1600	---		---	1700	1800	3600	1700	3300	2400
26	1700	1700	1600	---		---	1700	1800	3400	2800	2700	2500
27	1500	1700	1600	---		---	1700	1800	3600	3200	4300	2500
28	1500	1700	1600	---		---	1700	1900	3600	2600	3400	2500
29	2000	1800	1500	---		---	1600	1900	3500	---	2900	2600
30	1700	1700	1600	---		1400	1700	1300	3500	---	2700	2600
31	1700	---	1500	---		1400	---	1300	---	---	2600	---

SULFATE, DISSOLVED (TONS PER DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85.0	51.8	101.0	44.5		---	102.0	82.6	71.1	72.90	---	1620.0
2	73.4	55.1	101.0	37.8		---	109.0	267.0	81.2	62.40	---	607.0
3	60.5	61.6	87.2	48.6		---	109.0	349.0	62.2	57.80	---	365.0
4	82.6	58.3	69.1	44.5		---	101.0	238.0	48.6	53.90	---	243.0
5	64.3	64.3	64.8	48.6		---	113.0	146.0	55.1	---	---	175.0
6	73.4	92.3	---	56.7		---	105.0	48.6	---	---	---	156.0
7	73.4	68.0	---	60.7		---	97.2	63.2	---	---	---	123.0
8	78.0	53.5	---	45.4		---	97.2	66.7	---	40.80	---	110.0
9	73.4	56.4	---	37.8		---	89.1	---	---	31.50	---	104.0
10	77.8	79.4	---	44.5		---	109.0	---	---	34.30	---	84.2
11	82.1	85.0	---	40.5		---	101.0	---	---	30.90	---	74.5
12	81.0	89.1	---	44.5		---	108.0	---	---	25.50	---	68.3
13	60.5	85.0	---	48.6		---	---	---	---	18.40	---	62.1
14	61.6	121.0	---	40.5		---	---	---	---	13.40	---	62.1
15	84.2	162.0	73.7	44.5		---	110.0	---	257.0	11.30	---	50.3
16	77.8	162.0	73.7	44.5		---	89.1	58.3	227.0	8.77	---	50.3
17	74.2	164.0	73.7	45.4		---	95.0	35.6	212.0	263.00	---	52.3
18	74.2	147.0	60.5	106.0		---	104.0	123.0	219.0	1240.00	---	52.3
19	56.7	130.0	56.2	151.0		---	104.0	292.0	194.0	683.00	---	52.3
20	59.4	121.0	51.8	251.0		---	104.0	107.0	178.0	238.00	---	52.3
21	59.6	121.0	51.8	272.0		---	89.1	240.0	159.0	181.00	---	57.0
22	51.8	125.0	45.9	259.0		---	90.7	211.0	175.0	101.00	---	59.6
23	41.5	129.0	45.9	184.0		---	82.1	138.0	756.0	98.50	61.6	59.6
24	46.7	117.0	45.9	156.0		---	82.6	117.0	294.0	67.80	56.7	62.2
25	59.4	141.0	47.5	---		---	78.0	92.3	214.0	156.00	445.0	57.0
26	50.5	110.0	51.8	---		---	64.3	92.3	147.0	582.00	7290.0	54.7
27	44.5	115.0	47.5	---		---	96.4	82.6	126.0	207.00	3480.0	54.7
28	44.5	101.0	43.2	---		---	82.6	61.6	107.0	119.00	734.0	50.6
29	59.4	112.0	44.5	---		---	77.8	56.4	90.7	---	705.0	52.6
30	50.5	101.0	73.4	---		106.0	78.0	98.3	83.2	---	379.0	47.7
31	50.5	---	52.6	---		102.0	---	94.8	---	---	239.0	---

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

CHLORIDE, DISSOLVED (MG/L), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5300	7100	7900	5200		---	5000	8400	100	28000	---	17000
2	6500	8000	7800	5200		---	5400	8500	100	26000	---	17000
3	7200	9500	7300	5200		---	5800	10000	110	26000	---	17000
4	8600	8400	7000	5400		---	5600	8600	810	27000	---	16000
5	8400	7600	6900	5500		---	5500	9300	2400	---	---	15000
6	7800	8500	---	5400		---	5800	8500	---	---	---	15000
7	8400	4300	---	5200		---	5800	8700	---	---	---	15000
8	7700	1700	---	5000		---	5400	9600	---	16000	---	15000
9	6400	1200	---	5200		---	5600	---	---	13000	---	15000
10	6600	4100	---	5300		---	5800	---	---	16000	---	15000
11	10000	5300	---	5300		---	5500	---	---	17000	---	15000
12	11000	5700	---	5400		---	6300	---	---	15000	---	15000
13	7200	5700	---	5400		---	---	---	---	11000	---	14000
14	10000	4400	---	5200		---	---	---	---	7200	---	14000
15	18000	5700	12000	5300		---	7700	---	20000	5700	---	14000
16	15000	6000	12000	5300		---	6000	8400	20000	3800	---	14000
17	16000	6300	12000	4900		---	6600	2500	19000	32000	---	14000
18	16000	6500	6500	4500		---	6900	2600	22000	38000	---	13000
19	12000	6800	6700	6300		---	6700	2200	22000	39000	---	13000
20	13000	6500	7100	6800		---	6400	1700	21000	33000	---	13000
21	14000	6500	7200	5100		---	6300	2300	22000	35000	---	13000
22	11000	6700	7700	7200		---	6800	3400	29000	26000	---	14000
23	6300	8200	7700	7700		---	7200	6300	27000	31000	9900	15000
24	8900	8500	7700	7500		---	7700	9100	24000	23000	12000	15000
25	11000	8700	7100	---		---	7500	9500	28000	8200	25000	16000
26	7500	8300	6300	---		---	7400	8800	26000	19000	19000	16000
27	6100	8300	6400	---		---	8100	8600	28000	23000	35000	16000
28	6200	8200	6400	---		---	7400	10000	29000	17000	26000	16000
29	11000	9000	6300	---		---	7200	9900	27000	---	21000	17000
30	7700	8000	6600	---		5100	7800	3400	27000	---	19000	17000
31	7600	---	5500	---		5200	---	3600	---	---	18000	---

CHLORIDE, DISSOLVED (TONS PER DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	301.0	230.0	469.0	154.0		---	364.0	408.0	7.56	567.0	---	11000.0
2	298.0	259.0	463.0	140.0		---	394.0	1260.0	8.64	477.0	---	4130.0
3	272.0	308.0	374.0	168.0		---	423.0	1840.0	7.13	442.0	---	2390.0
4	395.0	272.0	302.0	160.0		---	378.0	1140.0	39.40	416.0	---	1560.0
5	318.0	287.0	279.0	178.0		---	416.0	753.0	110.00	---	---	1090.0
6	337.0	436.0	---	204.0		---	407.0	229.0	---	---	---	972.0
7	363.0	209.0	---	211.0		---	376.0	305.0	---	---	---	769.0
8	353.0	82.6	---	162.0		---	350.0	337.0	---	272.0	---	688.0
9	294.0	61.6	---	140.0		---	333.0	---	---	186.0	---	648.0
10	372.0	232.0	---	157.0		---	423.0	---	---	229.0	---	526.0
11	432.0	301.0	---	143.0		---	371.0	---	---	202.0	---	486.0
12	445.0	339.0	---	160.0		---	425.0	---	---	166.0	---	445.0
13	272.0	323.0	---	175.0		---	---	---	---	101.0	---	378.0
14	324.0	380.0	---	140.0		---	---	---	---	60.3	---	378.0
15	583.0	616.0	421.0	157.0		---	499.0	---	1840.00	43.1	---	306.0
16	486.0	648.0	421.0	157.0		---	356.0	272.0	1620.00	25.6	---	306.0
17	475.0	646.0	421.0	159.0		---	392.0	74.2	1440.00	2160.0	---	333.0
18	475.0	597.0	246.0	340.0		---	447.0	267.0	1600.00	10500.0	---	309.0
19	324.0	551.0	235.0	595.0		---	434.0	535.0	1430.00	5790.0	---	309.0
20	351.0	491.0	230.0	1060.0		---	415.0	165.0	1250.00	1960.0	---	309.0
21	363.0	491.0	233.0	991.0		---	374.0	460.0	1130.00	1510.0	---	337.0
22	285.0	525.0	208.0	1170.0		---	386.0	551.0	1410.00	772.0	---	363.0
23	163.0	620.0	208.0	832.0		---	369.0	544.0	5830.00	804.0	321.0	389.0
24	231.0	551.0	208.0	688.0		---	374.0	590.0	2200.00	503.0	324.0	389.0
25	327.0	681.0	211.0	---		---	344.0	487.0	1660.00	753.0	3380.0	380.0
26	223.0	538.0	204.0	---		---	280.0	451.0	1120.00	3950.0	51300.0	350.0
27	181.0	560.0	190.0	---		---	459.0	395.0	983.00	1490.0	28400.0	350.0
28	184.0	487.0	173.0	---		---	360.0	324.0	861.00	780.0	5620.0	324.0
29	327.0	559.0	187.0	---		---	350.0	294.0	700.00	---	5100.0	344.0
30	229.0	475.0	303.0	---		386.0	358.0	257.0	642.00	---	2670.0	312.0
31	226.0	---	193.0	---		379.0	---	262.0	---	---	1650.0	---

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

SOLIDS, RESIDUE ON EVAPORATION AT 180 DEG C, DISSOLVED, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10600	14100	15600	10600		---	10200	16500	2830	53200	---	32400
2	13000	15700	15400	10500		---	11000	16700	2780	50000	---	32100
3	14300	18600	14500	10600		---	11700	19900	2960	49700	---	32500
4	16900	16500	13900	11000		---	11200	17000	3600	51900	---	30860
5	16500	15000	13800	11100		---	11100	18100	5340	---	---	29300
6	15400	16700	---	10800		---	11700	16600	---	---	---	29600
7	16500	8790	---	10600		---	11600	17000	---	---	---	29200
8	15200	4220	---	10200		---	11000	18600	---	30100	---	29000
9	12700	3860	---	10500		---	11300	---	---	25500	---	29400
10	17000	8540	---	10600		---	11700	---	---	29800	---	28800
11	20200	10600	---	10700		---	11100	---	---	33200	---	28200
12	20900	11500	---	10800		---	12600	---	---	28300	---	27900
13	14300	11500	---	10900		---	---	---	---	20800	---	27100
14	20400	8960	---	10600		---	---	---	---	14300	---	27100
15	34400	11500	23400	10600		---	15300	---	38300	11500	---	26700
16	28900	12100	23900	10600		---	12000	16500	38100	7860	---	26800
17	31200	12700	23300	9880		---	13100	5510	37100	60100	---	26000
18	31300	13000	13000	9300		---	13800	5760	41700	71300	---	25600
19	23100	13500	13300	12600		---	13300	4920	42300	73200	---	25600
20	25400	13000	14000	13500		---	12700	4240	40700	62400	---	25000
21	26600	13000	14300	10400		---	12500	5170	42600	65300	---	25500
22	21800	13300	15100	14300		---	13500	7110	54100	49400	---	26900
23	12700	16200	15100	15100		---	14300	12600	50600	58500	19200	28000
24	17400	16700	15300	14900		---	15100	17700	44900	43960	23700	29000
25	21500	17100	14100	---		---	14800	18500	52700	16200	47100	30000
26	14800	16300	12700	---		---	14600	17200	49400	36700	36200	30500
27	12200	16300	12700	---		---	15900	17000	52700	44500	66700	30700
28	12300	16100	12700	---		---	14700	19600	54100	32700	48600	31400
29	21800	17600	12500	---		---	14300	19200	51300	---	40300	33000
30	15300	15800	13100	---		10300	15400	7190	50600	---	36200	33100
31	15000	---	11100	---		10500	---	7530	---	---	33500	---

SOLIDS, DISSOLVED (TONS PER DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	601.0	457.0	927.0	315.0		---	744.0	802.0	214.0	1080.0	---	21000.0
2	597.0	509.0	915.0	283.0		---	802.0	2480.0	240.0	918.0	---	7800.0
3	541.0	603.0	744.0	343.0		---	853.0	3650.0	192.0	845.0	---	4560.0
4	776.0	535.0	600.0	327.0		---	756.0	2250.0	175.0	799.0	---	2990.0
5	624.0	567.0	559.0	360.0		---	839.0	1470.0	245.0	---	---	2140.0
6	665.0	857.0	---	408.0		---	821.0	448.0	---	---	---	1920.0
7	713.0	427.0	---	429.0		---	752.0	597.0	---	---	---	1500.0
8	698.0	205.0	---	330.0		---	713.0	653.0	---	512.0	---	1330.0
9	583.0	198.0	---	283.0		---	671.0	---	---	365.0	---	1270.0
10	734.0	484.0	---	315.0		---	853.0	---	---	426.0	---	1010.0
11	873.0	601.0	---	289.0		---	749.0	---	---	394.0	---	914.0
12	846.0	683.0	---	321.0		---	850.0	---	---	313.0	---	829.0
13	541.0	652.0	---	353.0		---	---	---	---	191.0	---	732.0
14	661.0	774.0	---	286.0		---	---	---	---	120.0	---	732.0
15	1110.0	1240.0	821.0	315.0		---	991.0	---	3520.0	86.9	---	564.0
16	936.0	1310.0	839.0	315.0		---	713.0	535.0	3090.0	53.1	---	586.0
17	927.0	1300.0	818.0	320.0		---	778.0	164.0	2800.0	4060.0	---	618.0
18	930.0	1190.0	491.0	703.0		---	894.0	591.0	3040.0	19600.0	---	608.0
19	624.0	1090.0	467.0	1190.0		---	662.0	1200.0	2740.0	10900.0	---	608.0
20	686.0	983.0	454.0	2110.0		---	823.0	412.0	2420.0	3710.0	---	594.0
21	689.0	983.0	463.0	2020.0		---	742.0	1030.0	2190.0	2820.0	---	661.0
22	565.0	1040.0	408.0	2320.0		---	765.0	1150.0	2630.0	1470.0	---	697.0
23	329.0	1220.0	408.0	1630.0		---	734.0	1090.0	10900.0	1520.0	622.0	726.0
24	451.0	1080.0	413.0	1370.0		---	734.0	1150.0	4120.0	960.0	640.0	752.0
25	639.0	1340.0	419.0	---		---	679.0	949.0	3130.0	1490.0	6360.0	713.0
26	440.0	1060.0	411.0	---		---	552.0	882.0	2130.0	7630.0	97700.0	667.0
27	362.0	1100.0	377.0	---		---	902.0	780.0	1850.0	2880.0	54000.0	671.0
28	365.0	956.0	343.0	---		---	714.0	635.0	1610.0	1500.0	10500.0	636.0
29	647.0	1090.0	371.0	---		---	695.0	570.0	1330.0	---	9790.0	668.0
30	454.0	939.0	601.0	---		779.0	707.0	544.0	1200.0	---	5080.0	608.0
31	445.0	---	390.0	---		765.0	---	549.0	---	---	3080.0	---

07303402 FISH CREEK NEAR VINSON, OK

LOCATION.--Lat 35°01'08", long 99°52'48", in the NW¼SE¼SE¼ sec. 1, T. 6 N., R. 26 W., Harmon County, Hydrologic Unit 11120304, at bridge on county road, 7.0 mi (11.3 km) north of Vinson, and at mile 0.3 (0.5 km).

DRAINAGE AREA.--31.5 mi^2 (81.6 km^2).

PERIOD OF RECORD.--Water years 1978 to September 1979 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1978 to September 1979.
WATER TEMPERATURE: February 1978 to September 1979.
pH: February 1978 to September 1979.

REMARKS.--Samples were collected by a local observer on a daily basis. A partial analysis was made each month on one of those samples. An additional sample was collected monthly and specific conductance, pH, water temperature and dissolved oxygen were determined in the field.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
04...	1750	.10	5010	7.5	25.0	--	--	--	--	360	--
19...	1200	.08	16600	7.6	15.0	11.1	118	--	--	840	--
NOV											
03...	1725	.15	9580	7.6	16.5	--	--	--	--	540	--
21...	1530	.65	7400	8.5	6.0	11.6	101	--	--	520	--
DEC											
10...	1715	--	6120	7.8	2.0	--	--	--	--	520	--
12...	1600	.68	6500	8.0	6.0	12.2	106	--	--	560	--
JAN											
17...	1400	.13	7100	7.5	2.5	15.0	119	--	--	570	--
FEB											
25...	1135	--	5700	8.1	5.5	--	--	2100	2000	580	160
MAR											
04...	1030	.60	6120	7.7	8.0	--	--	--	--	600	--
15...	1035	.55	7700	7.6	10.0	9.4	89	--	--	420	--
APR											
02...	1900	4.0	5000	7.9	13.0	--	--	--	--	560	--
12...	1050	2.2	6300	7.9	9.5	12.4	119	--	--	630	--
MAY											
02...	1320	--	2500	7.6	21.0	7.9	95	--	--	--	--
04...	1720	4.0	5700	7.9	18.5	--	--	--	--	640	--
JUN											
06...	1500	2.2	6450	7.4	28.0	6.0	84	--	--	650	--
07...	1720	2.2	3410	7.8	26.5	--	--	--	--	610	--
JUL											
08...	1720	.18	8100	7.1	29.0	--	--	--	--	770	--
11...	1345	.18	8800	7.8	27.0	7.3	100	--	--	720	--
AUG											
09...	1740	.40	6900	7.4	26.0	--	--	2400	2300	700	150
SEP											
01...	1810	.25	4280	7.3	26.0	--	--	--	--	670	--

07303402 FISH CREEK NEAR VINSON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
OCT											
04...	440	--	--	--	--	--	2100	920	4150	5.64	1.12
19...	2500	--	--	--	--	--	2500	4800	11400	15.5	2.46
NOV											
03...	1400	--	--	--	--	--	--	1700	7270	9.89	2.94
21...	1500	--	--	--	--	--	--	--	--	--	--
DEC											
10...	690	--	--	--	--	--	1900	1100	4780	6.50	--
12...	850	--	--	--	--	--	1900	1300	5530	7.52	10.2
JAN											
17...	810	--	--	--	--	--	2300	1200	5250	7.14	1.84
FEB											
25...	580	46	6.3	590	8.6	84	1600	900	4520	6.15	--
MAR											
04...	620	--	--	--	--	--	1800	980	4870	6.62	7.89
15...	1200	--	--	--	--	--	1800	1300	5560	7.56	8.26
APR											
02...	98	--	--	--	--	--	1900	740	4070	5.54	44.0
12...	680	--	--	--	--	--	--	--	--	--	--
MAY											
02...	--	--	--	--	--	--	1400	170	--	--	--
04...	650	--	--	--	--	--	1900	970	4630	6.30	50.0
JUN											
06...	860	--	--	--	--	--	1800	1300	5510	7.49	33.0
07...	170	--	--	--	--	--	1700	260	3090	4.20	18.4
JUL											
08...	1400	--	--	--	--	--	2600	1800	6640	9.03	3.23
11...	1700	--	--	--	--	--	2300	1700	8210	11.2	3.99
AUG											
09...	800	50	7.2	820	16	57	2200	1200	5600	7.62	6.05
SEP											
01...	320	--	--	--	--	--	1900	470	3790	5.15	2.56

07303404 SALT CREEK NEAR VINSON, OK

LOCATION.--Lat 34°59'45", long 99°50'31", in SE¼SW¼NE¼ sec. 16, T. 6 N., R. 25 W., Greer County, Hydrologic Unit 11120303, at low-water crossing on county road, 6.7 mi (10.8 km) north of Vinson, and at mile 1.2 (1.9 km).

DRAINAGE AREA.--5.64 mi^2 (14.61 km^2).

PERIOD OF RECORD.--Water years 1978 to September 1979 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1978 to September 1979.
WATER TEMPERATURE: February 1978 to September 1979.
pH: February 1978 to September 1979.

REMARKS.--Samples were collected by a local observer on a daily basis. A partial analysis was made each month on one of those samples. An additional sample was collected monthly and specific conductance, pH, water temperature and dissolved oxygen were determined in the field.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
06...	1900	--	111000	7.7	23.5	--	--	--	--	990	--
NOV											
05...	1340	--	118000	7.8	17.5	--	--	--	--	1200	--
21...	1515	.04	137000	7.6	7.0	7.9	102	--	--	--	--
DEC											
10...	1725	--	128000	7.5	2.0	--	--	--	--	2000	--
JAN											
17...	1320	<.01	146000	7.4	6.0	9.7	129	--	--	1200	--
FEB											
15...	0930	<.10	142000	8.0	6.0	6.8	86	--	--	2100	--
22...	1210	--	133000	7.6	7.0	--	--	10000	10000	2100	1200
MAR											
04...	1040	--	134000	7.5	7.5	--	--	--	--	2000	--
15...	0940	<.10	100000	7.4	9.0	6.9	91	--	--	1900	--
APR											
03...	1710	--	77400	7.6	10.0	--	--	--	--	1700	--
12...	1000	<.10	100000	7.9	11.5	6.8	96	--	--	2100	--
MAY											
02...	1200	<.10	11000	8.5	21.0	7.2	89	--	--	--	--
05...	1640	--	54200	7.8	18.0	--	--	--	--	1500	--
JUN											
01...	1630	--	57500	7.1	28.0	--	--	--	--	1500	--
06...	1300	<.10	87000	7.7	33.5	3.8	74	--	--	1800	--
JUL											
04...	1910	--	92800	7.3	27.0	--	--	--	--	2100	--
AUG											
09...	1720	--	107000	7.5	27.0	--	--	10000	9900	2200	1100
15...	1300	<.10	94000	7.9	32.0	2.8	54	--	--	2000	--
SEP											
26...	1330	<.10	130000	8.3	28.0	2.2	44	--	--	2200	--

07303404 SALT CREEK NEAR VINSON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
06...	36000	--	--	--	--	--	4900	56000	100000	136
NOV										
05...	39000	--	--	--	--	--	--	60000	111000	151
21...	45000	--	--	--	--	--	4700	72000	--	--
DEC										
10...	43000	--	--	--	--	--	--	75000	123000	167
JAN										
17...	56000	--	--	--	--	--	--	--	--	--
FEB										
15...	65000	--	--	--	--	--	4900	75000	135000	184
22...	49000	91	211	49000	130	71	5000	80000	136000	185
MAR										
04...	--	--	--	--	--	--	3700	--	--	--
15...	--	--	--	--	--	--	5400	--	--	--
APR										
03...	19000	--	--	--	--	--	4300	33000	64200	87.3
12...	28000	--	--	--	--	--	4300	46000	84400	115
MAY										
02...	--	--	--	--	--	--	1800	2700	--	--
05...	14000	--	--	--	--	--	3700	21000	43100	58.6
JUN										
01...	15000	--	--	--	--	--	4000	--	45300	61.6
06...	22000	--	--	--	--	--	4400	37000	69500	94.5
JUL										
04...	28000	--	--	--	--	--	5400	46000	86000	117
AUG										
09...	35000	93	152	35000	160	88	5900	56000	96200	131
15...	25000	--	--	--	--	--	4800	41000	75700	103
SEP										
26...	45000	--	--	--	--	--	5700	80000	141000	192

07303406 ELM FORK OF NORTH FORK RED RIVER NEAR VINSON, OK

LOCATION.--Lat 34°59'15", long 99°50'31", in NE¼NE¼SW¼ sec. 21, T. 6 N., R. 25 W., Greer County, Hydrologic Unit 11120304, 1.1 mi (1.8 km) southwest of county road, 5.3 mi (8.5 km) north of Vinson, and at mile 48.7 (78.4 km).

DRAINAGE AREA.--428 mi^2 (1,108 km^2).

PERIOD OF RECORD.--Water years 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1978 to current year.
WATER TEMPERATURE: February 1978 to current year.
pH: February 1978 to current year.

REMARKS.--Samples were collected by a local observer on a daily basis. A partial analysis was made each month on one of those samples. An additional sample was collected monthly and specific conductance, pH, water temperature and dissolved oxygen were determined in the field.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
08...	1840	--	24700	8.0	23.5	--	--	--	--	--	--
19...	0900	15	23000	7.7	11.5	12.1	126	--	--	700	--
NOV											
05...	1330	--	24100	7.9	18.0	--	--	--	--	640	--
21...	1330	23	21000	7.7	5.0	11.7	104	--	--	530	--
DEC											
10...	1720	--	24400	7.8	2.5	--	--	--	--	550	--
12...	1300	15	19000	7.9	7.0	11.3	106	--	--	560	--
JAN											
17...	0920	--	23000	7.9	.0	12.9	100	--	--	640	--
FEB											
21...	1210	--	18800	7.8	4.0	--	--	2100	1900	580	150
MAR											
04...	1055	--	21200	7.8	8.5	--	--	--	--	610	--
APR											
03...	1700	--	17100	7.8	10.0	--	--	--	--	610	--
12...	0910	--	19000	7.9	8.5	12.7	124	--	--	640	--
MAY											
03...	0915	--	24100	7.8	19.0	--	--	--	--	680	--
JUN											
04...	1620	--	6940	7.3	26.5	--	--	--	--	380	--
06...	1000	--	17500	7.9	25.0	6.4	88	--	--	560	--
JUL											
04...	1900	--	33000	7.4	27.0	--	--	--	--	820	--
11...	0940	14	38000	7.7	27.5	7.2	112	--	--	760	--
AUG											
09...	1710	--	10200	8.0	26.0	--	--	1300	1300	400	78
15...	1100	18	27000	8.2	32.5	4.3	67	--	--	660	--
SEP											
04...	1520	--	31600	7.9	28.0	--	--	--	--	720	--
26...	1100	12	45000	8.2	25.5	4.5	68	--	--	--	--

0730406 ELM FORK NORTH FORK RED RIVER NEAR VINSON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
OCT											
08...	5300	--	--	--	--	--	1000	3100	16800	--	--
19...	4500	--	--	--	--	--	1900	8100	15800	21.5	640
NOV											
05...	5400	--	--	--	--	--	2100	6800	16500	22.4	--
21...	3900	--	--	--	--	--	1900	6300	13000	17.7	807
DEC											
10...	4900	--	--	--	--	--	1600	8800	16300	22.2	--
12...	3300	--	--	--	--	--	1700	--	11900	16.2	482
JAN											
17...	5100	--	--	--	--	--	1300	6200	12100	16.5	--
FEB											
21...	4000	81	38	--	14	130	1600	6200	12400	16.9	--
MAR											
04...	3900	--	--	--	--	--	700	6800	--	--	--
APR											
03...	--	--	--	--	--	--	1700	5200	11500	--	--
12...	3400	--	--	--	--	--	1800	5400	11500	15.6	--
MAY											
03...	5200	--	--	--	--	--	2100	8000	16600	22.6	--
JUN											
04...	1100	--	--	--	--	--	1300	1800	4600	6.26	--
06...	2900	--	--	--	--	--	--	4700	10400	14.1	--
JUL											
04...	7800	--	--	--	--	--	2400	12000	24100	32.8	--
11...	8000	--	--	--	--	--	2400	12000	21300	29.0	825
AUG											
09...	1800	75	22	1800	15	67	1000	3200	6600	8.98	--
15...	5100	--	--	--	--	--	2000	8200	15400	20.9	748
SEP											
04...	6500	--	--	--	--	--	1800	9200	21400	29.1	--
26...	8300	--	--	--	--	--	2400	16000	29000	--	940

07303500 ELM FORK OF NORTH FORK RED RIVER NEAR MANGUM, OK

LOCATION.--Lat 34°55'36", long 99°30'00", on east line sec.10, T.5 N., R.22 W., Greer County, Hydrologic Unit 11120304, at bridge on U.S. Highway 283, 3.0 mi (4.8 km) north of Mangum, 5.0 mi (8.0 km) downstream from Haystack Creek, and at mile 17.8 (28.6 km).

DRAINAGE AREA.--838 mi^2 (2,170 km^2).

PERIOD OF RECORD.--Water years 1951, 1958, 1960, 1962-63, 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to September 1976.
WATER TEMPERATURE: July 1968 to September 1976.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
OCT												
04...	1130	20000	7.9	19.0	9.0	8.2	100	21	--	--	--	--
NOV												
08...	1115	15500	7.4	11.0	2.0	11.7	112	47	--	--	--	--
DEC												
28...	1100	19000	7.6	6.0	1.0	12.3	114	19	2325	650	1625	170
JAN												
29...	1600	15000	7.8	.0	9.0	13.3	102	16	--	--	--	--
FEB												
21...	1430	16000	8.1	7.5	3.0	14.7	137	24	1988	370	925	140
MAR												
20...	1235	8400	7.8	11.0	3.0	10.9	103	109	--	--	--	--
APR												
17...	1400	14500	8.1	20.0	17	7.8	94	25	1828	700	1750	18
MAY												
15...	1340	19000	8.0	24.0	10	9.6	122	32	--	--	--	--
JUN												
27...	1400	12000	8.2	31.0	62	7.7	112	216	2000	600	1500	120
JUL												
26...	1130	7600	7.4	27.5	>1000	7.3	101	--	--	--	--	--
AUG												
16...	1100	12000	8.3	25.5	15	10.4	139	4	1598	400	1000	145
SEP												
19...	1445	--	7.8	25.0	5.0	5.2	73	--	--	--	--	--

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
OCT												
04...	--	--	1589	6876	.3	30	--	--	--	--	.130	--
NOV												
08...	--	--	1668	4003	.3	7	--	1.1	--	--	--	--
DEC												
28...	3600	24	1655	--	.2	3	--	1.1	--	--	<.001	--
JAN												
29...	--	--	1550	4874	.3	18	2.9	1.0	3.9	17	.200	--
FEB												
21...	3100	12	1489	4822	.3	7	2.1	.80	2.9	13	.050	6
MAR												
20...	--	--	1031	639	.4	2219	1.1	5.6	6.7	30	1.600	--
APR												
17...	2420	18	1656	4034	.3	49	.60	.90	1.5	6.6	.085	--
MAY												
15...	--	--	1827	--	.4	32	.70	.88	1.5	7.0	.040	--
JUN												
27...	2090	17	1720	--	.3	149	.30	1.4	1.7	7.8	.090	--
JUL												
26...	--	--	718	1877	.1	2138	<.50	3.5	3.5	--	1.400	--
AUG												
16...	3300	21	1434	--	.2	42	<.50	1.5	1.5	--	.040	2
SEP												
19...	--	--	1970	2396	.2	21	<.50	1.2	1.2	--	.045	--

07303500 ELM FORK NORTH FORK RED RIVER NEAR MANGUM, OK--Continued

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 04...	--	--	--	--	--	--	--	--	--	--	2.0
NOV 08...	--	--	--	--	--	--	--	--	--	--	--
DEC 28...	--	--	200	--	30	--	--	--	--	--	--
JAN 29...	--	--	--	--	--	--	--	--	--	--	--
FEB 21...	16	15	<100	53	50	<.5	30	6	10	19	--
MAR 20...	--	--	--	--	--	--	--	--	--	--	--
APR 17...	--	--	1750	--	160	--	--	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--	--	--
JUN 27...	--	--	3100	--	160	--	--	--	--	--	--
JUL 26...	--	--	--	--	--	--	--	--	--	--	--
AUG 16...	<10	31	740	<20	60	<.5	<10	<5	19	24	--
SEP 19...	--	--	--	--	--	--	--	--	--	--	--

07304500 ELK CREEK NEAR HOBART, OK

LOCATION.--Lat 34°54'51", long 99°06'49", in NE¼NE¼ sec.17, T.5 N., R.18 W., Kiowa County, Hydrologic Unit 11120303, near right bank on downstream side of pier of county road bridge, 7.0 mi (11.3 km) downstream from Little Elk Creek, 7.5 mi (12 km) south of Hobart, and at mile 10.9 (17.5 km).

DRAINAGE AREA.--549 mi^2 (1,422 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.-September 1904 to March 1908, October 1949 to current year.

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

GAGE.-Water-stage recorder. Datum of gage is 1,429.4 ft (435.68 m) National Geodetic Vertical Datum of 1929. See WSP 1920 for history of changes prior to Apr. 28, 1954.

REMARKS.-Records good. Part of high flows are diverted into West Otter Creek above station.

AVERAGE DISCHARGE.--33 years (water years 1905-07, 1950-79), 72.9 ft^3/s (2.065 m^3/s), 52,820 acre-ft/yr (65.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.-Maximum discharge, 22,400 ft^3/s (634 m^3/s) Oct. 4, 1955, gage height, 30.75 ft (9.373 m), from floodmarks, from rating curve extended above 5,300 ft^3/s (150 m^3/s) on basis of field estimate of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,250 ft^3/s (63.7 m^3/s) May 2, gage height, 18.77 ft (5.721 m), minimum daily discharge, 2.4 ft^3/s (0.068 m^3/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	6.1	10	4.5	11	6.8	22	30	33	27	29	9.5
2	29	6.4	10	4.5	11	29	20	901	10	33	28	9.0
3	49	6.6	10	4.4	11	7.0	19	527	9.0	34	31	8.5
4	25	6.2	9.8	4.4	11	7.9	21	68	8.0	35	32	8.2
5	8.7	5.9	9.9	4.4	10	16	19	119	7.0	27	30	7.8
6	7.7	6.4	10	4.3	10	8.6	18	15	22	19	26	7.6
7	7.4	6.5	9.4	4.3	11	8.6	18	7.8	26	20	18	7.2
8	6.9	7.8	9.2	4.3	10	9.1	17	58	33	21	13	7.0
9	6.9	7.3	12	4.3	9.6	8.3	16	38	1300	20	11	6.9
10	7.7	7.2	9.8	4.2	10	8.3	19	36	149	21	9.5	6.7
11	8.6	6.9	9.9	4.2	11	8.3	23	14	23	25	8.5	6.6
12	8.6	7.2	9.7	4.2	12	19	7.2	13	17	28	8.0	6.5
13	7.6	9.3	8.5	4.2	12	22	7.4	12	9.9	30	7.6	6.4
14	7.1	8.5	6.4	4.1	13	20	7.0	11	8.8	28	7.1	6.3
15	7.0	17	6.2	4.1	14	18	6.4	10	283	25	6.5	6.2
16	6.7	25	5.8	4.1	12	17	6.4	9.5	28	17	6.9	6.2
17	6.6	69	5.6	4.2	12	16	6.5	9.0	21	20	6.9	6.2
18	6.5	29	5.4	4.5	13	16	6.7	8.5	28	17	7.2	6.1
19	6.4	17	5.4	6.0	13	16	7.0	8.2	15	18	7.2	5.8
20	6.2	13	5.2	50	14	23	7.4	8.0	12	21	6.8	5.8
21	6.0	12	5.1	35	15	24	7.6	7.8	14	26	7.7	5.2
22	6.0	12	5.1	25	16	26	7.8	8.9	14	21	6.2	4.7
23	5.8	12	5.1	29	18	21	7.9	133	16	12	5.8	4.4
24	5.4	11	4.9	34	21	26	7.9	26	17	10	6.6	4.1
25	5.5	12	4.9	30	19	59	7.0	16	20	9.0	9.6	3.8
26	5.4	12	4.7	27	17	43	6.6	12	20	8.5	7.4	3.7
27	5.4	9.8	4.7	23	25	36	6.4	11	26	8.0	21	4.9
28	5.2	15	4.7	20	7.1	29	6.0	11	31	7.5	24	2.7
29	5.2	13	4.7	18	---	26	5.8	10	28	7.0	15	2.6
30	5.1	9.7	4.6	15	---	25	19	13	25	9.3	12	2.4
31	5.1	---	4.5	14	---	24	---	10	---	22	11	---
TOTAL	285.1	386.8	221.2	403.2	368.7	623.9	356.0	2161.7	2253.7	626.3	426.5	179.0
MEAN	9.20	12.9	7.14	13.0	13.2	20.1	11.9	69.7	75.1	20.2	13.8	5.97
MAX	49	69	12	50	25	59	23	901	1300	35	32	9.5
MIN	5.1	5.9	4.5	4.1	7.1	6.8	5.8	7.8	7.0	7.0	5.8	2.4
AC-FT	565	767	439	800	731	1240	706	4290	4470	1240	846	355

CAL YR 1978	TOTAL	17767.8	MEAN 48.7	MAX 6250	MIN 4.5	AC-FT	35240	
WTR YR 1979	TOTAL	8292.1	MEAN 22.7	MAX 1300	MIN 2.4	AC-FT	16450	

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-52, 1954-63, 1970 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1949 to September 1951, October 1958 to September 1963, November 1969 to current year.
WATER TEMPERATURE: October 1949 to September 1951, October 1958 to September 1963, November 1969 to current year.

REMARKS.--Samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples having maximum, minimum and mean specific conductance for the month. An additional sample was collected monthly and specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Monthly samples were collected by the U.S. Geological Survey and selected parameters were analyzed by Oklahoma State Department of Health.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,100 micromhos Nov. 27, 1958; minimum daily, 153 micromhos Sept. 5, 1971.
WATER TEMPERATURE: Maximum daily, 35.0°C July 8, 1951; minimum daily, -0.5°C on several days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,350 micromhos Jan. 3; minimum daily, 222 micromhos June 9.
WATER TEMPERATURE: Maximum daily, 27.0°C July 28-29; minimum daily, 0.0°C on several days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
OCT												
03...	0755	--	80020	57	826	8.0	19.0	--	--	--	--	310
09...	0815	--	80020	6.8	1900	8.0	15.5	--	--	--	--	740
16...	0835	--	80020	6.6	2190	7.8	13.5	--	--	--	--	930
19...	1740	1028	9740	6.4	2600	8.1	17.0	31	11.8	128	20	--
19...	1745	--	80020	6.4	2600	--	17.0	--	11.8	128	--	1100
NOV												
04...	0805	--	80020	6.4	2190	7.7	16.0	--	--	--	--	980
17...	0810	--	80020	3.2	587	7.5	4.5	--	--	--	--	220
22...	0900	--	80020	12	1620	8.5	6.0	--	11.1	93	--	660
22...	0901	1028	9740	12	1620	8.5	6.0	72	11.1	93	29	--
26...	0855	--	80020	12	1870	8.1	12.5	--	--	--	--	780
DEC												
01...	0810	--	80020	10	2080	7.9	7.5	--	--	--	--	880
10...	0845	--	80020	9.2	2290	8.5	.5	--	--	--	--	910
13...	1015	--	80020	10	2100	8.2	2.0	--	12.2	91	--	--
13...	1016	1028	9740	10	2100	8.2	2.0	9.0	12.2	91	9	--
17...	0910	--	80020	5.6	2190	8.0	1.5	--	--	--	--	850
JAN												
03...	0910	--	80020	4.4	2350	8.1	.5	--	--	--	--	950
10...	0845	--	80020	4.2	2120	7.9	1.0	--	--	--	--	860
18...	0930	--	80020	3.5	2200	8.2	2.5	--	14.9	116	--	1000
18...	0931	1028	9740	3.5	2200	8.2	2.5	2.0	14.9	116	24	--
21...	0915	--	80020	1.5	1900	8.1	.5	--	--	--	--	750
FEB												
10...	0905	--	80020	10	2090	7.6	1.0	--	--	--	--	910
15...	1310	--	80020	14	1960	8.8	3.5	--	14.0	105	--	860
15...	1311	1028	9740	14	1960	8.8	3.5	5.0	14.0	105	10	--
22...	0920	--	80020	16	1930	7.6	7.0	--	--	--	--	850
25...	0905	--	80020	19	1780	7.9	2.5	--	--	--	--	750
MAR												
03...	0930	--	80020	7.0	1800	8.7	7.0	--	--	--	--	760
15...	1530	--	80020	18	2100	8.3	10.5	--	12.2	113	--	830
15...	1531	1028	9740	18	2100	8.3	10.5	9.0	12.2	113	24	--
21...	0845	--	80020	24	2070	8.6	12.0	--	--	--	--	890
25...	0820	--	80020	31	602	7.9	9.0	--	--	--	--	--
APR												
04...	0740	--	80020	21	1830	8.4	8.0	--	--	--	--	750
11...	0725	--	80020	30	614	7.4	12.0	--	--	--	--	220
13...	1000	--	80020	7.0	1970	7.9	13.5	--	9.0	92	--	--
13...	1001	1028	9740	7.0	1970	7.9	13.5	42	9.0	92	27	--

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
APR												
26...	0750	--	80020	6.6	2070	8.1	17.5	--	--	--	--	880
MAY												
01...	0825	--	80020	31	2040	7.8	18.0	--	--	--	--	--
03...	0835	--	80020	19	284	7.3	18.5	--	--	--	--	110
03...	0930	--	80020	18	300	7.5	17.5	--	8.6	94	--	110
03...	0931	1028	9740	18	300	7.5	17.5	3.0	8.6	94	110	--
26...	0750	--	80020	13	1160	7.6	17.0	--	--	--	--	470
JUN												
07...	1100	--	80020	22	580	8.5	25.0	--	6.7	86	--	--
07...	1101	1028	9740	22	580	8.5	25.0	230	6.7	86	64	--
09...	0735	--	80020	1420	222	7.2	19.0	--	--	--	--	88
17...	0715	--	80020	21	1040	7.7	22.0	--	--	--	--	400
26...	0735	--	80020	20	1730	7.8	24.0	--	--	--	--	700
JUL												
04...	0735	--	80020	36	501	7.3	24.0	--	--	--	--	170
07...	0720	--	80020	18	1920	7.9	25.5	--	--	--	--	720
12...	0945	1028	9740	23	730	7.6	24.5	25	6.7	84	20	--
12...	1000	--	80020	23	730	7.6	24.5	--	6.7	84	--	250
24...	0745	--	80020	10	1120	7.9	26.0	--	--	--	--	440
AUG												
04...	0740	--	80020	33	420	7.6	24.5	--	--	--	--	140
16...	0715	--	80020	7.2	1830	7.4	25.0	--	--	--	--	--
16...	1330	--	80020	7.0	1800	8.4	26.0	--	5.9	76	--	730
16...	1331	1028	9740	7.0	1800	8.4	26.0	86	5.9	76	53	--
27...	0800	--	80020	24	1070	7.4	22.0	--	--	--	--	360
SEP												
04...	0830	--	80020	8.2	1020	7.8	24.0	--	--	--	--	390
08...	0755	--	80020	7.0	1510	8.2	23.0	--	--	--	--	580
19...	0830	--	80020	5.8	2000	7.9	19.0	--	--	--	--	840
27...	1100	--	80020	3.6	2200	7.8	20.0	--	7.1	82	--	700
27...	1101	1028	9740	3.6	2200	7.8	20.0	20	7.1	82	18	--

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ PUTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)
OCT												
03...	190	--	73	--	--	32	--	53	26	1.3	--	--
09...	410	--	160	--	--	83	--	140	29	2.2	--	--
16...	600	--	190	--	--	110	--	170	28	2.4	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	270	--	--	97	--	180	27	2.4	--	--
NOV												
04...	670	--	210	--	--	110	--	170	27	2.4	--	--
17...	120	--	53	--	--	21	--	34	25	1.0	--	--
22...	420	--	150	--	--	70	--	120	28	2.0	--	--
22...	--	320	--	800	160	--	--	--	--	--	--	--
26...	460	--	180	--	--	80	--	130	26	2.0	--	--
DEC												
01...	530	--	200	--	--	92	--	150	27	2.2	--	--
10...	520	--	200	--	--	100	--	180	30	2.6	--	--
13...	--	--	--	--	--	100	--	180	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
17...	460	--	180	--	--	97	--	180	31	2.7	--	--
JAN												
03...	540	--	200	--	--	110	--	200	31	2.8	--	--
10...	520	--	180	--	--	100	--	170	30	2.5	--	--
18...	670	--	230	--	--	110	--	160	25	2.2	--	--
18...	--	192	--	659	81	--	161	--	--	--	--	6.2
21...	470	--	160	--	--	85	--	150	30	2.4	--	--
FEB												
10...	550	--	200	--	--	100	--	160	28	2.3	--	--
15...	720	--	190	--	--	93	--	130	25	1.9	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
22...	530	--	190	--	--	90	--	140	26	2.1	--	--
25...	460	--	170	--	--	80	--	130	27	2.1	--	--
MAR												
03...	460	--	170	--	--	81	--	120	25	1.9	--	--
15...	500	--	180	--	--	92	--	140	27	2.1	--	--
15...	--	290	--	725	110	--	--	--	--	--	--	--
21...	530	--	200	--	--	96	--	150	27	2.2	160	--
25...	--	--	--	--	--	--	--	--	--	--	87	--
APR												
04...	420	--	160	--	--	85	--	--	--	--	110	--
11...	110	--	55	--	--	20	--	41	28	1.2	46	--
13...	--	--	--	--	--	85	--	140	--	--	150	--
13...	--	--	--	--	--	--	--	--	--	--	--	--

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SODIUM+POTASSIUM DISSOLVED (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)
APR												
26...	560	--	170	--	--	110	--	150	27	2.2	160	--
MAY												
01...	--	--	190	--	--	--	--	150	--	--	160	--
03...	30	--	31	--	--	7.4	--	16	29	.7	21	--
03...	0	--	31	--	--	7.9	--	16	23	.7	22	--
03...	--	25	--	63	33	--	--	--	--	--	--	--
26...	250	--	99	--	--	53	--	82	27	1.7	88	--
JUN												
07...	--	--	--	--	--	--	--	--	--	--	22	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
09...	23	--	24	--	--	6.9	--	14	24	.6	19	--
17...	180	--	88	--	--	43	--	70	27	1.5	77	--
26...	380	--	150	--	--	78	--	--	--	--	110	--
JUL												
04...	83	--	42	--	--	15	--	32	28	1.1	40	--
07...	370	--	160	--	--	77	--	120	26	2.0	130	--
12...	--	52	--	170	22	--	39	--	--	--	--	9.4
12...	120	--	60	--	--	24	--	34	22	.9	42	--
24...	180	--	98	--	--	47	--	78	28	1.6	85	--
AUG												
04...	56	--	35	--	--	12	--	23	26	.9	29	--
16...	--	--	--	--	--	73	--	130	--	--	140	--
16...	470	--	150	--	--	87	--	140	44	2.3	150	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
27...	190	--	85	--	--	37	--	82	45	1.7	88	--
SEP												
04...	200	--	87	--	--	41	--	71	28	1.6	78	--
08...	280	--	130	--	--	62	--	110	42	2.0	120	--
19...	570	--	180	--	--	96	--	--	--	--	170	--
27...	400	--	160	--	--	74	--	150	31	2.5	160	--
27...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT												
03...	6.2	150	0	120	2.4	220	49	--	--	--	547	--
09...	6.7	400	0	330	6.4	550	140	--	--	--	1390	--
16...	6.7	400	0	330	10	710	160	--	--	--	1670	--
19...	--	--	--	--	--	--	--	.4	--	--	--	--
19...	6.6	--	--	--	--	--	--	--	--	13	2720	--
NOV												
04...	8.2	--	--	310	--	760	210	--	--	--	1620	--
17...	4.3	--	--	94	--	140	37	--	--	--	374	--
22...	7.1	290	1	240	1.5	500	120	--	.3	13	1180	1270
22...	--	--	--	--	--	--	--	.3	--	--	--	--
26...	6.4	--	--	320	--	540	140	--	--	--	1380	--
DEC												
01...	6.8	--	--	350	--	630	150	--	--	--	1580	--
10...	10	--	--	390	--	690	180	--	--	--	1750	--
13...	8.4	420	0	340	4.3	720	160	--	.4	14	1700	--
13...	--	--	--	--	--	--	--	.4	--	--	--	--
17...	7.1	--	--	390	--	620	170	--	--	--	1630	--
JAN												
03...	6.5	--	--	410	--	690	190	--	--	--	1760	--
10...	5.8	--	--	340	--	630	160	--	--	--	1580	--
18...	5.7	430	0	350	4.3	720	180	--	.4	8.0	1670	1630
18...	--	--	--	--	--	--	--	.4	--	--	--	--
21...	5.0	--	--	280	--	570	140	--	--	--	1380	--
FEB												
10...	5.2	--	--	360	--	650	130	--	--	--	1590	--
15...	2.6	--	--	--	--	650	160	--	.4	11	--	1340
15...	--	--	--	--	--	--	--	.4	--	--	--	--
22...	4.6	--	--	320	--	600	120	--	--	--	1440	--
25...	4.0	--	--	290	--	560	110	--	--	--	1330	--
MAR												
03...	4.7	--	--	300	--	570	100	--	--	--	1360	--
15...	5.3	--	--	330	--	620	110	--	.5	4.0	1460	1350
15...	--	--	--	--	--	--	--	.8	--	--	--	--
21...	4.9	--	--	360	--	660	130	--	--	--	1580	--
25...	--	--	--	98	--	160	26	--	--	--	416	--
APR												
04...	6.0	--	--	330	--	580	110	--	--	--	1390	--
11...	5.0	--	--	110	--	140	41	--	--	--	394	--
13...	5.6	--	--	280	--	550	160	--	.4	9.0	1410	--
13...	--	--	--	--	--	--	--	.4	--	--	--	--

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
APR												
26...	6.1	--	--	320	--	680	140	--	--	--	1640	--
MAY												
01...	6.5	--	--	350	--	620	120	--	--	--	1570	--
03...	4.7	--	--	78	--	35	15	--	--	--	185	--
03...	6.3	--	--	--	--	37	14	--	.2	5.6	166	191
03...	--	--	--	--	--	--	--	.2	--	--	--	--
26...	6.2	--	--	--	--	280	73	--	--	--	796	--
JUN												
07...	--	--	--	--	--	120	--	--	.2	8.4	320	--
07...	--	--	--	--	--	--	--	.2	--	--	--	--
09...	5.1	--	--	65	--	21	20	--	--	--	155	--
17...	6.6	--	--	220	--	210	68	--	--	--	714	--
26...	7.2	--	--	320	--	--	93	--	--	--	1320	--
JUL												
04...	7.8	--	--	84	--	96	40	--	--	--	326	--
07...	7.8	--	--	350	--	520	110	--	--	--	1300	--
12...	--	--	--	--	--	--	--	.3	--	--	--	--
12...	7.5	--	--	130	--	160	36	--	.3	8.8	426	409
24...	6.6	--	--	260	--	270	70	--	--	--	755	--
AUG												
04...	5.8	--	--	81	--	78	28	--	--	--	255	--
16...	7.4	--	--	280	--	570	130	--	--	--	1330	--
16...	7.3	--	--	260	--	550	130	--	.4	1.9	1250	1220
16...	--	--	--	--	--	--	--	.4	--	--	--	--
27...	5.8	--	--	170	--	260	92	--	--	--	623	--
SEP												
04...	6.8	--	--	190	--	240	68	--	--	--	678	--
08...	8.1	--	--	--	--	370	--	--	--	--	1070	--
19...	7.8	--	--	270	--	630	160	--	--	--	1500	--
27...	8.5	--	--	300	--	520	150	--	.6	7.5	1290	1250
27...	--	--	--	--	--	--	134	.5	--	--	--	--

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BORON, DISSOLVED (UG/L AS B)
OCT												
03...	.74	84.2	--	--	--	--	--	--	--	--	--	--
09...	1.89	25.5	--	--	--	--	--	--	--	--	--	--
16...	2.27	29.8	--	--	--	--	--	--	--	--	--	--
19...	--	--	67	--	2.4	--	--	.950	--	--	--	--
19...	3.70	47.0	--	--	--	--	--	--	--	--	--	--
NOV												
04...	2.20	28.0	--	--	--	--	--	--	--	--	--	--
17...	.51	3.23	--	--	--	--	--	--	--	--	--	--
22...	1.60	38.2	--	--	--	--	--	--	80	--	5	340
22...	--	--	199	--	2.3	--	--	.901	--	--	--	--
26...	1.88	44.7	--	--	--	--	--	--	--	--	--	--
DEC												
01...	2.15	42.7	--	--	--	--	--	--	--	--	--	--
10...	2.38	43.5	--	--	--	--	--	--	--	--	--	--
13...	--	45.9	--	--	--	--	--	--	--	--	--	--
13...	--	--	47	16	2.5	18	82	1.038	--	--	--	--
17...	2.22	24.6	--	--	--	--	--	--	--	--	--	--
JAN												
03...	2.39	20.9	--	--	--	--	--	--	--	--	--	--
10...	2.15	17.9	--	--	--	--	--	--	--	--	--	--
18...	2.27	15.8	--	--	--	--	--	--	--	--	--	--
18...	--	--	9	2.7	2.6	5.2	23	.801	--	<1	--	--
21...	1.88	5.59	--	--	--	--	--	--	--	--	--	--
FEB												
10...	2.16	42.9	--	--	--	--	--	--	--	--	--	--
15...	1.82	50.7	--	--	--	--	--	--	100	--	2	380
15...	--	--	10	2.3	2.8	5.1	23	1.200	--	--	--	--
22...	1.96	62.2	--	--	--	--	--	--	--	--	--	--
25...	1.81	68.2	--	--	--	--	--	--	--	--	--	--
MAR												
03...	1.85	25.7	--	--	--	--	--	--	--	--	--	--
15...	1.99	71.0	--	--	--	--	--	--	--	--	--	--
15...	--	--	35	--	3.2	--	--	1.000	--	--	--	--
21...	2.15	102	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
04...	--	78.8	--	--	--	--	--	--	--	--	--	--
11...	.54	31.9	--	--	--	--	--	--	--	--	--	--
13...	--	26.6	--	--	--	--	--	--	--	--	--	--
13...	--	--	131	.90	1.8	2.7	12	.680	--	--	--	--

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)
APR												
26...	2.23	29.2	--	--	--	--	--	--	--	--	--	--
MAY												
01...	2.14	131	--	--	--	--	--	--	--	--	--	--
03...	.25	9.49	--	--	--	--	--	--	--	--	--	--
03...	.23	8.07	--	--	--	--	--	--	800	--	5	90
03...	--	--	1989	.50	2.3	2.8	12	1.500	--	--	--	--
26...	1.08	27.9	--	--	--	--	--	--	--	--	--	--
JUN												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	900	1.0	3.9	4.9	22	.640	--	--	--	--
09...	.21	594	--	--	--	--	--	--	--	--	--	--
17...	.97	40.5	--	--	--	--	--	--	--	--	--	--
26...	1.80	71.3	--	--	--	--	--	--	--	--	--	--
JUL												
04...	.44	31.7	--	--	--	--	--	--	--	--	--	--
07...	1.77	63.2	--	--	--	--	--	--	--	--	--	--
12...	--	--	59	.80	1.8	2.6	12	.300	--	11	--	--
12...	.58	26.5	--	--	--	--	--	--	--	--	--	--
24...	1.03	20.4	--	--	--	--	--	--	--	--	--	--
AUG												
04...	.35	22.7	--	--	--	--	--	--	--	--	--	--
16...	--	25.9	--	--	--	--	--	--	--	--	--	--
16...	1.70	23.6	--	--	--	--	--	--	0	--	4	440
16...	--	--	253	<.50	3.7	3.7	--	.440	--	--	--	--
27...	.85	40.4	--	--	--	--	--	--	--	--	--	--
SEP												
04...	.92	15.0	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	23.5	--	--	--	--	--	--	--	--	--	--
27...	1.75	12.5	--	--	--	--	--	--	--	--	--	--
27...	--	--	58	1.2	2.3	3.5	15	1.000	--	--	--	--

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
NOV											
04...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
22...	--	3	--	0	--	0	--	120	--	35	--
22...	--	--	--	--	--	--	7500	--	--	--	420
26...	--	--	--	--	--	--	--	--	--	--	--
DEC											
01...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
JAN											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	2	--	15	--	5	--	175	--	33	--	125
21...	--	--	--	--	--	--	--	--	--	--	--
FEB											
10...	--	--	--	--	--	--	--	--	--	--	--
15...	--	0	--	10	--	0	--	10	--	0	--
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	1060	--	--	--	210
21...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
APR											
26...	--	--	--	--	--	--	--	--	--	--	--
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	0	--	20	--	0	--	100	--	0	--
03...	--	--	--	--	--	--	43000	--	--	--	1200
26...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
JUL											
04...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
12...	<2	--	<10	--	7	--	1900	--	20	--	110
12...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	0	--	10	--	10	--	0	--	0	--
16...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	10
19...	--	--	--	--	--	--	--	--	--	--	--
NOV											
04...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
22...	250	--	.1	--	5	--	--	--	--	40	8.3
22...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
DEC											
01...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
JAN											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	<.5	--	10	--	3	--	3	12	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
FEB											
10...	--	--	--	--	--	--	--	--	--	--	--
15...	150	--	.0	--	--	--	3	--	--	20	5.6
15...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR											
26...	--	--	--	--	--	--	--	--	--	--	--
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
03...	20	--	.0	--	0	--	1	--	--	20	9.8
03...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
JUL											
04...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
12...	--	<.5	--	<10	--	<5	--	<2	6	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	70	--	.1	--	0	--	2	--	--	10	22
16...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--

07304500 ELK CREEK NEAR HOBART, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1250	2120	2080	2240	---	1880	1600	2040	1120	1040	997	1120
2	1140	2180	2100	2280	---	1910	1700	1990	515	569	473	1190
3	826	2180	2130	2350	---	1800	1780	284	704	523	430	1280
4	1070	2190	2140	2310	---	1840	1830	301	836	501	420	1020
5	1660	2190	2140	2280	---	1930	1930	448	930	981	749	1350
6	1680	2100	2160	2180	---	1940	2000	560	966	1640	965	1400
7	1750	2090	2170	2150	1930	1980	2010	766	496	1700	832	1460
8	1860	2100	2210	2180	1980	1990	2020	898	689	1590	1030	1510
9	1900	2070	2220	2180	2060	2000	1990	1580	222	1380	1200	1550
10	1940	2090	2290	2120	2090	2020	1980	1810	288	1370	1290	1580
11	1990	2080	2230	2130	2020	2000	614	1570	477	647	1440	1570
12	1950	2090	2230	2070	1990	2020	1130	1580	470	644	1620	1650
13	2030	2040	2180	2060	1990	2040	1190	1590	556	653	1620	1650
14	2140	2060	2200	2180	1990	2020	1710	1600	655	751	1720	1670
15	2170	2080	2130	2230	2010	1970	1880	1640	817	986	1800	1670
16	2190	2050	2160	2270	2010	1920	1950	1610	898	1290	1830	1730
17	2170	587	2190	2180	2000	1900	1990	1650	1040	1290	1750	1940
18	2120	819	2160	2080	1900	1900	1920	1740	1050	870	1750	1960
19	2130	1250	2150	2030	1850	1990	1940	1710	1180	978	1770	2000
20	2030	1190	2140	2040	1850	2050	2000	1820	1270	1190	1800	1940
21	2040	1360	2140	1900	1960	2070	2020	1770	1340	1280	1750	1820
22	2080	1460	2150	2040	1930	1570	1980	1910	1380	901	1780	1950
23	2100	1610	2150	2030	1900	1660	2000	1920	1480	844	1780	1910
24	2050	1690	2160	2220	1840	1060	1990	1400	1480	1120	1810	1930
25	2100	1810	2140	2100	1780	602	2010	1060	1580	1160	1550	1960
26	2150	1870	2160	1980	1840	811	2070	1160	1730	1380	1220	1980
27	2150	1910	2160	---	1920	963	2000	1290	1010	1470	1070	1970
28	2120	1960	2140	---	1860	1130	2010	1290	782	1580	1770	1940
29	2160	2020	2140	---	---	1210	2030	1520	1060	1590	811	1890
30	2070	2000	2150	---	---	1320	2030	1610	1250	1640	934	1830
31	2060	---	2150	---	---	1430	---	766	---	734	982	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.5	7.5	.0	---	7.0	15.0	18.0	20.5	24.5	24.0	25.5
2	19.5	14.0	9.0	.0	---	9.5	11.0	18.5	19.0	21.5	24.0	25.5
3	19.0	16.0	3.5	.5	---	7.0	10.5	18.5	19.5	23.0	25.0	25.5
4	18.5	16.0	1.5	.0	---	4.0	8.0	12.5	21.5	24.0	24.5	24.0
5	17.5	15.5	3.5	.0	---	6.0	10.0	12.0	24.0	26.0	25.5	25.0
6	15.0	13.0	3.0	.0	---	8.0	12.5	14.0	22.0	24.5	26.0	25.5
7	15.0	9.5	1.5	.5	.5	10.0	14.5	18.0	23.0	25.5	26.5	25.0
8	16.0	10.0	.0	.5	1.0	10.5	17.5	21.0	25.5	26.0	26.0	23.0
9	15.5	10.0	.0	.0	.5	10.0	15.0	21.0	19.0	26.5	26.0	23.5
10	16.0	12.0	.5	1.0	1.0	9.0	15.0	20.5	18.0	24.0	26.0	21.5
11	17.5	10.5	.0	.0	1.0	8.5	12.0	17.0	19.0	24.0	23.5	21.0
12	18.0	9.0	.0	1.0	2.0	10.0	12.0	14.5	21.0	24.5	22.0	22.5
13	16.0	10.5	1.0	.0	2.0	11.0	14.0	17.0	21.5	25.0	23.0	21.0
14	11.0	10.5	.5	.0	3.0	11.0	14.5	18.0	23.0	25.5	25.0	19.0
15	12.0	7.5	2.0	.5	5.0	11.0	17.0	18.5	23.0	26.0	25.5	17.5
16	13.5	6.0	2.0	1.0	.5	9.5	18.5	19.0	22.5	26.5	25.0	17.0
17	13.0	4.5	1.5	.5	.0	9.5	20.0	20.0	22.0	26.0	25.5	17.5
18	13.0	4.0	3.0	2.0	.5	12.5	18.5	19.0	23.0	25.0	25.0	18.0
19	14.0	6.0	7.0	1.0	1.0	13.0	19.0	21.5	23.5	25.0	25.0	19.0
20	14.5	5.0	9.0	2.0	1.0	10.0	19.5	23.0	23.5	24.0	24.0	20.0
21	15.0	5.0	5.0	.5	4.0	12.0	18.0	21.0	25.0	24.0	23.5	19.0
22	16.0	6.0	3.5	1.0	7.0	13.5	18.0	19.0	25.5	26.0	24.5	19.0
23	14.0	8.0	3.5	.5	7.0	10.0	18.5	18.5	26.0	25.5	24.5	19.5
24	12.5	9.0	2.5	.0	4.0	10.0	19.0	19.0	26.0	26.0	24.0	19.5
25	12.0	12.5	3.0	1.5	2.5	9.0	20.0	19.0	25.0	26.5	23.0	21.0
26	12.0	12.5	2.0	1.5	4.0	11.0	17.5	17.0	24.0	26.0	24.0	20.0
27	10.5	8.0	1.5	---	6.5	10.5	18.0	20.5	24.5	26.0	22.0	19.5
28	11.5	6.0	5.0	---	7.0	13.0	14.0	22.0	24.5	27.0	23.0	20.5
29	12.0	6.0	7.5	---	---	16.0	13.0	22.5	25.5	27.0	24.5	20.5
30	12.5	6.5	2.0	---	---	16.0	16.0	23.0	26.5	26.5	24.0	20.0
31	13.0	---	.0	---	---	14.0	---	20.0	---	24.5	26.0	---

07305000 NORTH FORK RED RIVER NEAR HEADRICK, OK

LOCATION.--Lat 34°38'04", long 99°05'47", in NW¼NE¼ sec.21, T.2 N., R.18 W., Tillman County, Hydrologic Unit 11120303, near left bank on downstream side of pier of bridge on U.S. Highway 62, 2.5 mi (4.0 km) east of Headrick, 12.9 mi (20.8 km) upstream from Otter Creek, and at mile 33.0 (53.1 km).

DRAINAGE AREA.--4,244 mi^2 (10,922 km^2), of which 399 mi^2 (1,033 km^2) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1241: 1905-7.

GAGE.-Water-stage recorder. Datum of gage is 1,294.83 ft (394.664 m), National Geodetic Vertical Datum of 1929. Prior to July 18, 1905, nonrecording gage at site 0.2 mi (0.3 km) downstream at different datum. July 18, 1905 to Mar. 30, 1908, nonrecording gage at Navajo damsite 10.4 mi (16.7 km) upstream at different datum. Oct. 1, 1937, to Jan. 29, 1969, water-stage recorder at present site at datum 5.0 ft (1.52 m) higher.

REMARKS.-Records poor. Flow regulated since December 1943 by storage and diversion at Lake Altus, 39.5 mi (63.6 km) above station (station 07302500). Diversions for irrigation of about 48,000 acres (194 km^2) above station; some return flow may re-enter at Stinking Creek, 16 mi (26 km) below station.

AVERAGE DISCHARGE.--(Prior to regulation by Lake Altus) 8 years (1906-07, 1938-43), 455 ft^3/s (12.89 m^3/s), 329,600 acre-ft/yr (406 hm^3/yr); (since regulation by Lake Altus) 35 years (water years 1945-79), 272 ft^3/s (7.703 m^3/s), 197,100 acre-ft/yr (243 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft^3/s (991 m^3/s) May 28, 1977, gage height, 17.26 ft (5.261 m) present datum; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 21.1 ft (6.43 m) present datum occurred sometime prior to 1927, from information by State Highway Department.

EXTREMES FOR CURRENT YEAR.-Maximum discharge, 3,830 ft^3/s (108 m^3/s) June 9, gage height, 10.57 ft (3.222 m); minimum daily, 16 ft^3/s (0.45 m^3/s) Sept. 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	47	63	50	102	71	123	70	113	84	201	74
2	82	47	62	50	100	66	112	70	224	76	110	54
3	76	47	61	52	95	72	105	916	181	70	78	45
4	82	46	60	52	87	80	102	1090	149	64	70	44
5	86	45	58	52	80	68	101	650	126	58	64	38
6	73	45	57	52	109	68	101	424	109	56	70	36
7	64	45	55	52	119	66	99	214	145	130	102	34
8	65	46	55	52	111	61	99	154	256	372	80	32
9	62	46	54	54	105	58	98	150	3250	237	64	31
10	59	46	60	54	93	55	174	127	2220	131	60	30
11	59	46	83	54	86	54	610	116	2790	100	58	29
12	58	46	70	54	82	52	214	110	1060	88	56	28
13	56	47	59	56	79	51	134	92	532	78	62	27
14	55	49	55	56	80	55	116	85	374	72	142	26
15	53	51	55	60	79	58	112	60	277	66	120	26
16	52	54	55	64	90	58	104	55	439	54	105	25
17	50	65	53	60	88	61	103	60	249	50	76	24
18	49	89	52	56	86	66	104	76	200	200	105	24
19	47	91	51	80	84	66	98	74	140	155	121	23
20	47	67	52	110	82	261	91	218	110	238	88	23
21	46	64	52	77	80	282	86	485	100	217	84	23
22	46	64	52	78	81	222	82	357	84	165	81	23
23	45	62	52	79	77	979	79	254	72	136	78	22
24	45	60	52	96	74	1170	76	256	62	110	72	21
25	45	60	51	79	74	429	74	197	110	97	74	20
26	46	69	51	92	73	306	73	139	90	96	70	18
27	47	67	51	99	71	246	72	122	74	96	68	17
28	47	66	51	152	69	211	71	120	64	97	111	16
29	47	65	51	116	---	177	71	108	58	102	105	16
30	48	63	50	102	---	152	70	103	90	95	164	16
31	48	---	50	80	---	136	---	118	---	120	102	---
TOTAL	1777	1705	1733	2220	2436	5757	3554	7070	13748	3710	2841	865
MEAN	57.3	56.8	55.9	71.6	87.0	186	118	228	458	120	91.6	28.8
MAX	92	91	83	152	119	1170	610	1090	3250	372	201	74
MIN	45	45	50	50	69	51	70	55	58	50	56	16
AC-FT	3520	3380	3440	4400	4830	11420	7050	14020	27270	7360	5640	1720

CAL YR 1978 TOTAL 116389 MEAN 319 MAX 18900 MIN 32 AC-FT 230900
WTR YR 1979 TOTAL 47416 MEAN 130 MAX 3250 MIN 16 AC-FT 94050

07305000 NORTH FORK RED RIVER NEAR HEADRICK, OK--Continued
(National stream-quality accounting network station)

PERIOD OF RECORD.--Water years 1951-52, 1954-63, 1968 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1959 to September 1963, July 1968 to current year.
WATER TEMPERATURE: November 1959 to September 1963, July 1968 to current year.

INSTRUMENTATION.-Water-quality monitor since August 1969.

REMARKS.-In addition to water quality monitor, samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples at or about the 5th, 15th, and 25th of the month. An additional sample was collected monthly and specific conductance, pH, water temperature, and dissolved oxygen were determined in the field. Mean daily sulfate, chloride, and dissolved solids concentrations, and loads for those parameters were calculated from specific conductance values.

COOPERATION.--Monthly samples were collected by the U.S. Geological Survey and selected parameters were analyzed by Oklahoma State Department of Health.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 23,300 micromhos June 8, 1974; minimum daily, 434 micromhos Sept. 18, 1976.
WATER TEMPERATURE: Maximum, 38°C July 19, 1969, Aug. 4, 1977; minimum, 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 14,000 micromhos Dec. 19; minimum daily, 763 micromhos June 10.
WATER TEMPERATURE: Maximum daily, 33.0°C Aug. 4, 8, Sept. 2; minimum daily, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT												
05...	0851	86	5900	8.2	17.0	--	--	--	--	--	870	750
15...	0900	53	10900	7.9	12.0	--	--	--	--	--	1100	1000
18...	1000	49	11500	8.1	16.0	7.1	6.3	68	66	51	1400	1200
25...	0940	45	11600	8.0	12.0	--	--	--	--	--	1200	910
NOV												
05...	0715	45	12200	7.9	16.0	--	--	--	--	--	1300	1200
19...	0900	93	5100	8.0	1.0	--	--	--	--	--	850	690
20...	1345	66	8200	8.5	8.5	9.6	12.0	109	K850	K1000	--	--
25...	0700	59	10800	8.1	13.0	--	--	--	--	--	1400	1200
DEC												
05...	0730	58	11400	7.9	3.0	--	--	--	--	--	1200	1100
11...	1430	83	11500	7.9	2.0	12	13.0	98	24	53	1500	1400
15...	1045	55	11000	8.0	3.0	--	--	--	--	--	1300	1100
25...	0900	51	12500	8.0	3.0	--	--	--	--	--	1300	1200
JAN												
05...	1000	52	8950	7.7	.0	--	--	--	--	--	630	420
15...	0900	60	12300	7.8	.0	--	--	--	--	--	--	--
16...	1120	64	13200	8.5	.0	1.3	18.5	138	K1	26	1700	1500
25...	1000	79	11400	7.9	2.0	--	--	--	--	--	--	--
FEB												
05...	1000	80	10400	7.8	.0	--	--	--	--	--	1400	1300
14...	1220	79	11000	8.9	1.5	4.5	14.2	128	48	63	1400	1200
15...	1000	79	9890	7.7	.5	--	--	--	--	--	970	900
25...	0900	76	11800	7.8	.0	--	--	--	--	--	1400	1300
MAR												
05...	0830	67	9190	8.1	5.0	--	--	--	--	--	--	--
14...	0945	55	10800	8.5	10.5	1.5	8.9	86	K16	K16	1200	1000
15...	1000	58	9390	8.2	11.0	--	--	--	--	--	--	--
25...	0840	441	2190	8.2	10.0	--	--	--	--	--	--	--
APR												
05...	1000	100	7970	8.0	12.0	--	--	--	--	--	1300	1200
11...	1220	618	2350	8.0	10.0	680	9.5	90	580	660	390	310
15...	0830	114	9050	8.0	17.0	--	--	--	--	--	1200	1100
25...	0830	74	10200	7.8	21.0	--	--	--	--	--	1400	1300
MAY												
01...	0930	70	9500	7.9	17.5	9.5	8.8	100	K31	47	1300	1200
05...	0845	649	2120	7.6	14.0	--	--	--	--	--	490	420
14...	0900	85	8180	8.0	17.0	--	--	--	--	--	1200	1100
25...	0800	207	4700	7.6	18.0	--	--	--	--	--	950	750
JUN												
05...	0820	127	6240	7.6	23.0	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
JUN												
05...	1800	120	7500	8.5	25.5	180	6.7	88	170	ND	1200	1100
15...	0815	285	3390	7.8	22.0	--	--	--	--	--	1100	1000
25...	0800	110	6410	7.4	24.0	--	--	--	--	--	1200	1100
JUL												
05...	1418	58	3650	7.8	32.0	--	--	--	--	--	600	490
10...	0900	131	3400	7.8	23.5	200	7.6	94	300	150	740	630
15...	0755	66	4700	7.4	26.0	--	--	--	--	--	730	610
25...	0900	97	6100	7.7	26.0	--	--	--	--	--	1000	910
AUG												
05...	0915	64	5070	7.7	26.0	--	--	--	--	--	660	550
15...	1000	120	6050	7.4	26.0	--	--	--	--	--	980	890
16...	0900	105	6300	8.0	25.5	96	5.8	75	110	190	940	830
25...	1430	74	6120	7.6	32.0	--	--	--	--	--	870	780
SEP												
05...	0900	38	8090	7.6	25.0	--	--	--	--	--	1100	970
15...	0850	26	3420	8.0	17.0	--	--	--	--	--	680	460
25...	0830	20	2200	7.5	19.0	--	--	--	--	--	560	250
25...	1200	19	10800	7.8	25.5	3.7	5.7	75	26	170	1300	1200

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)
OCT											
05...	240	66	960	70	14	--	11	150	0	120	1.5
15...	270	110	2000	79	26	--	15	150	0	120	3.0
18...	370	110	2000	76	23	--	13	--	--	140	--
25...	270	120	2100	79	27	--	11	310	0	250	5.0
NOV											
05...	330	120	2300	79	28	--	20	--	--	120	--
19...	230	68	820	67	12	--	12	--	--	160	--
20...	--	77	1300	--	--	--	12	--	--	120	--
25...	380	100	2000	76	24	--	18	--	--	140	--
DEC											
05...	300	110	2100	79	26	--	14	--	--	98	--
11...	400	130	2000	74	22	--	16	--	--	140	--
15...	320	120	2000	77	24	--	13	--	--	180	--
25...	340	120	2400	79	29	--	14	--	--	150	--
JAN											
05...	69	110	1500	84	26	--	14	--	--	210	--
15...	--	130	2400	--	--	--	14	--	--	170	--
16...	480	130	2300	74	24	--	12	--	--	190	--
25...	--	49	2200	--	--	--	11	--	--	130	--
FEB											
05...	350	120	1900	75	22	1900	9.4	--	--	57	--
14...	350	120	2100	77	25	--	11	--	--	180	--
15...	330	35	--	--	--	2000	9.2	--	--	64	--
25...	360	120	2300	78	27	2300	9.3	--	--	--	--
MAR											
05...	310	--	1500	--	--	--	--	--	--	--	--
14...	280	110	2000	79	26	--	13	--	--	120	--
15...	310	--	1600	--	--	--	--	--	--	--	--
25...	290	--	180	--	--	--	--	--	--	--	--
APR											
05...	380	93	1300	68	16	1300	10	--	--	150	--
11...	110	27	330	65	7.3	--	6.2	--	--	75	--
15...	330	100	1500	72	19	1500	11	--	--	130	--
25...	380	120	1700	72	19	1700	12	--	--	130	--
MAY											
01...	330	110	1800	75	22	--	10	--	--	120	--
05...	150	28	270	60	5.3	280	8.3	--	--	75	--
14...	340	88	1400	78	18	1400	12	--	--	150	--
25...	240	86	700	71	9.9	710	10	--	--	200	--
JUN											
05...	--	84	950	--	--	960	10	--	--	100	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	PUTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)
JUN											
05...	370	76	1100	66	14	1100	13	--	--	110	--
15...	360	52	460	47	6.0	470	8.5	--	--	110	--
25...	340	96	1000	63	12	1000	9.7	--	--	130	--
JUL											
05...	170	43	560	67	9.9	570	10	--	--	110	--
10...	230	40	350	50	5.6	360	11	--	--	110	--
15...	200	55	720	75	12	730	11	--	--	120	--
25...	300	68	950	66	13	960	11	--	--	120	--
AUG											
05...	190	46	850	73	14	860	9.5	--	--	110	--
15...	310	50	950	68	13	960	9.7	--	--	94	--
16...	290	52	930	73	13	940	11	--	--	110	--
25...	250	60	1000	71	15	1000	9.7	--	--	91	--
SEP											
05...	300	74	1400	80	19	1400	12	--	--	89	--
15...	170	63	450	69	7.5	460	5.9	--	--	220	--
25...	130	57	270	64	5.0	270	4.7	--	--	310	--
25...	350	100	1800	81	22	1800	15	--	--	120	--

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
05...	740	1500	--	--	3730	--	5.07	866	--	--	--
15...	1200	3000	--	--	6870	--	9.34	983	--	--	--
18...	1100	3300	.3	6.1	7270	6980	9.89	962	.02	--	.04
25...	1100	3200	--	--	7440	--	10.1	904	--	--	--
NOV											
05...	1100	3500	--	--	7920	--	10.8	962	--	--	--
19...	670	1200	--	--	3160	--	4.30	793	--	--	--
20...	830	2200	.3	5.5	4810	--	--	857	.72	--	.09
25...	1100	3000	--	--	6860	--	9.33	1090	--	--	--
DEC											
05...	1100	3300	--	--	7170	--	9.75	1120	--	--	--
11...	1400	3200	.3	7.4	7180	7240	9.76	1610	.83	--	.07
15...	1100	3100	--	--	6810	--	9.26	1010	--	--	--
25...	1200	3500	--	--	7930	--	10.8	1090	--	--	--
JAN											
05...	--	2500	--	--	5630	--	7.66	790	--	--	--
15...	1200	3500	--	--	7930	--	--	1290	--	--	--
16...	1300	3500	.3	6.8	8390	7840	11.4	1450	1.4	--	.06
25...	--	3400	--	--	7300	--	9.93	1560	--	--	--
FEB											
05...	1100	2900	--	--	6420	--	8.73	1390	--	--	--
14...	990	3300	.3	5.3	7010	6990	9.53	1500	1.1	--	.16
15...	1000	2700	--	--	6380	--	--	1360	--	--	--
25...	1100	3400	--	--	7370	--	10.0	1510	--	--	--
MAR											
05...	1000	2400	--	--	5650	--	7.68	1020	--	--	--
14...	1200	3000	.4	.5	6640	6680	9.03	986	.04	--	.18
15...	1000	2600	--	--	5840	--	7.94	915	--	--	--
25...	740	250	--	--	1650	--	2.24	1970	--	--	--
APR											
05...	1200	2000	--	--	5200	--	7.07	1400	--	--	--
11...	290	510	.3	4.6	1380	1320	1.88	2300	--	--	--
15...	1000	2400	--	--	5780	--	7.86	1780	--	--	--
25...	--	3000	--	--	6510	--	8.85	1300	--	--	--
MAY											
01...	--	2800	.3	1.6	6610	--	8.99	1250	.01	--	.06
05...	370	410	--	--	1380	--	1.88	2420	--	--	--
14...	1100	2100	--	--	5330	--	7.25	1220	--	--	--
25...	740	1100	--	--	3110	--	4.23	1740	--	--	--
JUN											
05...	--	1600	--	--	4280	--	5.82	1470	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
JUN											
05...	--	1800	.4	7.1	4800	--	6.53	1560	.38	--	.18
15...	880	670	--	--	2530	--	3.44	1950	--	--	--
25...	960	1600	--	--	4210	--	5.73	1250	--	--	--
JUL											
05...	490	880	--	--	2240	--	3.05	351	--	--	--
10...	670	540	.3	9.4	2030	1920	2.76	718	.27	--	.10
15...	680	1200	--	--	2840	--	3.86	506	--	--	--
25...	870	1500	--	--	3900	--	5.30	1020	--	--	--
AUG											
05...	560	1300	--	--	3050	--	4.15	527	--	--	--
15...	870	1500	--	--	3880	--	5.28	1260	--	--	--
16...	820	1500	.4	6.5	3720	3680	5.06	1060	.09	--	.11
25...	770	1500	--	--	3810	--	5.18	761	--	--	--
SEP											
05...	800	2300	--	--	5050	--	6.87	518	--	--	--
15...	420	700	--	--	2050	--	2.79	144	--	--	--
25...	280	360	--	--	1350	--	1.84	72.9	--	--	--
25...	790	3100	.3	3.3	6690	6230	9.10	343	.04	.01	.15

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)
OCT											
05...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	.55	--	.59	.14	.45	.61	--	2.7
25...	--	--	--	--	--	--	--	--	--	--	--
NOV											
05...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	.58	--	.67	.15	.52	1.4	--	6.2
25...	--	--	--	--	--	--	--	--	--	--	--
DEC											
05...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	.64	--	.71	.10	.61	1.5	--	6.8
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	.45	--	.51	.07	.44	1.9	--	8.5
25...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	.57	--	.73	.25	.48	1.8	--	8.1
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	.54	--	.72	.00	.72	.76	--	3.4
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
05...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
MAY											
01...	--	.07	--	.43	--	.49	.13	.36	.50	--	2.2
05...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
05...	--	--	--	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG, SUSP, TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS, (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)
JUN											
05...	--	.22	--	1.4	--	1.6	.30	1.3	2.0	--	8.8
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
JUL											
05...	--	--	--	--	--	--	--	--	--	--	--
10...	--	.12	--	1.1	--	1.2	--	--	1.5	--	6.5
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
AUG											
05...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	--	.13	--	.82	--	.93	.52	.41	1.0	--	4.5
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
05...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	.10	.18	.13	.43	.67	.58	.00	.77	.62	.78	2.7

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS PO4)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED, SUSP, SIEVE DIAM, % FINER THAN .062 MM
OCT											
05...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
18...	.040	--	--	.010	--	4.3	--	--	208	28	100
25...	--	--	--	--	--	--	--	--	--	--	--
NOV											
05...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
20...	.040	--	--	.000	1800	--	3.5	1.1	272	48	99
25...	--	--	--	--	--	--	--	--	--	--	--
DEC											
05...	--	--	--	--	--	--	--	--	--	--	--
11...	.050	--	--	.030	--	3.0	--	--	480	108	94
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	.020	--	--	.020	--	4.1	--	--	619	107	98
25...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
14...	.030	--	--	.050	--	4.0	--	--	281	60	94
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	--	--	--	--	--	--	--	--	--	--	--
14...	.030	--	--	.020	5200	3.2	--	--	724	108	100
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
05...	--	--	--	--	--	--	--	--	--	--	--
11...	1.100	3.4	3.4	.100	--	47	--	--	2940	4910	96
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
MAY											
01...	.030	.09	.09	.010	11000	--	9.0	--	163	31	24
05...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
05...	--	--	--	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS PO4)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUN											
05...	.160	.49	.49	.020	3000	12	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
JUL											
05...	--	--	--	--	--	--	--	--	--	--	--
10...	.230	--	.71	.040	18000	6.8	--	--	662	234	99
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
AUG											
05...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	.130	--	.40	.010	30000	--	5.8	4.3	746	211	96
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
05...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	.010	--	.03	.000	3800	3.4	--	--	724	37	100

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, SUS-PENDED RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM SUS-PENDED RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, SUS-PENDED RECOV. (UG/L AS CR)
NOV										
20...	2	2	0	0	100	5	3	2	20	0
FEB										
14...	2	2	0	0	0	1	1	0	10	10
MAY										
01...	4	3	100	100	0	1	1	0	30	10
AUG										
16...	4	3	400	400	0	0	0	1	10	0

DATE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, SUS-PENDED RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, SUS-PENDED RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
NOV										
20...	20	1	0	0	4	2	2	600	570	30
FEB										
14...	0	0	0	0	6	3	3	150	140	10
MAY										
01...	20	4	4	0	0	0	0	360	330	30
AUG										
16...	10	2	2	0	4	0	9	3900	3900	0

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY SUS-PENDED RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
NOV									
20...	86	76	10	40	30	10	.3	.3	.0
FEB									
14...	10	9	1	60	20	40	.0	.0	.2
MAY									
01...	9	9	0	70	30	40	.2	.2	.0
AUG									
16...	6	4	2	150	140	10	.1	.1	.0

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 20...	4	0	4	0	0	0	30	0	220
FEB 14...	4	0	5	1	1	0	40	0	40
MAY 01...	3	1	2	0	0	0	40	10	30
AUG 16...	2	1	1	0	0	0	50	20	30

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

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	NOV 20,78		MAR 14,79		MAY 1,79		JUN 5,79		AUG 16,79		SEP 25,79	
TIME	1345		0945		0930		1700		0900		1200	
TOTAL CELLS/ML	1800		5200		11000		3000		30000		3800	
DIVERSITY: DIVISION	1.2		0.8		0.9		1.1		0.7		1.7	
.CLASS	1.2		0.8		0.9		1.1		0.7		1.7	
..ORDER	1.7		1.5		1.3		1.6		1.0		2.4	
...FAMILY	2.1		1.6		1.6		2.1		1.2		2.5	
....GENUS	2.1		1.7		1.6		2.1		1.3		2.7	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	--	-	--	-	--	-	--	-	*	0	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	12	1	130	2	--	-	180	6	*	0	20	1
....CHODATELLA	--	-	--	-	--	-	--	-	*	0	--	-
....CLOSTERIOPSIS	--	-	--	-	--	-	--	-	*	0	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	1100	4	--	-
....SELENASTRUM	--	-	--	-	230	2	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	190	10	--	-	1100	10	1500#	48	180	1	120	3
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CARTERIA	--	-	--	-	--	-	--	-	--	-	610#	16
....CHLAMYDOMONAS	37	2	--	-	--	-	180	6	--	-	200	5
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	110	6	3400#	67	300	3	91	3	--	-	990#	26
....MELOSIRA	12	1	--	-	300	3	--	-	720	2	--	-
....STEPHANODISCUS	--	-	--	-	380	3	--	-	--	-	--	-
..PENNALES												
...FRAGILARIACEAE												
....FRAGILARIA	--	-	--	-	--	-	--	-	--	-	40	1
...NAVICULACEAE												
....NAVICULA	190	10	650	13	--	-	360	12	180	1	81	2
...NITZSCHIACEAE												
....NITZSCHIA	1000#	56	340	7	460	4	640#	21	1300	4	280	7
...SURIRELLACEAE												
....SURIRELLA	--	-	--	-	7500#	69	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	130	2	--	-	--	-	*	0	40	1
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	170	10	--	-	530	5	--	-	810	3	200	5
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	37	2	--	-	--	-	--	-	900	3	--	-
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	--	-	--	-	24000#	81	1200#	32
....SPIRULINA	--	-	43	1	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	25	1	--	-	150	1	91	3	--	-	--	-
....PHACUS	--	-	43	1	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	390	7	--	-	--	-	*	0	--	-
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	--	-	--	-	--	-	40	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8220	12000	11600	9860	9720	9760	6290	10100	6040	5590	3140	4820
2	7890	12100	10700	9200	9920	8880	7000	10500	8740	6290	3100	5490
3	7590	12300	11200	8650	9070	10200	7300	6630	6600	6120	4120	6460
4	7830	12400	11400	8410	9360	10600	7380	3970	5320	4840	5090	7760
5	5900	12200	11400	8950	10400	9190	7970	2120	6240	3650	5070	8090
6	6580	11900	11600	9260	10700	9630	8020	2110	6220	3850	4980	7490
7	7980	12000	11400	8360	10700	11400	7750	2360	7210	4950	5200	7450
8	8970	12200	11800	8920	9830	10800	8740	4220	2810	8350	6240	8310
9	9390	12400	12300	8790	11800	10500	9020	5890	854	2110	6510	8120
10	9590	12400	12400	9060	11600	10300	9020	4500	763	2970	8540	7540
11	9920	12300	10000	9220	10200	10700	1800	5970	2540	4030	8590	5700
12	10100	12200	12000	9380	10700	11200	3750	7440	1580	5230	8750	4710
13	10500	12100	12200	12400	11000	11000	4740	7710	2020	4600	8510	3900
14	10700	11000	11400	11300	11100	11000	7020	6180	2850	4800	7610	3540
15	10900	11100	11000	12300	9890	9390	9050	8470	3390	4700	6050	3420
16	11100	10500	11200	10500	11000	9390	9470	8840	4230	4860	6210	3070
17	11200	11300	12300	11000	10900	9350	9720	9100	3070	4930	6930	2630
18	11400	12200	13000	10200	11000	9130	9610	9200	4460	6770	7960	2600
19	11300	5100	14000	10700	9830	9160	9630	9030	4820	2660	7390	2520
20	11200	6870	13100	11200	9670	9520	9660	9220	4410	9380	5980	2650
21	11300	9500	12500	10400	10400	5940	9320	3070	5350	5600	4900	2540
22	11500	9780	12200	11700	9860	4440	9550	7490	6140	5570	6630	2530
23	11400	9940	12200	11800	10400	3650	9860	3040	5810	4710	10100	2490
24	11600	10300	12400	11900	10600	2480	10000	4610	6530	5510	8130	2310
25	11600	10800	12500	11400	11800	2190	10200	4700	6410	6100	6120	2200
26	11800	9860	12500	8480	10800	2960	10200	6170	9580	6880	6670	2080
27	11900	10200	12600	9300	9780	3420	9910	6500	5450	7540	6210	2010
28	11700	10500	12500	9700	9490	4390	8770	6380	7250	8410	9080	1970
29	11700	8920	12300	9030	---	4900	9720	7040	6110	11400	7340	2000
30	11900	10200	12600	9120	---	5710	9940	7710	4790	9580	8600	1940
31	12100	---	11800	7870	---	6210	---	8490	---	9890	6080	---

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8180	13100	11400	9840	9720	9740	6390	10100	5720	---	3260	4840
2	7740	13200	10600	9250	9910	9390	7070	10500	9650	---	3010	---
3	7900	13300	11200	8610	9120	10400	7010	6840	7040	---	4300	---
4	7770	13100	11400	8420	9320	10600	7370	3760	5230	---	5180	---
5	5990	12000	11400	8930	10400	9290	7940	2070	6180	---	5010	---
6	6770	11700	11600	9260	10800	10200	8050	1890	6180	---	5040	7710
7	8220	12500	11400	8370	10700	11300	7760	2450	7250	---	5260	7560
8	8510	13000	11700	8960	9800	10800	8750	4350	2740	---	6170	---
9	11200	13200	12400	8760	11800	10800	9040	6120	914	---	6490	---
10	10800	12400	12500	9080	12200	10300	8720	4790	1160	---	8530	---
11	10300	11700	9940	9210	10600	11200	1970	5840	2210	---	8520	---
12	9420	11900	12100	9350	10700	11200	3610	6980	1600	---	8730	---
13	12200	12100	12200	12500	10900	10800	5000	7720	2150	---	8560	---
14	8160	10800	11400	11300	11900	10900	7370	8280	2980	---	7590	---
15	13200	11000	11000	12400	9850	9350	9340	8480	3380	---	---	---
16	12900	10600	11200	10500	11000	9240	9500	8830	3610	---	---	---
17	13000	11200	12200	11000	---	9360	9650	9110	3220	---	---	---
18	13800	11500	12900	10200	---	9480	9590	9220	4360	---	---	---
19	13300	5230	14000	10700	---	9040	9630	9180	4810	2750	7760	---
20	12900	6940	13000	11200	---	9530	9590	8620	4490	9100	6000	---
21	13200	9550	12500	10400	10400	6360	9270	3280	5460	5570	---	---
22	10200	9820	12100	11700	9800	4360	9510	9040	6140	5570	---	---
23	12100	9870	12200	11800	10400	3710	9870	2520	5910	4750	---	---
24	12600	10300	12400	11800	10600	2440	10000	5090	---	5470	8100	---
25	12800	11000	12500	11400	11800	2300	10300	4710	---	6190	6050	2550
26	12700	10300	12400	8430	10800	3020	10200	6170	---	6930	6640	2090
27	13200	10100	12600	9340	9750	3530	9920	6470	---	7440	6230	1940
28	12400	10500	12500	9700	9480	4500	8660	6400	---	8860	9450	1980
29	12700	8810	12100	9020	---	5020	9750	7040	---	11800	7360	2010
30	13100	10100	12500	9110	---	5700	9920	7710	---	9940	8640	1920
31	13100	---	11900	7830	---	6330	---	8240	---	8910	6110	---

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	15.0	9.0	.0	.0	7.0	14.0	18.0	20.0	25.0	26.0	25.0
2	19.0	16.0	10.0	.0	.0	10.0	10.0	26.0	18.0	23.0	28.0	33.0
3	18.0	17.0	5.0	.0	.0	7.0	9.0	16.0	21.0	26.0	26.0	25.0
4	16.0	17.0	.0	.0	.0	3.0	8.0	13.0	22.0	24.0	33.0	25.0
5	17.0	16.0	3.0	.0	.0	5.0	12.0	14.0	23.0	32.0	26.0	25.0
6	14.0	12.0	3.0	.0	.0	8.0	14.0	15.0	21.0	24.0	26.0	24.0
7	15.0	7.0	.0	.0	.0	12.0	14.0	18.0	23.0	27.0	25.0	24.0
8	15.0	9.0	.0	.0	.0	11.0	17.0	22.0	25.0	27.0	33.0	24.0
9	15.0	11.0	.0	.0	.0	8.0	14.0	21.0	21.0	27.0	24.0	26.0
10	17.0	12.0	.0	.0	3.0	3.0	13.0	18.0	19.0	23.0	30.0	23.0
11	18.0	11.0	.0	.0	3.0	9.0	12.0	14.0	20.0	26.0	22.0	18.0
12	20.0	10.0	.5	.0	4.0	10.0	13.0	15.0	21.0	25.0	28.0	19.0
13	15.0	13.0	.5	.0	5.0	15.0	13.5	17.0	22.0	25.0	31.0	17.0
14	12.0	12.0	.5	.0	.5	10.0	14.0	17.0	23.0	27.0	31.0	17.0
15	12.0	5.0	3.0	.0	.5	11.0	17.0	17.0	22.0	26.0	26.0	17.0
16	14.0	5.0	4.0	.0	.0	8.0	22.0	18.0	22.0	25.0	29.0	16.0
17	12.0	5.0	1.0	.0	.0	10.0	20.0	19.0	21.0	24.0	31.0	19.0
18	15.0	5.0	6.0	.0	.0	15.0	18.0	18.0	---	26.0	32.0	16.0
19	12.0	10.0	10.0	.0	.0	10.0	20.0	20.0	22.0	23.0	27.0	17.0
20	15.0	10.0	.0	.0	.0	10.0	19.0	27.0	23.0	26.0	23.0	18.0
21	15.0	10.0	5.0	.0	.5	13.0	16.0	20.0	26.0	24.0	25.0	20.0
22	17.0	7.0	6.0	3.0	1.0	15.0	17.0	19.0	24.0	26.0	28.0	18.0
23	12.0	10.0	5.0	.0	1.0	8.0	24.0	18.0	26.0	26.0	28.0	18.0
24	12.0	10.0	7.0	.0	.5	11.0	19.0	20.0	25.0	25.0	23.0	21.0
25	12.0	13.0	3.5	2.0	.0	10.0	21.0	18.0	24.0	26.0	32.0	19.0
26	11.0	14.0	2.0	2.0	.5	12.0	17.0	17.0	23.0	26.0	24.0	17.0
27	10.0	9.0	2.0	.0	.0	9.0	17.0	21.0	25.0	25.0	22.0	17.0
28	14.0	7.0	6.0	.0	1.0	13.0	12.0	22.0	25.0	26.0	23.0	20.0
29	12.0	5.0	10.0	.0	---	18.0	13.0	21.0	26.0	25.0	25.0	19.0
30	13.0	9.0	.0	.0	---	21.0	17.0	21.0	26.0	30.0	25.0	17.0
31	14.0	---	.0	.0	---	12.0	---	20.0	---	25.0	27.0	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.5	17.5	3.5			---	16.0	19.0	21.5	27.5	30.5	29.5
2	23.0	19.0	1.5			---	12.5	20.0	21.0	27.0	31.0	30.0
3	23.0	19.5	1.0			9.0	10.0	16.5	23.5	28.5	31.5	30.0
4	20.5	19.0	1.0			7.0	10.5	14.5	25.0	29.0	30.5	30.0
5	20.0	18.0	1.0			7.0	13.5	16.5	24.5	27.5	30.5	30.0
6	19.0	13.0	.5			10.0	16.0	19.5	25.5	26.0	29.5	29.0
7	19.0	12.5	1.0			11.5	16.5	22.5	26.0	28.5	29.5	29.0
8	18.5	13.0	1.0			11.5	18.0	24.5	26.0	31.0	29.0	27.0
9	18.5	14.0	.5			10.0	17.5	23.0	21.0	28.5	28.5	25.0
10	20.5	15.0	.0			9.0	15.5	22.0	21.0	29.0	28.0	24.0
11	23.0	10.5	1.0			11.5	13.5	19.0	22.0	30.5	24.5	23.5
12	23.0	10.5	---			11.0	15.0	19.0	23.5	30.0	24.5	24.0
13	17.5	14.5	---			11.5	18.0	22.0	25.5	30.0	28.0	21.5
14	16.0	11.5	---			9.5	15.5	21.5	26.0	30.5	30.0	18.0
15	17.0	6.5	---			8.0	19.5	21.5	25.5	30.5	29.0	19.5
16	18.0	6.5	---			8.5	20.5	21.0	24.5	31.0	29.5	19.0
17	16.5	8.0	---			10.5	21.0	20.5	25.0	28.5	29.5	20.0
18	18.0	10.0	---			14.0	20.0	20.0	26.0	27.5	29.0	20.5
19	18.0	11.0	---			13.0	20.5	20.5	26.5	26.5	28.0	19.5
20	19.0	10.5	---			11.5	21.0	21.0	28.5	28.0	27.0	21.5
21	18.0	7.5	---			14.0	20.5	21.0	29.5	30.0	28.5	20.5
22	19.0	13.0	---			14.0	20.5	20.5	28.5	29.5	29.5	20.0
23	14.0	10.0	---			11.0	20.5	21.0	29.0	29.5	28.0	22.0
24	14.0	8.5	---			11.5	20.5	21.5	28.5	30.0	28.5	22.0
25	16.0	9.0	---			12.5	21.0	21.0	27.0	29.0	28.0	21.5
26	16.0	16.5	---			14.5	21.0	20.0	28.0	29.0	26.0	20.5
27	15.0	11.5	---			12.0	20.5	22.0	29.0	29.0	26.0	21.0
28	16.5	7.5	---			15.0	18.5	23.5	29.0	31.0	29.0	21.5
29	16.5	6.5	---			19.5	17.0	23.5	30.5	31.0	29.5	22.0
30	17.0	5.0	---			18.5	18.0	24.0	30.5	30.0	30.0	21.5
31	17.5	---	---			16.0	---	23.5	---	29.0	30.0	---

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

SULFATE, DISSOLVED (MG/L AS SO4), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	870	1100	1000	960	960	960	780	980	740	---	610	690
2	850	1100	1000	930	970	940	810	1000	950	---	590	---
3	860	1200	1000	900	920	990	810	800	810	---	660	---
4	850	1100	1000	890	930	1000	830	630	710	---	710	---
5	750	1100	1000	910	990	930	860	540	760	---	700	---
6	800	1100	1100	930	1000	960	870	530	760	---	700	850
7	870	1100	1000	880	1000	1000	850	560	820	---	710	840
8	890	1100	1100	910	960	1000	900	660	580	---	760	---
9	1000	1100	1100	900	1100	1000	920	760	480	---	780	---
10	1000	1100	1100	920	1100	990	900	690	490	---	890	---
11	990	1100	970	930	1000	1000	540	750	550	---	890	---
12	940	1100	1100	940	1000	1000	620	810	520	---	900	---
13	1100	1100	1100	1100	1000	1000	700	850	540	---	890	---
14	870	1000	1000	1000	1100	1000	830	880	590	---	840	---
15	1100	1000	1000	1100	960	940	940	890	610	---	---	---
16	1100	1000	1000	1000	1000	930	940	910	620	---	---	---
17	1100	1000	1100	1000	---	940	950	920	600	---	---	---
18	1200	1100	1100	980	---	940	950	930	660	---	---	---
19	1200	710	1200	1000	---	920	950	930	690	580	850	---
20	1100	810	1100	1000	---	950	950	900	670	920	750	---
21	1100	950	1100	990	990	770	930	610	720	730	---	---
22	980	960	1100	1100	960	660	940	920	760	730	---	---
23	1100	960	1100	1100	990	630	960	570	750	690	---	---
24	1100	990	1100	1100	1000	560	970	700	---	730	870	---
25	1100	1000	1100	1000	1100	550	990	680	---	760	760	570
26	1100	990	1100	890	1000	590	980	760	---	800	790	540
27	1100	980	1100	940	960	620	970	780	---	830	770	530
28	1100	1000	1100	960	940	670	900	780	---	910	940	540
29	1100	910	1100	920	---	700	960	810	---	1100	830	540
30	1100	980	1100	920	---	740	970	850	---	970	900	530
31	1100	---	1100	850	---	770	---	880	---	910	760	---

SULFATE, DISSOLVED (TONS PER DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	216.0	140.0	170.0	130.0	264.0	184.0	259.0	185.0	226.0	---	331.0	138.0
2	188.0	140.0	167.0	126.0	262.0	168.0	245.0	189.0	575.0	---	175.0	---
3	176.0	152.0	165.0	126.0	236.0	192.0	230.0	1980.0	396.0	---	139.0	---
4	188.0	137.0	162.0	125.0	216.0	216.0	229.0	1850.0	286.0	---	134.0	---
5	174.0	134.0	157.0	128.0	214.0	171.0	235.0	948.0	259.0	---	121.0	---
6	156.0	134.0	169.0	131.0	294.0	180.0	237.0	607.0	224.0	---	132.0	82.6
7	150.0	134.0	148.0	124.0	321.0	178.0	227.0	324.0	321.0	---	196.0	77.1
8	156.0	137.0	163.0	128.0	288.0	165.0	241.0	274.0	401.0	---	164.0	---
9	167.0	137.0	160.0	131.0	312.0	157.0	243.0	308.0	4210.0	---	135.0	---
10	159.0	137.0	178.0	134.0	276.0	147.0	423.0	237.0	2940.0	---	144.0	---
11	158.0	137.0	217.0	136.0	232.0	146.0	889.0	235.0	4140.0	---	139.0	---
12	147.0	137.0	208.0	137.0	221.0	140.0	358.0	241.0	1490.0	---	136.0	---
13	166.0	140.0	175.0	166.0	213.0	138.0	253.0	211.0	776.0	---	149.0	---
14	129.0	132.0	148.0	151.0	238.0	148.0	260.0	202.0	596.0	---	322.0	---
15	157.0	138.0	148.0	178.0	205.0	147.0	284.0	144.0	456.0	---	---	---
16	154.0	146.0	148.0	173.0	243.0	146.0	264.0	135.0	735.0	---	---	---
17	148.0	175.0	157.0	162.0	---	155.0	264.0	149.0	403.0	---	---	---
18	159.0	264.0	154.0	148.0	---	168.0	267.0	191.0	356.0	---	---	---
19	152.0	174.0	165.0	216.0	---	164.0	251.0	186.0	261.0	243.0	278.0	---
20	140.0	147.0	154.0	297.0	---	669.0	233.0	530.0	199.0	591.0	178.0	---
21	137.0	164.0	154.0	206.0	214.0	586.0	216.0	799.0	194.0	428.0	---	---
22	122.0	166.0	154.0	232.0	210.0	396.0	208.0	887.0	172.0	325.0	---	---
23	134.0	161.0	154.0	235.0	206.0	1670.0	205.0	391.0	146.0	253.0	---	---
24	134.0	160.0	154.0	285.0	200.0	1770.0	199.0	484.0	---	217.0	169.0	---
25	134.0	162.0	151.0	213.0	220.0	637.0	198.0	362.0	---	199.0	152.0	30.8
26	137.0	184.0	151.0	221.0	197.0	487.0	193.0	285.0	---	207.0	149.0	26.2
27	140.0	177.0	151.0	251.0	184.0	412.0	189.0	257.0	---	215.0	141.0	24.3
28	140.0	178.0	151.0	394.0	175.0	382.0	173.0	253.0	---	238.0	282.0	23.3
29	140.0	160.0	151.0	288.0	---	335.0	184.0	236.0	---	303.0	235.0	23.3
30	143.0	167.0	146.0	253.0	---	304.0	183.0	236.0	---	249.0	399.0	22.9
31	143.0	---	148.0	184.0	---	283.0	---	280.0	---	295.0	209.0	---

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

CHLORIDE, DISSOLVED (MG/L), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2200	3700	3200	2700	2700	2700	1600	2800	1400	---	660	1200
2	2100	3800	2900	2500	2700	2600	1800	2900	2700	---	580	---
3	2100	3800	3100	2300	2500	2900	1800	1800	1800	---	990	---
4	2100	3700	3200	2300	2500	2900	1900	820	1300	---	1300	---
5	1500	3400	3200	2400	2900	2500	2100	290	1600	---	1200	---
6	1800	3300	3300	2500	3000	2800	2200	230	1600	---	1200	2000
7	2200	3500	3200	2300	3000	3200	2100	410	1900	---	1300	2000
8	2300	3700	3300	2400	2700	3000	2400	1000	500	---	1600	---
9	3100	3800	3500	2400	3500	3000	2500	1600	15	---	1700	---
10	3000	3500	3500	2500	3400	2900	2400	1100	19	---	2300	---
11	2900	3300	2700	2500	2900	3100	260	1500	330	---	2300	---
12	2600	3400	3400	2600	3000	3100	770	1800	140	---	2400	---
13	3400	3400	3400	3500	3000	3000	1200	2100	320	---	2300	---
14	2200	3000	3200	3200	3400	3000	1900	2200	570	---	2000	---
15	3800	3100	3100	3500	2700	2600	2600	2300	700	---	---	---
16	3700	2900	3100	2900	3100	2500	2600	2400	770	---	---	---
17	3700	3100	3400	3100	---	2600	2700	2500	650	---	---	---
18	3900	3200	3700	2800	---	2600	2600	2500	1000	---	---	---
19	3800	1300	4000	3000	---	2500	2600	2500	1100	500	2100	---
20	3700	1800	3700	3100	---	2600	2600	2300	1000	2500	1500	---
21	3800	2600	3500	2900	2900	1600	2500	670	1300	1400	---	---
22	2800	2700	3400	3300	2700	1000	2600	2500	1600	1400	---	---
23	3400	2700	3400	3300	2900	800	2700	430	1500	1100	---	---
24	3600	2900	3500	3300	2900	410	2800	1200	---	1400	2200	---
25	3600	3100	3500	3200	3300	360	2900	1100	---	1600	1500	440
26	3600	2900	3500	2300	3000	590	2800	1600	---	1800	1700	300
27	3800	2800	3600	2600	2700	750	2700	1700	---	2000	1600	250
28	3500	2900	3500	2700	2600	1000	2300	1600	---	2400	2600	260
29	3600	2400	3400	2500	---	1200	2700	1800	---	3300	1900	270
30	3700	2800	3500	2500	---	1400	2700	2000	---	2700	2300	240
31	3700	---	3400	2100	---	1600	---	2200	---	2400	1500	---

CHLORIDE, DISSOLVED (TONS PER DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	546.0	470.0	544.0	364.0	744.0	518.0	531.0	529.0	427.0	---	358.0	240.0
2	465.0	482.0	485.0	337.0	729.0	463.0	544.0	548.0	1630.0	---	172.0	---
3	431.0	482.0	511.0	323.0	641.0	564.0	510.0	4450.0	880.0	---	208.0	---
4	465.0	460.0	518.0	323.0	587.0	626.0	523.0	2410.0	523.0	---	246.0	---
5	348.0	413.0	501.0	337.0	626.0	459.0	573.0	509.0	544.0	---	207.0	---
6	355.0	401.0	508.0	351.0	883.0	514.0	600.0	263.0	471.0	---	227.0	194.0
7	380.0	425.0	475.0	323.0	964.0	570.0	561.0	237.0	744.0	---	358.0	184.0
8	404.0	460.0	490.0	337.0	809.0	494.0	642.0	416.0	346.0	---	346.0	---
9	519.0	472.0	510.0	350.0	936.0	470.0	661.0	648.0	132.0	---	294.0	---
10	478.0	435.0	567.0	364.0	854.0	431.0	1130.0	377.0	114.0	---	373.0	---
11	462.0	410.0	605.0	364.0	673.0	452.0	428.0	470.0	2490.0	---	360.0	---
12	407.0	422.0	643.0	379.0	664.0	435.0	445.0	535.0	401.0	---	363.0	---
13	514.0	431.0	542.0	529.0	640.0	413.0	434.0	522.0	460.0	---	385.0	---
14	327.0	397.0	475.0	484.0	734.0	445.0	595.0	505.0	576.0	---	767.0	---
15	544.0	427.0	460.0	567.0	576.0	407.0	786.0	373.0	524.0	---	---	---
16	519.0	423.0	460.0	501.0	753.0	391.0	730.0	356.0	913.0	---	---	---
17	499.0	544.0	487.0	502.0	---	428.0	751.0	405.0	437.0	---	---	---
18	516.0	769.0	519.0	423.0	---	463.0	730.0	513.0	540.0	---	---	---
19	482.0	319.0	551.0	648.0	---	445.0	688.0	499.0	416.0	209.0	686.0	---
20	470.0	326.0	519.0	921.0	---	1830.0	639.0	1350.0	297.0	1610.0	356.0	---
21	472.0	449.0	491.0	603.0	626.0	1220.0	580.0	877.0	351.0	820.0	---	---
22	348.0	467.0	477.0	695.0	590.0	599.0	576.0	2410.0	363.0	624.0	---	---
23	413.0	452.0	477.0	704.0	603.0	2110.0	576.0	295.0	292.0	404.0	---	---
24	437.0	470.0	491.0	855.0	579.0	1300.0	575.0	829.0	---	416.0	428.0	---
25	437.0	502.0	482.0	683.0	659.0	417.0	579.0	585.0	---	419.0	300.0	23.8
26	447.0	540.0	482.0	571.0	591.0	487.0	552.0	600.0	---	467.0	321.0	14.6
27	482.0	507.0	496.0	695.0	518.0	498.0	525.0	560.0	---	518.0	294.0	11.5
28	444.0	517.0	482.0	1110.0	484.0	570.0	441.0	518.0	---	629.0	779.0	11.2
29	457.0	421.0	468.0	783.0	---	573.0	518.0	525.0	---	909.0	539.0	11.7
30	480.0	476.0	472.0	688.0	---	575.0	510.0	556.0	---	693.0	1020.0	10.4
31	480.0	---	459.0	454.0	---	588.0	---	701.0	---	778.0	413.0	---

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

SOLIDS, RESIDUE ON EVAPORATION AT 180 DEG C, DISSOLVED, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5170	8250	7180	6210	6130	6140	4050	6370	3630	---	2090	3080
2	4890	8310	6680	5840	6250	5930	4470	6620	6090	---	1940	---
3	4990	8370	7060	5440	5760	6560	4440	4330	4460	---	2740	---
4	4910	8250	7180	5320	5880	6680	4660	2400	3320	---	3290	---
5	3800	7560	7180	5640	6560	5860	5020	1350	3920	---	3190	---
6	4290	7370	7310	5840	6810	6430	5090	1240	3920	---	3210	4870
7	5190	7870	7180	5290	6740	7120	4910	1590	4590	---	3340	4780
8	5380	8180	7370	5660	6180	6810	5530	2770	1770	---	3910	---
9	7060	8310	7810	5530	7430	6810	5710	3880	625	---	4110	---
10	6810	7810	7870	5730	7680	6490	5510	3050	779	---	5390	---
11	6490	7370	6270	5810	6680	7060	1290	3710	1440	---	5380	---
12	5940	7500	7620	5900	6740	7060	2310	4420	1050	---	5510	---
13	7680	7620	7680	7870	6870	6810	3180	4880	1400	---	5410	---
14	5160	6810	7180	7120	7500	6870	4660	5230	1920	---	4800	---
15	8310	6930	6930	7810	6210	5900	5890	5360	2170	---	---	---
16	8120	6680	7060	6620	6930	5830	5990	5580	2310	---	---	---
17	8180	7060	7680	6930	---	5910	6090	5750	2070	---	---	---
18	8680	7250	8120	6430	---	5980	6050	5820	2780	---	---	---
19	8370	3320	8610	6740	---	5710	6080	5790	3060	1770	4910	---
20	8120	4390	8180	7060	---	6010	6050	5440	2860	5740	3810	---
21	6310	6030	7870	6560	6560	4030	5850	2100	3470	3540	---	---
22	6430	6190	7620	7370	6180	2760	6000	5710	3890	3540	---	---
23	7620	6230	7680	7430	6560	2370	6230	1630	3750	3020	---	---
24	7930	6490	7810	7430	6680	1580	6310	3240	---	3470	5120	---
25	8060	6930	7870	7180	7430	1490	6490	3000	---	3920	3840	1650
26	8000	6490	7810	5330	6810	1940	6430	3910	---	4390	4210	1360
27	8310	6370	7930	5890	6150	2260	6260	4100	---	4710	3950	1270
28	7810	6620	7870	6120	5980	2870	5470	4060	---	5590	5960	1290
29	8000	5560	7620	5690	---	3190	6150	4460	---	7430	4660	1310
30	8250	6370	7870	5750	---	3620	6260	4870	---	6270	5480	1250
31	8250	---	7500	4950	---	4010	---	5210	---	5630	3870	---

SOLIDS, DISSOLVED (TONS PER DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1280.0	1050.0	1220.0	838.0	1690.0	1180.0	1350.0	1200.0	1110.0	---	1130.0	615.0
2	1080.0	1050.0	1120.0	788.0	1690.0	1060.0	1350.0	1250.0	3680.0	---	576.0	---
3	1020.0	1060.0	1160.0	764.0	1480.0	1280.0	1260.0	10700.0	2180.0	---	577.0	---
4	1090.0	1020.0	1160.0	747.0	1380.0	1440.0	1280.0	7060.0	1340.0	---	622.0	---
5	882.0	919.0	1120.0	792.0	1420.0	1080.0	1370.0	2370.0	1330.0	---	551.0	---
6	846.0	895.0	1130.0	820.0	2000.0	1180.0	1390.0	1420.0	1150.0	---	607.0	473.0
7	897.0	956.0	1070.0	743.0	2170.0	1270.0	1310.0	919.0	1800.0	---	920.0	439.0
8	944.0	1020.0	1090.0	795.0	1850.0	1120.0	1480.0	1150.0	1220.0	---	845.0	---
9	1180.0	1030.0	1140.0	806.0	2110.0	1070.0	1510.0	1570.0	5480.0	---	710.0	---
10	1080.0	970.0	1270.0	835.0	1930.0	964.0	2590.0	1050.0	4670.0	---	873.0	---
11	1030.0	915.0	1410.0	847.0	1550.0	1030.0	2120.0	1160.0	10800.0	---	843.0	---
12	930.0	931.0	1440.0	860.0	1490.0	991.0	1330.0	1310.0	3010.0	---	833.0	---
13	1160.0	967.0	1220.0	1190.0	1470.0	938.0	1150.0	1210.0	2010.0	---	906.0	---
14	766.0	901.0	1070.0	1080.0	1620.0	1020.0	1460.0	1200.0	1940.0	---	1840.0	---
15	1190.0	954.0	1030.0	1270.0	1320.0	924.0	1780.0	868.0	1620.0	---	---	---
16	1140.0	974.0	1050.0	1140.0	1680.0	913.0	1680.0	829.0	2740.0	---	---	---
17	1100.0	1240.0	1100.0	1120.0	---	973.0	1690.0	931.0	1390.0	---	---	---
18	1150.0	1740.0	1140.0	972.0	---	1070.0	1700.0	1190.0	1500.0	---	---	---
19	1060.0	816.0	1210.0	1460.0	---	1020.0	1610.0	1160.0	1160.0	741.0	1600.0	---
20	1030.0	794.0	1150.0	2100.0	---	4240.0	1490.0	3200.0	849.0	3690.0	905.0	---
21	1030.0	1040.0	1100.0	1360.0	1420.0	3070.0	1360.0	2750.0	937.0	2070.0	---	---
22	799.0	1070.0	1070.0	1550.0	1350.0	1670.0	1330.0	5500.0	882.0	1580.0	---	---
23	926.0	1040.0	1080.0	1580.0	1360.0	6260.0	1330.0	1120.0	729.0	1110.0	---	---
24	965.0	1050.0	1100.0	1930.0	1330.0	4990.0	1290.0	2240.0	---	1030.0	995.0	---
25	979.0	1120.0	1080.0	1530.0	1480.0	1730.0	1300.0	1600.0	---	1030.0	767.0	89.1
26	994.0	1210.0	1080.0	1320.0	1340.0	1600.0	1270.0	1470.0	---	1140.0	796.0	66.1
27	1050.0	1150.0	1090.0	1570.0	1180.0	1500.0	1220.0	1350.0	---	1220.0	725.0	58.3
28	991.0	1180.0	1080.0	2510.0	1110.0	1640.0	1050.0	1320.0	---	1460.0	1790.0	55.7
29	1020.0	976.0	1050.0	1780.0	---	1520.0	1180.0	1300.0	---	2050.0	1320.0	56.6
30	1070.0	1060.0	1060.0	1580.0	---	1490.0	1180.0	1350.0	---	1610.0	2420.0	54.0
31	1070.0	---	1010.0	1070.0	---	1470.0	---	1660.0	---	1820.0	1070.0	---

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

LOCATION.--Lat 34°44'02", long 98°59'10", in NE¼SE¼ sec.16, T.3 N., R.17 W., Kiowa County, Hydrologic Unit 11120303 near east end of Snyder Dam, 0.8 mi (1.3 km) upstream from small tributary, 3 mi (5 km) northwest of Mountain Park, and at mile 26.0 (41.8 km).

DRAINAGE AREA.--132 mi^2 (342 km^2).

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

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

GAGE.--Water-stage recorder and broad crested masonry spillway. Datum of gage is 1,361.06 ft (414.851 m) National Geodetic Vertical Datum of 1929. April 1903 to March 1908, nonrecording gage at site 1.8 mi (2.9 km) downstream at different datum. October 1951 to September 1971 at intake tower at same site and datum. July 1972 to August 1976, 700 ft (213.4 m) downstream at datum 1,344.00 ft (409.651 m).

REMARKS.--Records fair. The City of Snyder diverted about 130 acre-ft (160,000 m^3) annually prior to October 1958 and none thereafter. Flow completely regulated since June, 1975 by Tom Steed Reservoir.

AVERAGE DISCHARGE.--(Prior to regulation by Tom Steed Reservoir) 27 years (water years 1904-7, 11, 1973-1975) 23.0 ft^3/s (0.651 m^3/s), 16,660 acre-ft/yr (20.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.-Maximum discharge, 14,200 ft^3/s (402 m^3/s) June 6, 1953, gage height, 19.50 ft, (5.944 m), from floodmarks, from rating curve extended above 1,600 ft^3/s (45.3 m^3/s) on basis of contracted-opening and flow-over-dam measurements of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 78 ft^3/s (2.21 m^3/s) June 8, gage height, 12.44 ft (3.792 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.74
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.74
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.74
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.90
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.90
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.90
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.90
8	.00	.00	.00	.00	.00	.00	.00	.00	37	.00	.60	.74
9	.00	.00	.00	.00	.00	.00	.00	.00	9.0	.00	.49	.74
10	.00	.00	.00	.00	.00	.00	.00	.00	.37	.00	.43	.74
11	.00	.00	.00	.00	.00	.00	.60	.00	.43	.00	.00	.74
12	.00	.00	.00	.00	.00	.00	.74	.00	.49	.00	.00	.74
13	.00	.00	.00	.00	.00	.00	.60	.00	.43	.00	.13	.19
14	.00	.00	.00	.00	.00	.00	.60	.00	.31	.00	.37	.00
15	.00	.00	.00	.00	.00	.00	.49	.00	.13	.00	.43	.07
16	.00	.00	.00	.00	.00	.00	.43	.00	.00	.74	.49	.25
17	.00	.00	.00	.00	.00	.00	.49	.00	.00	3.9	.49	.43
18	.00	.00	.00	.00	.00	.00	.90	.00	.00	.74	.49	.49
19	.00	.00	.00	.00	.00	.00	.74	.00	.00	.74	.60	.49
20	.00	.00	.00	.00	.00	.00	.60	.00	.00	.74	.74	.49
21	.00	.00	.00	.00	.00	.00	.13	.00	.00	.74	.74	.49
22	.00	.00	.00	.00	.00	.49	.07	.00	.00	.74	.60	.49
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.37	.60
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.43	.74
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	1.5	.74
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.43	.74	.74
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.37	.74	.74
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.43	.74	.74
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.49	.74	.74
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.49	.74	.74
31	.00	---	.00	.00	---	.00	---	.00	---	.60	.74	---
TOTAL	.07	.00	.00	.00	.00	.49	6.39	.00	48.16	12.95	17.54	18.69
MEAN	.002	.000	.000	.000	.000	.016	.21	.000	1.61	.42	.57	.62
MAX	.07	.00	.00	.00	.00	.49	.90	.00	37	3.9	1.5	.90
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.1	.00	.00	.00	.00	1.0	13	.00	96	26	35	37

CAL YR 1978 TOTAL 28.33 MEAN .078 MAX 2.4 MIN .00 AC-FT 56
WTR YR 1979 TOTAL 104.29 MEAN .29 MAX 37 MIN .00 AC-FT 207

07308500 RED RIVER NEAR BURKBURNETT, TX
(National stream-quality accounting network)

LOCATION.--Lat 34°06'36", long 98°31'53", Cotton County, Okla., Hydrologic Unit 11130102, on left bank at downstream side of bridge on U.S. Highways 277 and 281, 2.5 mi (4.0 km) northeast of Burkburnett, and at mile 933 (1,501 km).

DRAINAGE AREA.--20,570 mi² (53,280 km²), of which 5,936 mi² (15,374 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1924 to August 1925 (monthly discharge only), December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 952.57 ft (290.343 m) National Geodetic Vertical Datum of 1929. July 11, 1924, to Aug. 31, 1925, nonrecording gage at site 1,000 ft (305 m) downstream at same datum. Dec. 16, 1959, to Jan. 11, 1960, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records fair. Many small diversions for irrigation upstream from station.

AVERAGE DISCHARGE.--19 years (water years 1961-79), 879 ft³/s (24.89 m³/s), 636,800 acre-ft/yr (785 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,800 ft³/s (1,780 m³/s) Oct. 19, 1965, gage height, 11.46 ft (3.493 m); maximum gage height, 12.64 ft (3.853 m) July 27, 1975; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 3, 1957, reached a stage of 13.54 ft (4.127 m), from levels to floodmarks. According to local residents, higher stages occurred in 1891 and June 1941.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 9,000 ft³/s (255 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 22	1430	11,100	314	8.72	2.658
June 11	1430	19,500	552	10.16	3.097
Aug. 28	1800	*21,800	617	9.45	2.880

Minimum discharge, 28 ft³/s (0.79 m³/s) Jan. 2, 3 (result of freezeup).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1000	104	227	80	201	200	517	269	523	858	420	2060
2	785	98	217	52	191	205	436	255	441	604	1660	1140
3	565	89	186	49	174	215	386	246	416	459	1380	905
4	472	86	177	65	179	204	344	350	412	362	761	710
5	344	87	154	77	170	250	323	1760	1430	331	785	547
6	290	87	158	70	180	287	308	1350	1780	456	691	456
7	273	90	149	60	197	283	291	1230	791	513	419	411
8	284	98	141	78	183	252	283	1020	1210	649	413	556
9	217	84	128	86	184	210	265	665	5700	1020	339	450
10	195	81	78	104	191	195	286	416	16000	699	319	374
11	190	87	88	105	218	183	299	310	18700	738	313	332
12	182	104	108	97	261	165	1720	295	8740	903	350	304
13	144	95	110	90	245	149	1350	265	4100	915	246	262
14	144	85	140	70	303	133	1030	234	2420	527	234	231
15	138	122	150	98	248	165	811	218	1720	360	237	219
16	130	185	144	112	201	188	642	200	1310	293	280	206
17	126	204	136	179	130	231	572	181	1160	342	388	186
18	124	199	136	220	83	253	567	169	1030	279	312	174
19	126	217	155	248	148	250	494	156	993	321	257	168
20	124	222	143	277	167	1530	492	146	851	757	342	174
21	139	227	143	294	250	995	698	3560	783	1370	487	164
22	136	247	144	251	319	1010	844	9940	708	1870	878	156
23	132	208	139	213	282	2040	1160	9130	630	1390	1540	154
24	136	190	143	334	260	2760	910	4200	548	949	3790	151
25	129	191	140	376	254	1860	688	1870	499	705	2840	144
26	122	208	144	310	239	1380	497	1870	752	452	2400	139
27	119	195	148	274	236	1160	398	1590	2080	442	4440	133
28	119	195	159	285	220	964	354	1220	2120	421	19400	122
29	113	247	155	286	---	841	313	1740	1690	837	10200	128
30	113	237	152	241	---	693	285	1230	1170	817	5840	124
31	107	---	100	204	---	587	---	700	---	511	3360	---
TOTAL	7218	4569	4492	5285	5914	19838	17563	46785	80707	21150	65321	11280
MEAN	233	152	145	170	211	640	585	1509	2690	682	2107	376
MAX	1000	247	227	376	319	2760	1720	9940	18700	1870	19400	2060
MIN	107	81	78	49	83	133	265	146	412	279	234	122
AC-FT	14320	9060	8910	10480	11730	39350	34840	92800	160100	41950	129600	22370

CAL YR 1978 TOTAL 403037 MEAN 1104 MAX 37000 MIN 78 AC-FT 799400
WTR YR 1979 TOTAL 290122 MEAN 795 MAX 19400 MIN 49 AC-FT 575500

07309000 EAST CACHE CREEK NEAR ELGIN, OK

LOCATION.--Lat 34°46'55", long 98°22'00", NW¼ sec.33, T.4 N., R.11 W., Comanche County, Hydrologic Unit 11130202, at gaging station at bridge on U.S. Highway 277, 1.1 miles (1.76 km) upstream from Rock Creek, and 4.25 mi (6.83 km) west of Elgin.

DRAINAGE AREA.--248 mi^2 (642 km^2).

PERIOD OF RECORD.--Water years 1956, 1958, 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1955 to September 1956, October 1957 to August 1958.
WATER TEMPERATURE: October 1955 to September 1956, October 1957 to August 1958.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
NOV 29...	0915	--	7.8	9.0	2.0	8.5	76	11	--	--	--	--
DEC 06...	0720	430	8.2	5.0	--	12.4	101	9	--	--	--	--
JAN 31...	0840	570	8.2	2.5	11	11.8	89	10	--	--	--	--
FEB 13...	1230	800	7.6	5.5	5.0	10.6	87	9	383	120	275	27
MAR 28...	0900	630	7.8	15.0	5.0	9.2	95	16	--	--	--	--
APR 10...	0930	725	7.3	11.5	42	8.6	83	19	247	67	168	19
MAY 03...	1100	650	7.6	15.5	18	8.2	85	17	--	--	--	--
JUN 06...	1105	660	8.0	23.5	26	7.1	88	14	208	63	174	16
JUL 11...	1015	490	7.6	29.0	6.0	6.5	88	--	--	--	--	--
AUG 30...	1120	720	6.9	27.0	15	7.5	97	17	289	73	183	25
SEP 05...	0900	620	5.5	25.0	--	4.0	50	29	--	--	--	--

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
NOV 29...	--	--	87	35	.2	--	<.10	.57	.58	--	.111	--
DEC 06...	--	--	91	31	.2	<1	--	1.0	--	--	.110	--
JAN 31...	--	--	137	25	.2	17	.10	1.2	1.3	5.8	.100	--
FEB 13...	--	5.5	176	32	.1	4	--	2.1	--	--	.050	<2
MAR 28...	--	--	--	36	.3	15	.10	1.3	1.4	6.2	.050	--
APR 10...	42	8.6	125	38	.3	83	<.10	1.3	1.3	--	.150	--
MAY 03...	--	--	139	37	.3	51	.10	1.2	1.3	5.8	.060	--
JUN 06...	27	6.2	70	32	.2	42	.20	1.5	1.7	7.7	.085	--
JUL 11...	--	--	72	26	.2	17	<.50	2.4	2.4	--	.150	--
AUG 30...	50	11	133	44	.3	38	<.50	1.8	1.8	--	.075	<10
SEP 05...	--	--	130	46	.2	96	<.50	2.3	2.3	--	.105	--

07309000 EAST CACHE CREEK NEAR ELGIN, OK--Continued

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV 24...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--	--
JAN 31...	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	2	17	5	580	18	240	<.5	9	<1	2	13
MAR 28...	--	--	--	--	--	--	--	--	--	--	--
APR 10...	--	--	--	3200	--	270	--	--	--	--	--
MAY 03...	--	--	--	--	--	--	--	--	--	--	--
JUN 06...	--	--	--	2300	--	--	--	--	--	--	--
JUL 11...	--	--	--	--	--	--	--	--	--	--	--
AUG 30...	<2	<10	<4	470	30	160	<.5	12	<5	<2	11
SEP 05...	--	--	--	--	--	--	--	--	--	--	--

07311000 EAST CACHE CREEK NEAR WALTERS, OK

LOCATION.--Lat 34°21'44", long 98°16'56", on south line of SE¼SE¼ sec.19, T.2 S., R.10 W., Cotton County, Hydrologic Unit 11130202, at right bank on downstream side of bridge on State Highway 53, 1.8 mi (2.9 km) east of Walters, 12.2 mi (19.6 km) upstream from West Cache Creek, and at mile 19.7 (31.7 km).

DRAINAGE AREA.--675 mi^2 (1,748 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 938.2 ft (285.963 m) Oklahoma State Highway Department datum. Prior to Jan. 8, 1939, nonrecording gage at same site and datum.

REMARKS.-Records good. Flow partly regulated by Lake Lawtonka, capacity, 42,300 acre-ft (52.2 hm^3) on Medicine Creek prior to late 1953, and 63,000 acre-ft (77.7 hm^3) thereafter, by Lake Thomas capacity, 8,300 acre-ft (10.2 hm^3) on Little Medicine Creek, and since March 1961 by Lake Ellsworth, capacity, 94,500 acre-ft (117 hm^3) on East Cache Creek. Low flow sustained by sewage from cities of Lawton and Walters.

AVERAGE DISCHARGE.--35 years, 166 ft^3/s (4.701 m^3/s), 120,300 acre-ft/yr (148 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,200 ft^3/s (799 m^3/s) May 18, 1951, gage height, 29.72 ft (9.059 m); no flow at times in 1939-40.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1906 reached a stage about the same as on May 18, 1951, and on May 17, 1947, gage height, 29.62 ft (9.028 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,250 ft^3/s (120 m^3/s) June 10, gage height, 26.76 ft (8.156 m); minimum daily discharge, 9.4 ft^3/s (0.27 m^3/s) Nov 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	15	17	22	44	36	47	67	566	47	28	20
2	18	15	17	21	43	37	42	62	534	46	35	61
3	18	15	17	24	42	33	38	107	510	39	33	22
4	18	16	17	24	36	112	37	1060	494	38	24	27
5	20	16	17	25	35	68	41	1740	1090	40	19	18
6	19	16	17	25	32	47	37	1180	2110	51	18	14
7	34	15	18	26	33	40	36	786	1780	112	17	12
8	21	16	18	27	40	36	46	298	1750	52	17	14
9	17	18	18	25	47	35	44	105	2550	42	17	26
10	17	13	19	28	41	34	42	82	4080	39	17	23
11	20	9.4	19	28	40	31	670	69	3570	45	33	20
12	18	9.7	20	25	36	32	1760	61	1270	31	35	16
13	15	11	21	27	42	32	240	55	636	27	32	12
14	14	11	23	30	42	34	143	52	606	26	26	12
15	15	12	20	32	40	37	100	48	1080	24	24	11
16	16	19	15	36	41	35	75	43	1060	23	20	13
17	14	55	14	39	40	44	111	41	1020	53	17	13
18	18	75	14	44	36	52	655	40	992	71	17	13
19	15	25	14	132	40	66	760	39	733	57	15	13
20	16	17	14	281	40	85	274	203	142	69	16	14
21	15	15	14	87	41	150	171	1650	85	52	21	22
22	13	16	16	111	39	327	158	1530	81	56	65	31
23	11	17	16	84	39	614	103	253	67	46	57	33
24	11	18	17	62	39	199	84	114	56	38	42	26
25	11	21	18	52	38	99	73	79	53	38	37	24
26	12	23	16	51	37	72	62	60	59	37	36	22
27	12	133	14	120	36	61	59	53	60	36	32	21
28	13	63	16	75	36	52	72	217	49	36	31	19
29	15	22	18	57	---	49	85	130	44	25	66	18
30	14	18	20	48	---	52	70	144	43	21	34	17
31	14	---	25	46	---	46	---	945	---	20	22	---
TOTAL	503	745.1	539	1714	1099	2647	6137	11313	27170	1337	903	567
MEAN	16.2	24.8	17.4	55.3	39.3	85.4	205	365	906	43.1	29.1	18.9
MAX	34	133	25	281	47	614	1760	1740	4080	112	68	33
MIN	11	9.4	14	21	32	31	37	39	43	20	15	11
AC-FT	998	1480	1070	3400	2180	5250	12170	22440	53890	2650	1790	1120

CAL YR 1978 TOTAL 56768.1 MEAN 156 MAX 6800 MIN 9.4 AC-FT 112600
WTR YR 1979 TOTAL 54674.1 MEAN 150 MAX 4080 MIN 9.4 AC-FT 108400

07311000 EAST CACHE CREEK NEAR WALTERS, OK

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947, 1948, 1951-55, 1958-63, 1970 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1951 to September 1953, October 1969 to March 1977.
WATER TEMPERATURE: October 1951 to September 1953, October 1969 to March 1977.

REMARKS.--Some samples were collected in open mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Monthly samples were collected by the U.S. Geological Survey and selected parameters were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)
OCT											
19...	1230	--	80020	14	724	7.4	15.0	--	6.4	64	--
26...	1315	1028	9740	13	800	7.5	10.0	26	8.0	73	27
26...	1345	--	80020	13	800	7.5	10.0	--	8.0	73	--
NOV											
28...	1430	1028	9740	42	--	7.1	12.0	93	8.1	77	34
28...	1431	--	80020	42	413	7.1	12.0	--	8.1	77	--
DEC											
05...	1330	1028	9740	16	--	7.6	11.5	17	9.4	90	20
05...	1331	--	80020	16	741	7.6	11.5	--	9.4	90	--
JAN											
10...	1500	--	80020	29	700	8.3	1.0	--	--	--	--
30...	1140	--	80020	49	485	8.4	1.0	--	10.0	73	--
30...	1141	1028	9740	49	485	8.4	1.0	34	10.0	73	28
FEB											
12...	1630	--	80020	40	750	7.6	4.5	--	--	--	--
12...	1631	1028	9740	40	750	7.6	4.5	5.0	--	--	27
MAR											
27...	1445	--	80020	59	560	7.9	14.0	100	9.7	96	--
27...	1446	1028	9740	59	560	7.9	14.0	65	9.7	96	38
APR											
09...	1435	--	80020	45	670	7.3	17.0	35	7.1	76	--
09...	1436	1028	9740	45	670	7.3	17.0	38	7.1	76	29
16...	1800	--	80020	1050	225	--	19.0	1200	--	--	--
MAY											
02...	1730	--	80020	61	690	7.9	23.5	22	7.7	94	--
02...	1731	1028	9740	61	690	7.9	23.5	22	7.7	94	23
24...	1435	--	80020	108	440	7.3	21.0	140	9.0	103	--
JUN											
05...	1440	--	80020	830	298	7.6	23.0	1500	7.7	93	--
05...	1441	1028	9740	834	298	7.6	23.0	155	7.7	93	98
JUL											
10...	1000	--	80020	40	665	7.5	25.5	48	4.6	58	--
10...	1001	1028	9740	40	665	7.5	25.5	34	4.6	58	23
25...	1515	--	80020	39	691	--	27.0	25	--	--	--
AUG											
14...	1115	--	80020	26	775	7.6	24.0	--	5.6	67	--
29...	1400	--	80020	72	610	7.2	31.5	--	--	--	--
29...	1401	1028	9740	72	610	7.2	31.5	42	--	--	30
SEP											
04...	1345	--	80020	29	563	8.1	29.0	--	--	--	--
04...	1400	1028	9740	29	640	8.1	29.0	32	8.9	119	26
17...	1500	--	80020	14	796	8.0	19.5	39	--	--	--

07311000 EAST CACHE CREEK NEAR WALTERS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO
OCT											
19...	--	--	--	--	--	--	12	--	68	--	--
28...	--	--	--	--	--	--	--	--	--	--	--
28...	210	36	--	62	--	--	13	--	70	41	2.1
NOV											
28...	--	--	120	--	300	30	--	--	--	--	--
28...	120	10	--	36	--	--	6.6	--	27	32	1.1
DEC											
05...	--	--	--	--	--	--	--	--	--	--	--
05...	170	--	--	49	--	--	12	--	69	45	2.3
JAN											
10...	--	--	--	--	--	--	--	--	69	--	--
30...	140	30	--	43	--	--	7.9	--	36	35	1.3
30...	--	--	--	--	--	--	--	--	--	--	--
FEB											
12...	180	13	--	55	--	--	11	--	60	40	1.9
12...	--	--	--	--	--	--	--	--	--	--	--
MAR											
27...	140	13	--	43	--	--	8.6	--	45	39	1.6
27...	--	--	54	--	119	12	--	--	--	--	--
APR											
09...	200	45	--	60	--	--	11	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
18...	64	0	--	20	--	--	3.3	--	19	38	1.0
MAY											
02...	200	43	--	60	--	--	13	--	--	--	--
02...	--	--	58	--	145	13	--	--	--	--	--
24...	140	16	--	42	--	--	7.6	--	33	33	1.2
JUN											
05...	84	9	--	26	--	--	4.6	--	20	38	1.1
05...	--	--	--	--	--	--	--	--	--	--	--
JUL											
10...	190	15	--	56	--	--	11	--	56	45	1.8
10...	--	--	46	--	158	12	--	<10	--	--	--
25...	190	13	--	59	--	--	11	--	50	35	1.6
AUG											
14...	190	9	--	56	--	--	12	--	69	43	2.2
29...	160	11	--	49	--	--	9.4	--	52	40	1.8
29...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	170	6	--	51	--	--	9.4	--	52	39	1.8
04...	--	--	54	--	135	9.9	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--

07311000 EAST CACHE CREEK NEAR WALTERS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM+ POTASSIUM DISSOLVED (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
OCT											
19...	--	--	10	--	--	--	--	62	64	--	429
26...	--	--	--	--	--	--	--	--	--	.9	--
28...	--	--	9.8	210	0	170	11	69	73	--	446
NOV											
28...	--	--	--	--	--	--	--	--	--	.5	--
28...	--	--	5.9	130	0	110	17	38	33	--	235
DEC											
05...	--	--	--	--	--	--	--	70	--	.8	--
05...	--	--	9.9	--	--	--	--	65	73	--	446
JAN											
10...	--	--	9.1	--	--	170	--	--	67	--	433
30...	--	--	6.3	--	--	110	--	50	41	--	291
30...	--	--	--	--	--	--	--	50	36	.5	--
FEB											
12...	--	--	8.9	--	--	170	--	68	67	--	407
12...	--	--	--	--	--	--	--	--	--	.7	--
MAR											
27...	--	--	6.9	--	--	130	--	64	47	--	312
27...	--	--	--	--	--	--	--	--	--	.6	--
APR											
09...	--	--	--	--	--	150	--	60	55	--	363
09...	--	--	--	--	--	--	--	--	--	.7	--
18...	23	--	4.2	--	--	--	--	17	12	--	136
MAY											
02...	71	--	6.8	--	--	160	--	79	58	--	404
02...	--	--	--	--	--	--	--	--	--	.7	--
24...	39	--	6.3	--	--	120	--	47	33	--	--
JUN											
05...	25	--	5.2	--	--	75	3.7	29	25	--	175
05...	--	--	--	--	--	--	--	--	--	.2	--
JUL											
10...	64	--	7.6	--	--	170	--	54	58	--	358
10...	--	8.0	--	--	--	--	--	--	--	.4	--
25...	59	--	6.5	--	--	180	--	60	56	--	417
AUG											
14...	74	--	9.6	--	--	180	--	73	75	--	447
29...	61	--	9.1	--	--	150	--	54	49	--	353
29...	--	--	--	--	--	--	--	--	--	.4	--
SEP											
04...	60	--	8.3	--	--	160	--	50	48	--	341
04...	--	--	--	--	--	--	--	--	--	.5	--
17...	--	--	--	--	--	180	--	85	80	--	458

07311000 EAST CACHE CREEK NEAR WALTERS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)
OCT										
19...	--	--	--	--	--	--	--	--	--	--
28...	--	--	54	--	2.7	--	--	2.311	--	--
28...	.61	15.7	--	--	--	--	--	--	--	--
NOV										
28...	--	--	344	1.0	1.6	2.6	12	.560	--	--
28...	.32	26.6	--	--	--	--	--	--	--	--
DEC										
05...	--	--	13	--	2.5	--	--	.910	--	--
05...	.61	19.3	--	--	--	--	--	--	--	--
JAN										
10...	.59	33.9	--	--	--	--	--	--	--	--
30...	.40	38.5	--	--	--	--	--	--	--	--
30...	--	--	59	3.0	3.0	6.0	27	.670	--	--
FEB										
12...	.55	44.0	--	--	--	--	--	--	--	--
12...	--	--	7	5.7	4.8	10	46	3.400	--	--
MAR										
27...	.42	49.7	--	--	--	--	--	--	--	--
27...	--	--	162	2.8	3.6	6.4	28	1.400	--	--
APR										
09...	.49	44.1	--	--	--	--	--	--	--	--
09...	--	--	107	4.8	2.7	7.5	33	2.600	--	--
18...	.19	386	--	--	--	--	--	--	--	--
MAY										
02...	.55	66.5	--	--	--	--	--	--	--	--
02...	--	--	992	4.3	2.1	6.4	28	1.650	--	--
24...	.35	--	--	--	--	--	--	--	--	--
JUN										
05...	.24	392	--	--	--	--	--	--	--	--
05...	--	--	1517	.50	4.1	4.6	20	1.000	--	--
JUL										
10...	.49	38.7	--	--	--	--	--	--	--	--
10...	--	--	111	1.7	1.9	3.6	16	1.200	12	<2
25...	.57	43.9	--	--	--	--	--	--	--	--
AUG										
14...	.61	31.4	--	--	--	--	--	--	--	--
29...	.48	68.6	--	--	--	--	--	--	--	--
29...	--	--	82	4.5	2.4	6.9	31	.920	--	--
SEP										
04...	.46	26.7	--	1.7	--	--	--	1.500	--	--
04...	--	--	124	1.6	1.9	3.5	15	1.600	--	--
17...	.62	17.3	--	--	--	--	--	--	--	--

07311000 EAST CACHE CREEK NEAR WALTERS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT										
19...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
NOV										
28...	--	--	11500	--	220	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
JAN										
10...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
FEB										
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
MAR										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	6400	--	180	--	--	--	--	--
APR										
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--
MAY										
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	1700	--	110	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
JUL										
10...	--	--	--	--	--	--	--	--	--	--
10...	<10	9	3300	40	230	<.5	15	<5	<2	9
25...	--	--	--	--	--	--	--	--	--	--
AUG										
14...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
SEP										
04...	--	--	--	--	--	--	--	--	--	--
04...	--	--	1720	--	180	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--

07311200 BLUE BEAVER CREEK NEAR CACHE, OK
(Hydrologic bench-mark station)

LOCATION.--Lat 34°37'24", long 98°33'48", in NE¼NE¼ sec.28, T.2 N., R.13 W., Comanche County, Hydrologic Unit 11130203, on downstream side of right bank pier on old U.S. Highway 62, 3,000 ft (914.4 m) upstream from St. Louis-San Francisco Railway Co. bridge, 4.0 mi (6.4 km) east of Cache, and at mile 12.0 (19.3 km).

DRAINAGE AREA.--24.6 mi^2 (63.7 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,215.26 ft (370.411 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Minor regulation by Lake Rush, Lake Jed Johnson, and Lake Ketch, combined surface-area 132 acres (534,000 m^2).

AVERAGE DISCHARGE.--15 years, 9.35 ft^3/s (0.265 m^3/s), 6,770 acre-ft/yr (8.35 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft^3/s (385 m^3/s) Aug. 28, 1977, gage height, 18.02 ft (5.492 m) from floodmarks, from rating curve extended above 250 ft^3/s (7.08 m^3/s) on basis of contracted opening; no flow at times each year.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft^3/s (14.2 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
May 3	1900	*996	28.2	*10.55	3.216	June 9	0345	686	19.4	10.06	3.066

No flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	3.8	3.2	11	13	14	.97	.05	.00
2	.00	.00	.00	.00	3.4	4.0	8.9	12	9.5	.60	.04	.00
3	.00	.00	.00	.00	3.2	25	8.2	249	6.7	.67	.03	.00
4	.00	.00	.00	.00	2.9	23	7.9	228	4.7	.55	.02	.00
5	.00	.00	.00	.00	2.7	17	6.7	60	5.0	.54	.00	.00
6	.00	.00	.00	.00	2.9	14	6.1	51	12	1.0	.00	.00
7	.00	.00	.00	.00	2.9	12	5.1	36	20	.89	.00	.00
8	.00	.00	.00	.00	2.8	10	4.8	27	19	.67	.00	.00
9	.00	.00	.00	.00	2.7	8.7	5.1	21	361	.53	.00	.00
10	.00	.00	.00	.00	2.9	7.5	64	18	97	.46	.00	.00
11	.00	.00	.00	.00	4.1	6.7	79	17	50	.38	.00	.00
12	.00	.00	.00	.00	6.7	6.2	33	13	32	.28	.00	.00
13	.00	.00	.00	.00	7.5	5.7	31	9.8	22	.23	.00	.00
14	.00	.00	.00	.00	7.9	4.9	25	6.9	15	.18	.00	.00
15	.00	.00	.00	.00	7.4	4.8	20	5.5	10	.15	.00	.00
16	.00	.00	.00	.00	5.6	4.9	17	4.6	6.9	.12	.00	.00
17	.00	.00	.00	.00	4.5	6.2	52	3.9	5.4	.18	.00	.00
18	.00	.00	.00	1.5	4.4	8.6	277	3.5	3.8	.35	.00	.00
19	.00	.00	.00	6.6	4.2	12	131	3.1	3.1	.52	.00	.00
20	.00	.00	.00	11	4.8	30	79	5.2	2.8	.45	.00	.00
21	.00	.00	.00	15	4.9	25	57	17	2.3	.33	.00	.00
22	.00	.00	.00	8.4	4.9	132	45	11	2.0	.24	.00	.00
23	.00	.00	.00	6.0	4.5	75	37	7.1	1.8	.21	.00	.00
24	.00	.00	.00	4.1	3.9	45	30	4.3	2.1	.17	.00	.00
25	.00	.00	.00	5.5	3.7	34	25	3.3	2.1	.14	.00	.00
26	.00	.00	.00	23	3.7	27	21	2.8	1.9	.13	.00	.00
27	.00	.00	.00	13	3.6	23	19	2.4	1.6	.12	.00	.00
28	.00	.00	.00	9.1	3.3	19	18	2.3	1.4	.09	.00	.00
29	.00	.00	.00	6.7	---	18	16	1.9	1.2	.06	.00	.00
30	.00	.00	.00	5.3	---	16	15	21	1.1	.03	.00	.00
31	.00	---	.00	4.3	---	13	---	25	---	.06	.00	---
TOTAL	.00	.00	.00	119.50	119.8	641.4	1154.8	905.6	717.4	11.50	.14	.00
MEAN	.000	.000	.000	3.85	4.28	20.7	38.5	29.2	23.9	.37	.005	.000
MAX	.00	.00	.00	23	7.9	132	277	249	361	1.0	.05	.00
MIN	.00	.00	.00	.00	2.7	3.2	4.8	1.9	1.1	.03	.00	.00
AC-FT	.00	.00	.00	237	238	1270	2290	1800	1420	23	.3	.00

CAL YR 1978	TOTAL	6331.40	MEAN	17.3	MAX	1510	MIN	.00	AC-FT	12560
WTR YR 1979	TOTAL	3670.14	MEAN	10.1	MAX	361	MIN	.00	AC-FT	7280

07311200 BLUE BEAVER CREEK NEAR CACHE, OK.--Continued
(Hydrologic bench-mark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
FEB										
13...	0930	7.6	150	6.4	4.5	10.4	83	39	11	11
MAY										
03...	0900	31	156	7.6	14.0	8.9	89	48	0	14
AUG										
30...	0945	.00	217	7.0	27.5	8.4	109	78	4	20

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
FEB										
13...	2.8	6.7	32	.6	--	.9	28	20	5.2	.3
MAY										
03...	3.2	11	29	.7	19	7.7	63	15	--	.3
AUG										
30...	6.8	15	29	.7	17	2.0	74	--	7.9	.4

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS PO4)	PHOS-PHORUS, TOTAL (MG/L AS PO4)
FEB									
13...	10	76	76	.10	1.56	.08	.020	--	--
MAY									
03...	9.4	94	--	.13	7.87	.06	.100	.31	.31
AUG									
30...	14	124	--	--	.00	.02	.250	--	.77

07311500 DEEP RED RUN NEAR RANDLETT, OK

LOCATION.--Lat 34°13'15", long 98°27'10", in SW¼SW¼ sec.10, T.4 S., R.12 W., Cotton County, Hydrologic Unit 11130203, near right bank on downstream side of pier of bridge on U.S. Highway 277, 2.8 mi (4.5 km) north of Randlett, and at mile 4.8 (7.7 km).

DRAINAGE AREA.--617 mi^2 (1,598 km^2).

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

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

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 924.49 ft (281.785 m) Oklahoma State Highway Department datum. Prior to Nov. 10, 1949, nonrecording gage at same site and datum.

REMARKS.-Records good.

AVERAGE DISCHARGE.--30 years, 113 ft^3/s (3.200 m^3/s), 81,870 acre-ft/yr (101 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,700 ft^3/s (1,370 m^3/s) Sept. 22, 1969, gage height, 27.51 ft (8.385 m), from rating curve extended above 13,000 ft^3/s (368 m^3/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1908 reached a stage somewhat exceeding 27 ft (8.2 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharge, above base of 2,000 ft^3/s (56.6 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
May 23	2000	2,880	81.6	21.45	6.538	June 10	1015	*3,130	88.6	*21.68	6.608
June 5	2315	2,580	73.1	20.60	6.279						

No flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.3	.58	2.4	.72	1.5	5.9	43	3.3	.45	23
2	.00	.00	1.2	.64	2.0	.63	1.0	3.5	30	2.4	.34	29
3	.00	.00	.67	.80	1.9	.99	.94	2.7	21	3.1	2.4	8.5
4	.00	.00	.46	.96	1.6	.78	.94	3.2	15	1.9	.50	4.0
5	.00	.00	.32	1.1	1.3	.72	.84	544	848	1.2	8.3	2.0
6	.00	.00	.20	1.1	1.0	.72	.83	477	1590	1.4	4.7	1.2
7	.00	.00	.19	1.1	1.0	.90	.83	52	227	105	1.5	.75
8	.00	.00	.28	1.1	1.0	.90	.78	30	646	114	.62	.54
9	.00	.00	.24	1.1	1.0	.90	.58	20	1760	26	.35	.44
10	.00	.00	.20	1.1	1.0	.77	.63	13	2940	12	.25	.36
11	.00	.00	.17	1.2	.90	.63	6.0	9.0	2760	7.0	.24	.34
12	.00	.00	.16	1.3	.90	.58	630	6.7	1630	3.5	.20	.33
13	.00	.00	.16	1.3	.90	.58	385	5.4	123	2.5	.20	.26
14	.00	.00	.16	1.3	.90	.50	55	3.9	64	1.7	.20	.22
15	.00	.00	.16	1.3	.90	.75	37	2.7	45	1.3	15	.16
16	.00	.00	.16	1.3	.90	.63	29	1.9	36	.86	4.0	.13
17	.00	.00	.16	1.5	.63	.93	26	1.4	26	.98	.24	.14
18	.00	.00	.11	1.5	.58	.94	186	1.1	22	3.3	.27	.13
19	.00	.00	.13	1.7	.58	1.3	491	1.0	19	1.9	.89	.13
20	.00	.00	.17	10	.54	2.3	146	1.0	13	9.6	22	.13
21	.00	.00	.20	51	.54	2.1	54	217	7.9	11	54	.13
22	.00	.00	.24	21	.54	260	39	1480	24	5.8	15	.11
23	.00	.00	.26	11	.49	86	31	2630	19	3.0	4.0	.16
24	.00	.01	.29	5.9	.54	93	25	2010	7.7	2.0	27	.14
25	.00	.24	.25	3.5	.59	26	23	236	4.8	1.4	79	.10
26	.00	.38	.27	2.6	.77	13	20	62	4.3	7.6	33	.08
27	.00	.33	.29	2.4	.83	7.6	16	48	7.5	4.9	45	.08
28	.00	.26	.29	1.9	.76	4.7	12	103	11	2.5	31	.06
29	.00	2.6	.33	1.7	---	3.0	9.6	748	7.9	1.4	194	.05
30	.00	2.0	.34	1.5	---	2.1	7.8	675	4.7	.84	194	.04
31	.00	---	.53	1.5	---	1.8	---	108	---	.60	32	---
TOTAL	.00	5.82	9.89	135.98	26.99	516.87	2237.27	9502.4	12958.8	345.98	770.65	72.71
MEAN	.000	.19	.32	4.39	.96	16.7	74.6	307	432	11.2	24.9	2.42
MAX	.00	2.6	1.3	51	2.4	260	630	2630	2940	114	194	29
MIN	.00	.00	.11	.58	.49	.50	.58	1.0	4.3	.60	.20	.04
AC-FT	.00	12	20	270	54	1030	4440	18850	25700	686	1530	144

CAL YR 1978 TOTAL 26620.40 MEAN 72.9 MAX 3630 MIN .00 AC-FT 52800
WTR YR 1979 TOTAL 26583.36 MEAN 72.8 MAX 2940 MIN .00 AC-FT 52730

07311505 DEEP RED RUN NEAR TAYLOR, OK

LOCATION.--Lat 34°12'32", long 98°19'48", west edge sec.14, T.4 S., R.11 W., Cotton County, Hydrologic Unit 11130203, at county road bridge, 2.2 mi (3.5 km) upstream from confluence with East Cache Creek, 2.5 mi (4.0 km) north of Taylor, and at mile 3.4 (5.5 km^2).

DRAINAGE AREA.--1,121 mi^2 (2,903 km^2).

PERIOD OF RECORD.--Water years 1959, 1976 to current year. Prior to October 1976, published as "West Cache Creek near Taylor."

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
DEC												
05...	1200	810	7.6	7.0	9.0	9.0	78	17	--	--	--	--
JAN												
30...	1415	510	7.8	2.5	59	12.8	96	17	--	--	--	--
FEB												
12...	1530	--	7.5	6.5	12	--	--	10	181	60	123	19
MAR												
27...	1400	350	8.1	15.0	75	9.5	96	21	--	--	--	--
APR												
09...	1350	580	8.3	19.5	25	9.1	101	50	115	32	80	8.3
MAY												
02...	1630	390	8.0	24.5	37	7.5	94	11	--	--	--	--
JUN												
05...	1320	200	7.0	21.0	130	5.9	69	79	97	23	70	24
JUL												
10...	1615	750	7.6	30.0	77	5.0	68	--	--	--	--	--
AUG												
29...	1300	450	7.4	27.5	>1000	--	--	69	185	47	118	12
SEP												
04...	1315	740	7.0	29.0	95	6.5	87	19	--	--	--	--

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
DEC												
05...	--	--	52	--	.3	1	.10	.58	.68	3.0	.137	--
JAN												
30...	--	--	40	53	.3	87	.90	1.4	2.3	10	.200	--
FEB												
12...	--	3.5	51	147	.2	13	.70	1.3	2.0	9.1	.100	2
MAR												
27...	--	--	28	22	.3	167	.40	1.6	2.0	8.9	.200	--
APR												
09...	45	3.7	32	50	.3	48	<.10	1.4	1.4	--	.150	--
MAY												
02...	--	--	23	35	.3	56	.20	.95	1.1	5.1	.100	--
JUN												
05...	10	6.3	22	20	.1	1982	.60	4.1	4.7	21	.805	--
JUL												
10...	--	--	43	90	.3	248	.60	1.8	2.4	11	.350	--
AUG												
29...	<10	6.9	30	58	.0	1966	.70	4.1	4.8	21	.985	20
SEP												
04...	--	--	51	122	--	168	.50	2.2	2.7	12	.320	--

07311505 DEEP RED RUN NEAR TAYLOR, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
DEC 05...	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	--	--	--	--	--	--	--	--	--	--	--
FEB 12...	1	21	4	1000	14	180	<.5	6	2	<2	15
MAR 27...	--	--	--	--	--	--	--	--	--	--	--
APR 09...	--	--	--	1640	--	110	--	--	--	--	--
MAY 02...	--	--	--	--	--	--	--	--	--	--	--
JUN 05...	--	--	--	60000	--	1600	--	--	--	--	--
JUL 10...	--	--	--	--	--	--	--	--	--	--	--
AUG 29...	<2	15	13	8500	35	1300	<.5	27	<5	<2	36
SEP 04...	--	--	--	--	--	--	--	--	--	--	--

07312720 RED RIVER NEAR WAURIKA, OK

LOCATION.--Lat 34°07'58", long 98°05'30", in SE¼ sec.12, T.5 S., R.8 W., Jefferson County, Hydrologic Unit 11130201, at bridge on State Highway 79, 5.6 mi (9.0 km) southwest of Waurika.

PERIOD OF RECORD.--Water years 1978 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
OCT												
28...	1200	7100	8.0	12.0	46	10.6	102	28	1989	530	1325	160
NOV												
28...	1150	--	8.3	10.0	23	12.0	111	32	--	--	--	--
DEC												
05...	1005	6000	8.3	7.0	17	11.8	102	20	--	--	--	--
JAN												
30...	1515	7400	8.6	2.5	15	13.5	104	27	--	--	--	--
FEB												
12...	1400	6700	6.3	6.5	11	14.7	124	30	1212	420	1050	150
MAR												
27...	1315	3950	8.0	14.5	>1000	10.3	103	130	--	--	--	--
APR												
09...	1240	7750	8.3	18.0	75	8.4	93	47	1483	410	1025	110
MAY												
02...	1530	6500	8.2	24.0	65	7.4	94	34	--	--	--	--
JUN												
05...	1225	4000	7.9	23.0	90	7.9	96	26	633	200	500	55
JUL												
10...	1450	3200	8.0	31.0	22	6.6	92	59	--	--	--	--
AUG												
29...	1200	2400	8.4	28.5	>1000	--	--	126	731	277	693	6.4
SEP												
04...	1200	3720	8.6	30.0	48	7.2	99	28	--	--	--	--

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
OCT												
28...	1190	12	962	1525	.5	86	--	1.6	--	--	.724	--
NOV												
28...	--	--	807	1787	.5	49	.20	1.1	1.3	6.0	.654	--
DEC												
05...	--	--	881	1840	.4	27	.70	.70	1.4	6.2	.554	--
JAN												
30...	--	--	854	1956	.5	29	1.0	2.0	3.0	13	.450	--
FEB												
12...	--	10	883	1891	.4	23	.90	2.8	3.7	17	.800	5
MAR												
27...	--	--	732	941	.4	3778	.70	7.2	7.9	35	2.500	--
APR												
09...	1160	13	1198	2036	.4	241	<.10	2.4	2.4	--	.500	--
MAY												
02...	--	--	968	--	.4	169	<.10	2.0	2.0	--	.420	--
JUN												
05...	580	9.7	372	884	.3	--	.20	1.4	1.6	7.4	.250	--
JUL												
10...	--	--	--	1532	.4	1247	.80	3.4	4.2	19	.800	--
AUG												
29...	150	11	273	575	.2	4677	.70	6.2	6.9	31	2.150	53
SEP												
04...	--	--	390	934	.3	--	.60	2.1	2.7	12	.430	--

07312720 RED RIVER NEAR WAURIKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 28...	--	--	--	3200	--	70	--	--	--	--	--
NOV 28...	--	--	--	--	--	--	--	--	--	--	--
DEC 05...	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	--	--	--	--	--	--	--	--	--	--	--
FEB 12...	5	23	10	1150	39	90	<.5	27	2	6	17
MAR 27...	--	--	--	--	--	--	--	--	--	--	--
APR 09...	--	--	--	5600	--	200	--	--	--	--	--
MAY 02...	--	--	--	--	--	--	--	--	--	--	--
JUN 05...	--	--	--	6000	--	230	--	--	--	--	--
JUL 10...	--	--	--	--	--	--	--	--	--	--	--
AUG 29...	<2	16	23	5010	56	1880	<.5	53	<5	<2	43
SEP 04...	--	--	--	--	--	--	--	--	--	--	--

07313400 WAURIKA LAKE NEAR WAURIKA, OK

LOCATION.--Lat 34°13'57", long 98°02'51", in SW¼SW¼ sec. 4, T. 4 S., R. 8 W., Jefferson County, Hydrologic Unit 11130208, 3,050 ft (930 m) east of outlet works on Beaver Creek, 5.5 mi (8.8 km) north of Waurika and at mile 27.0 (43.4 km).

DRAINAGE AREA.--562 mi^2 (1,456 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929. Prior to Aug.26, 1977 nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by an earth dam with a concrete outlet structure and emergency spillway. Storage began Aug.1, 1977. Capacity 469,300 acre-ft (579 hm^3) at elevation 970.0 ft (295.66 m), crest of uncontrolled spillway and 203,100 acre-ft (250 hm^3) at elevation 951.4 ft (289.99 m), top of conservation pool. Dead storage, 3,400 acre-ft (4.19 hm^3) below elevation 910.0 ft (277.3 m). Reservoir is used for flood control, irrigation, water supply, water quality, fish and wildlife, and recreation.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 132,200 acre-ft (163 hm^3) July 21-26, 1979, elevation, 943.63 ft (287.618 m); minimum since first major filling, 59,170 acre-ft (73.0 hm^3) Dec. 4-5, 1978, elevation, 931.56 (283.939 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 132,200 acre-ft (163 hm^3) July 21-26, elevation, 943.63 ft (287.618 m); minimum, 59,170 acre-ft (73.0 hm^3) Dec. 4, 5.

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

931	56,610	940	106,200
934	71,100	943	127,500
937	87,670	946	151,300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62530	60180	59490	59860	60270	60460	64210	70260	77600	131700	131200	128500
2	62480	60360	59490	59910	60230	60730	63960	70410	77700	131500	131100	129100
3	62330	60270	59490	59910	60230	60870	64010	70600	77700	131400	130600	129500
4	62230	60270	59170	59910	60230	60820	63860	70800	77650	131100	130600	129500
5	62180	60270	59770	59910	60230	60780	63770	71100	79850	131800	130600	129500
6	62030	61190	59810	59950	60460	60780	63770	71210	85100	131900	130500	129400
7	61930	61100	59810	60000	60270	60820	63670	71260	88890	132000	130300	129400
8	61830	61050	59810	60000	60320	60640	63910	71310	100400	132000	130000	129100
9	61680	60910	59810	60000	60180	60780	63810	71310	107900	132000	130000	129000
10	61680	60690	59810	60040	60180	60730	63910	71530	125000	131900	130300	128800
11	61680	60550	59810	60040	60230	60730	65500	71370	130300	132000	130000	128700
12	61680	60180	59450	60090	60270	60640	67730	71310	130900	132000	129700	128500
13	61780	59450	59450	60090	60270	60730	67830	71260	131000	132000	129700	128400
14	61780	59360	59450	60140	60270	60640	67980	71150	131200	131800	129500	128000
15	61290	59450	59450	60140	60640	60640	68030	71100	131200	131500	129400	127800
16	61290	60270	59450	60180	60360	60690	68030	71000	131300	131600	129000	127600
17	60820	60270	59450	60180	60270	60690	68620	70800	131200	131800	129000	127500
18	60820	60500	59450	60230	60270	61010	69170	70850	131200	131800	128500	127300
19	60870	60760	59450	60230	60090	61240	69360	70900	131200	132100	128800	127200
20	60870	60780	59450	60270	60140	61290	70110	71310	131200	132100	129100	127200
21	60690	60730	59630	60270	60230	61190	70260	73840	131200	132200	129300	127000
22	61050	59490	59630	60320	60320	63620	70310	74970	131100	132200	129400	127000
23	60960	59490	59630	60360	60460	64060	70360	75230	131100	132200	129400	126800
24	60690	59490	59680	60360	60590	64160	70360	75290	131200	132200	129200	126700
25	60730	59490	59720	60360	60500	64010	70600	75290	130900	132200	129100	126700
26	60410	59490	59720	60410	60500	64210	70410	75290	131600	132000	129100	126500
27	60320	60730	59720	60460	60360	64060	70500	75230	131800	132000	129100	126300
28	60270	60730	59770	60460	60550	63910	70360	75180	131800	131800	128900	126100
29	60270	60640	59810	60460	---	64060	70310	75180	131900	131600	128800	126100
30	60270	59490	59810	60460	---	64210	70310	75450	131900	131400	128800	126100
31	60270	---	59810	60500	---	64010	---	77270	---	131300	128500	---
MAX	62530	61190	59810	60500	60640	64210	70600	77270	131900	132200	131200	129500
MIN	60270	59360	59170	59860	60090	60460	63670	70260	77600	131100	128500	126100
†	931.80	931.63	931.70	931.85	931.86	932.57	933.84	935.15	943.59	943.51	943.14	942.82
‡	-2,450	-780	+320	+690	+50	+3,460	+6,300	+6,960	+54,630	-600	-2,800	-2,400

CAL YR 1978 MAX 70550 MIN 1710 ‡+58080
WTR YR 1979 MAX 132200 MIN 59170 ‡+63380

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

07313500 BEAVER CREEK NEAR WAURIKA, OK

LOCATION.--Lat 34°13'00", long 98°02'57", on north line of NW¼NW¼ sec.16, T.4 S., R.8 W., Jefferson County, Hydrologic Unit 11130208, on left bank on downstream side of bridge on State Highway 5, 4.5 mi (7.2 km) northwest of Waurika, 6.2 mi (10.0 km) upstream from Cow Creek, and at mile 25.8 (45.1 km).

DRAINAGE AREA.--563 mi^2 (1,458 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1953 to current year.

REVISED RECORDS.--WSP 1731: 1954(M).

GAGE.--Water-stage recorder. Datum of gage is 874.17 ft (266.447 m) Oklahoma State Highway Department datum. Prior to Apr. 5, 1966, water-stage recorder at same site at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records fair. Flow regulated by Waurika Lake (07313400) 1.2 mi (1.9 km) upstream beginning August 1977.

AVERAGE DISCHARGE.--(Prior to regulation by Waurika Lake) 23 years, (water years 1954-76) 107 ft^3/s (3.030 m^3/s), 77,520 acre-ft/yr (95.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,200 ft^3/s (912 m^3/s) May 20, 1955, gage height, 27.42 ft (8.358 m), present datum; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1951, reached a stage of 27.7 ft (8.44 m), present datum, from floodmark, discharge 65,300 cfs (1,850 m^3/s) by contracted-opening measurement of peak flow. A similar stage was reached prior to 1889, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19 ft^3/s (0.538 m^3/s) Mar. 22, gage height, 6.21 ft (1.893 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.08	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00
18	.00	.00	.00	.10	.00	.00	.53	.00	.00	.00	.00	.00
19	.00	.00	.00	.50	.00	.06	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.01	.00	.20	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.52	.08	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	4.3	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.63	.00	4.61	1.11	.08	.15	.00	.00	.00
MEAN	.000	.000	.000	.020	.000	.15	.037	.003	.005	.000	.000	.000
MAX	.00	.00	.00	.50	.00	4.3	.53	.08	.08	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	1.2	.00	9.1	2.2	.2	.3	.00	.00	.00

CAL YR 1978	TOTAL 259.93	MEAN .71	MAX 121	MIN .00	AC-FT 516			
WTR YR 1979	TOTAL 6.58	MEAN .018	MAX 4.3	MIN .00	AC-FT 13			

07313500 BEAVER CREEK NEAR WAURIKA, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953-66, 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1955 to September 1962.
WATER TEMPERATURE: October 1955 to September 1962.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the the U.S. Geological Survey and were analyzed by Oklahoma State Department Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)
JAN												
30...	1340	.00	960	8.0	3.5	10	8.3	64	21	--	--	--
FEB												
12...	1230	.00	950	7.1	7.0	5.0	10.6	88	21	258	60	150
MAR												
27...	1215	.00	560	7.8	14.5	80	9.8	99	34	--	--	--
APR												
09...	1200	.00	990	7.7	16.5	67	7.2	75	35	229	45	0
MAY												
02...	1415	.00	1200	7.6	23.0	48	7.0	84	35	--	--	--
JUN												
05...	1135	.00	1100	8.1	23.0	190	6.1	73	57	266	51	128
JUL												
10...	1250	.00	590	7.4	28.5	160	5.1	67	454	--	--	--

DATE	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	PUTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
JAN												
30...	--	--	--	156	68	.3	18	.10	1.3	1.4	6.2	.150
FEB												
12...	36	--	4.5	127	79	.3	4	46	2.6	49	217	.150
MAR												
27...	--	--	--	59	30	.4	108	.10	2.5	2.6	12	.300
APR												
09...	29	124	5.9	91	60	.5	100	<1.0	1.9	1.9	--	.250
MAY												
02...	--	--	--	122	88	.4	69	.10	1.6	2.0	7.9	.205
JUN												
05...	40	154	6.7	122	91	.4	419	.20	2.4	2.6	12	.345
JUL												
10...	--	--	--	23	24	.2	--	<.50	23	23	--	2.400

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
JAN												
30...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
12...	3	1	19	3	380	13	610	<.5	6	1	<2	20
MAR												
27...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
09...	--	--	--	--	4700	--	700	--	--	--	--	--
MAY												
02...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
05...	--	--	--	--	16000	--	1500	--	--	--	--	--
JUL												
10...	--	--	--	--	--	--	--	--	--	--	--	--

07313600 COW CREEK AT WAURIKA, OK

LOCATION.--Lat 34°10'55", long 98°00'05", in NE¼ sec.26, T.4 S., R.8 W., Jefferson County, Hydrologic Unit 11130208, at Chicago Rock Island and Pacific Railroad bridge, 0.7 miles (1.1 km) north of Waurika, and at mile 1.9 (3.1 km).

DRAINAGE AREA.--193 mi^2 (500 km^2).

PERIOD OF RECORD.--Water years 1960-63, 1967-70, 1978 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
OCT												
28...	1100	1200	7.7	10.0	43	6.3	56	69	466	85	213	60
NOV												
28...	1030	1000	7.4	10.0	--	8.7	79	67	--	--	--	--
DEC												
05...	0900	780	7.2	5.5	--	9.6	79	40	--	--	--	--
JAN												
30...	1430	1700	7.6	1.5	7.0	10.4	76	87	--	--	--	--
FEB												
12...	1100	1500	6.4	6.0	11	12.0	98	96	394	80	200	57
MAR												
27...	1130	915	7.4	13.0	70	9.7	93	47	--	--	--	--
APR												
09...	1115	1750	7.8	19.0	25	8.8	98	80	368	74	185	44
MAY												
02...	1330	1900	7.9	21.0	52	6.3	73	67	--	--	--	--
JUN												
05...	1015	1100	7.6	22.0	125	3.5	41	--	255	48	150	28
JUL												
10...	1350	1400	7.4	28.0	72	3.6	47	44	--	--	--	--
AUG												
29...	1030	720	8.3	26.5	85	--	--	49	304	61	152	36
SEP												
04...	1020	430	8.0	25.0	26	6.8	84	77	--	--	--	--

07313600 COW CREEK AT WAURIKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
OCT												
28...	165	17	154	235	2.1	69	--	4.6	--	--	5.400	--
NOV												
28...	--	--	76	136	1.9	76	.30	12	13	58	6.250	--
DEC												
05...	--	--	93	76	.8	24	3.0	6.7	9.7	43	6.146	--
JAN												
30...	--	--	244	238	1.1	11	.50	19	19	86	6.000	--
FEB												
12...	--	24	209	202	1.7	10	2.6	22	25	111	5.350	13
MAR												
27...	--	--	84	134	1.0	275	1.9	4.0	5.9	26	1.200	--
APR												
09...	170	15	245	226	1.6	53	6.0	4.5	5.1	46	2.800	--
MAY												
02...	--	--	225	--	1.2	118	4.5	9.0	13	60	3.250	--
JUN												
05...	92	10	93	105	1.4	237	3.6	3.2	6.8	30	.890	--
JUL												
10...	--	--	58	163	.6	245	1.1	--	3.5	--	1.350	--
AUG												
29...	162	14	156	225	2.2	243	4.9	5.8	11	47	5.700	18
SEP												
04...	--	--	35	58	--	931	1.6	4.2	5.8	26	.955	--

07313600 COW CREEK AT WAURIKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 28...	--	--	--	3600	--	150	--	--	--	--	--
NOV 28...	--	--	--	--	--	--	--	--	--	--	--
DEC 05...	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	--	--	--	--	--	--	--	--	--	--	--
FEB 12...	9	30	8	640	24	630	<.5	170	18	2	25
MAR 27...	--	--	--	--	--	--	--	--	--	--	--
APR 09...	--	--	--	3000	--	710	--	--	--	--	--
MAY 02...	--	--	--	--	--	--	--	--	--	--	--
JUN 05...	--	--	--	6100	--	500	--	--	--	--	--
JUL 10...	--	--	--	--	--	--	--	--	--	--	--
AUG 29...	<2	<10	7	1060	20	740	<.5	48	<5	<2	11
SEP 04...	--	--	--	--	--	--	--	--	--	--	--

07315500 RED RIVER NEAR TERRAL, OK

LOCATION.--Lat 33°52'43", long 97°56'03", Jefferson County, Hydrologic Unit 11130201, near left bank on downstream side of pier of bridge on U.S. Highway 81, 0.5 mi (0.8 km) downstream from Chicago, Rock Island, and Pacific Railroad Co. bridge, 1.2 mi (1.9 km) south of Terral, 3.6 mi (5.8 km) downstream from Little Wichita River, and at mile 872 (1,403 km).

DRAINAGE AREA.--28,723 mi^2 (74,393 km^2), of which 5,936 mi^2 (15,374 km^2) probably is noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 770.31 ft (234.790 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 12, 1939, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good. Many small diversions for irrigation, oilfield, and municipal uses upstream from station.

AVERAGE DISCHARGE.--41 years (water years 1939-79), 2,165 ft^3/s (61.31 m^3/s), 1,569,000 acre-ft/yr (1.93 km^3)yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 197,000 ft^3/s (5,580 m^3/s) June 8, 1941, gage height, 28.12 ft (8.571 m); minimum, 43 ft^3/s (1.22 m^3/s) Mar. 15, 1939.
Maximum stage since at least 1891, that of June 8, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 19, 1935, reached a stage of 27.2 ft (8.29 m); floods in 1891 and May 1, 1908, are reported to have reached about the same stage.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,800 ft^3/s (872 m^3/s) June 11, gage height, 17.89 ft (5.453 m), no other peak above base of 21,000 ft^3/s (595 m^3/s); minimum, 77 ft^3/s (2.18 m^3/s) Jan. 2 (result of freezeup).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1500	234	357	139	487	401	891	558	2690	1430	753	2680
2	1070	233	318	121	462	386	805	543	2800	1090	654	1850
3	803	228	276	187	470	400	756	514	2000	939	631	1430
4	663	226	248	230	429	392	684	492	1700	756	1040	1200
5	574	224	239	230	410	398	644	2620	2700	720	966	938
6	496	224	226	194	409	384	587	7250	16500	1200	763	785
7	434	224	211	180	417	414	554	5200	16200	1780	751	693
8	405	224	204	160	420	417	538	3270	14900	1360	703	611
9	388	248	198	180	398	381	517	2410	16600	1340	603	564
10	387	230	197	202	396	349	516	1460	27100	1490	567	571
11	366	208	186	202	388	319	544	960	29800	1260	547	529
12	341	189	186	230	390	304	912	786	29600	959	531	502
13	314	191	167	259	513	286	6000	650	14800	888	512	470
14	290	184	164	240	704	270	3630	585	6350	935	558	433
15	279	179	177	230	750	295	1720	533	4970	880	550	406
16	264	187	180	280	682	316	1220	486	4420	714	474	387
17	251	210	191	300	506	387	1170	451	4210	651	448	372
18	241	245	198	318	429	451	1440	420	3590	657	450	357
19	241	295	194	395	355	512	3040	405	3180	781	540	342
20	241	358	187	459	365	1170	4670	387	2970	979	515	347
21	241	364	181	532	386	2190	2840	648	2020	840	796	339
22	241	328	179	720	364	4080	1910	11800	1370	919	1050	326
23	238	313	173	669	414	8190	1600	18300	1150	1330	1180	317
24	238	313	169	592	705	9100	1300	13600	1050	1430	1000	306
25	238	311	170	545	721	6110	1250	9580	971	1110	2800	303
26	238	331	169	613	570	3830	958	4720	852	905	3390	302
27	238	306	166	607	499	2380	788	3060	796	785	2210	283
28	238	292	171	572	431	1780	684	2430	1440	686	4860	268
29	238	312	172	571	---	1390	615	2000	2910	648	13700	264
30	238	382	172	589	---	1170	576	2870	1930	629	7610	258
31	236	---	163	543	---	1000	---	2960	---	789	5490	---
TOTAL	12170	7793	6189	11289	13470	49452	43359	101948	221569	30880	56642	18433
MEAN	393	260	200	364	481	1595	1445	3289	7386	996	1827	614
MAX	1500	382	357	720	750	9100	6000	18300	29800	1780	13700	2680
MIN	236	179	163	121	355	270	516	387	796	629	448	258
AC-FT	24140	15460	12280	22390	26720	98090	86000	202200	439500	61250	112300	36560

CAL YR 1978 TOTAL 514335 MEAN 1409 MAX 34500 MIN 163 AC-FT 1020000
WTR YR 1979 TOTAL 573194 MEAN 1570 MAX 29800 MIN 121 AC-FT 1137000

07315700 MUD CREEK NEAR COURTNEY, OK

LOCATION.--Lat 34°00'20", long 97°34'00", in NW¼SE¼ sec.25, T.6 S., R.4 W., Jefferson County, Hydrologic Unit 11130201, on downstream side of bridge on State Highway 89, 4.0 mi (6.4 km) downstream from North Mud Creek, 6.0 mi (9.7 km) northwest of Courtney, and at mile 11.5 (18.5 km).

DRAINAGE AREA.--572 mi^2 (1,481 km^2).

WATER-DISCHARGE RECORDS

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

CORRECTIONS.--The maximum gage height for the water year 1977 has been corrected to 24.65 ft (7.513 m), superseding figure published in the report for 1977.

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 727.72 ft (221.809 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1968, auxiliary water-stage recorder 2.0 mi (3.2 km) downstream from base gage.

REMARKS.-Records good.

AVERAGE DISCHARGE.--19 years, 112 ft^3/s (3.172 m^3/s), 81,140 acre-ft/yr (100 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft^3/s (946 m^3/s)May 1, 1974, gage height, 31.37 ft (9.562 m); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1957, reached a stage of 30.6 ft (9.33 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft^3/s (34 m^3/s) Mar. 23, gage height, 22.49 ft (6.855 m), no peak above base of 1,300 ft^3/s (36.8 m^3/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.03	.07	.78	.16	3.9	1.4	183	3.5	.04	.08
2	.00	.00	.08	.00	.62	.21	3.0	1.3	49	2.3	.02	.04
3	.00	.00	.05	.00	.55	.77	2.6	1.1	24	1.6	.00	.01
4	.00	.00	.02	.00	.52	.99	2.2	.89	17	1.2	.00	.02
5	.00	.00	.00	.06	.70	.46	1.9	.90	12	.89	.00	.01
6	.00	.00	.00	.02	.81	.30	1.7	.78	11	.74	.00	.00
7	.00	.00	.00	.00	.90	.26	1.5	.70	108	1.6	.00	.00
8	.00	.00	.00	.00	.86	.25	1.4	1.2	163	2.3	.00	.00
9	.00	.00	.00	.01	.74	.25	1.4	2.7	198	3.3	.00	.00
10	.00	.00	.00	.03	.68	.22	1.6	2.0	556	7.2	.00	.00
11	.00	.00	.00	.07	.84	.19	1.7	1.3	644	3.7	.00	.00
12	.00	.00	.00	.10	.86	.16	1.4	1.1	798	2.1	.00	.00
13	.00	.00	.00	.14	.65	.13	63	.89	548	1.3	.00	.00
14	.00	.00	.00	.10	.51	.16	26	.75	62	.74	.00	.00
15	.00	.00	.00	.10	.40	.37	11	.69	33	.57	.00	.00
16	.00	.00	.00	.13	.24	.47	6.6	.69	22	.45	.00	.00
17	.00	.00	.00	.18	.18	13	4.5	.64	16	.92	.00	.00
18	.00	.00	.00	.62	.19	43	28	.52	12	.64	.00	.00
19	.00	.00	.00	1.1	.25	293	63	.52	11	.37	.00	.00
20	.00	.00	.03	5.2	.22	842	33	.52	8.7	.93	19	.00
21	.00	.00	.00	4.0	.20	296	32	36	7.0	3.2	17	.00
22	.00	.00	.00	1.7	.20	421	15	327	6.1	1.7	61	.00
23	.00	.00	.00	1.9	.19	1050	20	229	5.1	.99	17	.00
24	.00	.00	.00	6.4	.20	781	18	64	4.5	.62	7.0	.00
25	.00	.00	.00	6.2	.17	152	9.5	28	3.8	.42	3.0	.00
26	.00	.77	.00	5.2	.14	36	5.6	17	3.1	.29	1.3	.00
27	.00	.42	.00	3.3	.16	19	3.7	9.2	2.4	.18	.75	.00
28	.00	.20	.00	2.0	.18	11	2.6	6.1	10	.10	.46	.00
29	.00	.11	.00	1.4	---	7.8	2.0	4.2	7.7	.07	.28	.00
30	.00	.06	.00	1.1	---	6.5	1.7	5.7	5.3	.04	.13	.00
31	.00	---	.08	.84	---	4.8	---	400	---	.05	.08	---
TOTAL	.00	1.56	.29	41.97	12.94	3983.45	369.5	1146.79	3530.7	44.01	127.06	.16
MEAN	.000	.052	.009	1.35	.46	128	12.3	37.0	118	1.42	4.10	.005
MAX	.00	.77	.08	6.4	.90	1050	63	400	798	7.2	61	.08
MIN	.00	.00	.00	.00	.14	.13	1.4	.52	2.4	.04	.00	.00
AC-FT	.00	3.1	.6	83	26	7900	733	2270	7000	87	252	.3

CAL YR 1978 TOTAL 51666.42 MEAN 142 MAX 8470 MIN .00 AC-FT 102500
WTR YR 1979 TOTAL 9258.43 MEAN 25.4 MAX 1050 MIN .00 AC-FT 18360

07315700 MUD CREEK NEAR COURTNEY, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960, 1962-63, 1976 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)
JAN 22...	1300	1.7	685	6.9	5.0	83	13.1	106	38	--	--	--
FEB 28...	1030	.17	1380	7.9	9.0	25	--	--	32	336	70	176
MAR 20...	1200	890	190	6.9	12.0	3.0	7.6	73	101	--	--	--
APR 03...	0910	2.8	710	7.3	12.0	79	7.4	69	41	175	35	88
MAY 14...	1600	.81	1350	7.9	28.0	7.0	--	--	36	--	--	--
JUN 13...	1320	511	270	7.5	24.0	240	7.5	91	41	95	20	50
JUL 10...	1220	7.2	1800	8.1	28.5	25	6.7	88	--	--	--	--
AUG 02...	1005	.03	2100	8.3	28.0	15	6.0	79	35	467	79	198

DATE	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
JAN 22...	--	--	--	30	86	.3	155	.20	2.2	2.4	11	.190
FEB 28...	38	101	6.7	77	293	.2	38	.10	1.5	1.6	7.1	.170
MAR 20...	--	--	--	26	32	.5	2269	.30	4.9	5.2	23	.900
APR 03...	21	80	5.8	46	130	.2	268	.20	1.8	2.0	8.9	.300
MAY 14...	--	--	--	89	299	.4	15	.10	1.7	1.8	8.0	.100
JUN 13...	14	21	7.9	18	32	.1	265	.10	1.8	1.9	8.5	.280
JUL 10...	--	--	--	130	308	.4	74	<.50	1.8	1.8	--	.150
AUG 02...	58	212	9.2	81	416	.4	58	<.50	1.9	1.9	--	.200

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
JAN 22...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 28...	--	<1	31	3	1950	26	320	<.5	10	<1	<1	13
MAR 20...	--	--	--	--	--	--	--	--	--	--	--	--
APR 03...	--	--	--	--	9400	--	530	--	--	--	--	--
MAY 14...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 13...	--	--	--	--	--	--	330	--	--	--	--	--
JUL 10...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 02...	<5	4	46	9	1500	30	420	<.5	16	<5	<2	22

07315900 WALNUT BAYOU NEAR BURNEYVILLE, OK

LOCATION.--Lat 33°56'30", long 97°18'20", in NW¼NE¼ sec.21, T.7 S., R.1 W., Love County, Hydrologic Unit 11130201, near right bank on downstream side of bridge on State Highway 32, 0.8 mi (1.3 km) downstream from Simon Creek, 2.5 mi (4.0 km) northwest of Burneyville, and at mile 6.5 (10.5 km).

DRAINAGE AREA.--314 mi^2 (813 km^2).

PERIOD OF RECORD.--Water years 1960-63, 1969-71, 1976 to current year.

PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: October 1968 to September 1971.
WATER TEMPERATURE: October 1968 to September 1971.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
DEC												
20...	1520	1520	8.1	15.0	10	--	--	21	467	120	280	40
JAN												
22...	1200	510	8.3	5.0	27	--	--	52	--	--	--	--
FEB												
28...	0930	960	8.1	9.0	31	--	--	28	287	79	205	23
MAR												
20...	1100	295	7.4	12.0	>1000	7.5	71	91	--	--	--	--
APR												
03...	1005	1050	7.9	11.0	52	9.3	85	29	315	81	203	27
MAY												
14...	1515	1200	8.0	27.5	53	--	--	21	--	--	--	--
JUN												
13...	1230	440	7.6	26.0	210	8.0	101	30	156	40	--	14
JUL												
10...	1320	1100	8.2	32.0	38	8.0	111	24	--	--	--	--
AUG												
02...	0905	1200	8.2	28.5	6.0	6.2	82	33	298	55	138	34
SEP												
04...	1145	790	--	28.5	11	--	--	20	--	--	--	--

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
DEC												
20...	160	5.8	115	289	.4	28	<.10	1.0	--	--	<.001	--
JAN												
22...	--	--	32	--	.3	886	.40	3.0	3.4	15	.380	--
FEB												
28...	--	4.9	77	161	.2	60	.10	1.4	1.5	6.6	.170	<2
MAR												
20...	--	--	19	44	.3	2972	.20	4.8	5.0	5.0	.950	--
APR												
03...	100	5.2	84	199	.3	97	.10	1.6	1.7	7.5	.150	--
MAY												
14...	--	--	--	--	.3	97	<.10	1.3	--	--	.145	--
JUN												
13...	51	5.3	27	97	.3	203	.10	1.4	1.5	6.8	.135	--
JUL												
10...	--	--	--	--	.2	68	<.50	1.3	1.3	--	.100	--
AUG												
02...	102	8.1	--	203	.3	35	<.50	2.0	--	--	.200	<5
SEP												
04...	--	--	58	131	.3	--	<.50	1.5	1.5	--	.045	--

07315900 WALNUT BAYOU NEAR BURNEYVILLE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
DEC											
20...	--	--	--	620	--	880	--	--	--	--	--
JAN											
22...	--	--	--	--	--	--	--	--	--	--	--
FEB											
28...	<2	30	3	1970	17	220	<.5	12	<1	<2	7
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
05...	--	--	--	3800	--	260	--	--	--	--	--
MAY											
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
13...	--	--	--	7600	--	240	--	--	--	--	--
JUL											
10...	--	--	--	--	--	--	--	--	--	--	--
AUG											
02...	7	39	8	1400	23	670	<.5	24	<5	<2	24
SEP											
04...	--	--	--	--	--	--	--	--	--	--	--

07316000 RED RIVER NEAR GAINESVILLE, TX

LOCATION.--Lat 33°43'40", long 97°09'35", in SW¼ sec.36, T.9 S., R.1 E., Love County, Okla., Hydrologic Unit 11130201, near center of span on downstream side of bridge on U.S. Highway 77, 0.2 mi (0.3 km) downstream from Gulf, Colorado and Santa Fe Railway Co. bridge, 5.0 mi (8.0 km) downstream from Fish Creek, 7.0 mi (11.0 km) north of Gainesville, and at mile 791.5 (1,273.5 km).

DRAINAGE AREA.--30,782 mi^2 (79,725 km^2) of which 5,936 mi^2 (15,374 km^2) is probably noncontributing.

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

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 627.91 ft (191.387 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 17, 1939, and Feb. 13, 1965 to Nov. 14, 1966, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flow slightly regulated by Lake Kemp, in Texas, since 1943 by Lake Altus (station 07302500), since 1946 by Lake Kickapoo, and since 1967 by Lake Arrowhead and Moss Lake, also in Texas.

COOPERATION.--Gage-height record and 19 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--43 years, 2,706 ft^3/s (76.63 m^3/s), 1,960,000 acre-ft/yr (2.42 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 168,000 ft^3/s (4,758 m^3/s) June 9, 1941, gage height, 24.15 ft (7.361 m); maximum gage height, 26.53 ft (8.086 m) May 21, 1951; minimum discharge, 48 ft^3/s (1.36 m^3/s) Jan. 27, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,800 ft^3/s (986 m^3/s) at 1545 June 12, gage height, 17.61 ft (5.368 m), no other peak above base of 24,000 ft^3/s (680 m^3/s); minimum daily, 217 ft^3/s (6.15 m^3/s) Jan. 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1910	262	328	229	525	520	2250	735	3920	2370	660	7330
2	1420	253	331	235	580	700	1600	698	3050	1860	741	4270
3	1280	246	360	238	703	950	1300	662	2590	1510	816	2670
4	1050	238	360	223	643	600	1160	649	2290	1270	717	2040
5	857	235	336	217	592	550	1030	605	1860	1090	728	1650
6	736	233	319	217	596	510	943	576	1740	992	890	1420
7	636	235	308	217	630	480	866	2550	12700	981	1040	1130
8	547	235	294	238	595	460	802	5100	16500	1090	842	962
9	490	235	273	232	547	445	741	4040	12900	1840	727	842
10	466	238	263	252	594	445	703	2830	15500	1580	744	750
11	435	238	259	304	562	440	995	2200	30200	1430	672	690
12	410	238	256	300	593	436	857	1490	33600	1710	609	671
13	390	238	252	297	621	456	744	1050	32600	1410	588	647
14	370	238	249	297	520	422	1500	863	14500	1100	538	608
15	350	254	246	297	545	445	4600	735	7900	989	522	576
16	330	297	241	297	724	480	2710	649	5630	989	501	540
17	310	315	229	300	791	537	1810	578	4410	1030	550	511
18	289	306	229	331	864	701	2260	518	3940	992	505	490
19	278	263	229	478	783	3470	2180	476	3390	1010	448	508
20	269	256	232	538	676	6620	1870	473	2950	878	486	513
21	263	256	235	577	644	7160	2800	1920	2670	834	807	472
22	263	275	238	566	592	6400	3440	5000	2440	1050	735	435
23	276	328	236	566	607	7840	2360	14600	1900	941	1010	410
24	299	343	235	602	657	11200	1720	20800	1580	954	1190	386
25	308	343	234	666	651	9960	1540	13900	1400	1240	1530	368
26	300	346	234	677	543	7610	1350	10200	1290	1530	1040	351
27	279	348	229	661	602	4330	1280	5940	1210	1270	2430	339
28	272	352	229	615	570	3340	1100	3660	1100	1020	3120	331
29	288	352	229	614	---	2490	935	2870	992	868	2470	325
30	288	346	229	609	---	3200	817	2970	1450	756	14500	307
31	277	---	229	477	---	1990	---	3040	---	696	9520	---
TOTAL	15936	8342	8151	12367	17550	87187	48263	112377	228202	37330	51676	32542
MEAN	514	278	263	399	627	2812	1609	3625	7607	1204	1667	1085
MAX	1910	352	360	677	864	11200	4600	20800	33600	2370	14500	7330
MIN	263	233	229	217	520	422	703	473	992	696	448	307
AC-FT	31610	16550	16170	24530	34810	172900	95730	222900	452600	74040	102500	64550

CAL YR 1978 TOTAL 673220 MEAN 1844 MAX 47700 MIN 209 AC-FT 1335000
WTR YR 1979 TOTAL 659923 MEAN 1808 MAX 33600 MIN 217 AC-FT 1309000

07316500 WASHITA RIVER NEAR CHEYENNE, OK

LOCATION.--Lat 35°37'35", long 99°40'05", in SE¼ sec.5, T.13 N., R.23 W., Roger Mills County, Hydrologic Unit 11130301, near left bank on downstream side of pier of bridge on U.S. Highway 283, 0.5 mi (0.8 km) downstream from Sergeant Major Creek, 1.0 mi (1.6 km) north of Cheyenne, 5.2 mi (8.4 km) upstream from Dead Indian Creek, and at mile 543.9 (875.1 km).

DRAINAGE AREA.--794 mi^2 (2,056 km^2).

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

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,900.98 ft (579.419 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). May 1, 1938, to Nov. 16, 1946, and Oct. 1, 1947, to Jan. 11, 1948, nonrecording gage at same site and datum. Jan. 12, 1948 to Feb. 3, 1977 at datum 5.00 ft (1.524 m) higher.

REMARKS.-Records fair prior to March and poor thereafter. Some regulation by numerous flood-retarding structures.

AVERAGE DISCHARGE.--42 years, 29.5 ft^3/s (0.835 m^3/s), 21,370 acre-ft/yr (26.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,800 ft^3/s (1,980 m^3/s) Apr. 29, 1954, gage height, 15.24 ft (4.645 m); from rating curve extended above 27,000 ft^3/s (765 m^3/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 3, 1934, reached a stage of 1.0 ft (0.30 m) lower than that in 1954 at site on upstream side of highway fill.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 400 ft^3/s (11.3 m^3/s) June 9, gage height, 10.77 ft (3.283 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	2.0	2.5	3.0	8.1	28	42	46	30	6.6	3.0
2	.00	.00	2.1	1.9	2.8	9.5	33	50	73	27	4.0	2.5
3	.00	.00	1.6	2.3	2.7	17	28	41	55	23	3.1	2.0
4	.00	.00	2.1	2.7	2.8	15	24	36	44	17	2.5	1.8
5	.00	.00	3.1	2.5	2.8	13	22	29	40	13	2.0	1.6
6	.00	.01	3.3	2.6	2.7	12	25	24	37	12	1.6	1.5
7	.00	.05	2.5	2.3	6.0	12	23	21	33	10	1.3	1.5
8	.00	.10	2.0	2.0	4.1	11	24	18	29	8.8	.98	1.3
9	.00	.16	1.6	2.3	3.3	9.9	23	15	146	7.7	.80	1.1
10	.00	.22	2.0	2.7	2.8	9.2	25	34	83	7.8	4.1	.93
11	.00	.35	3.0	3.0	5.2	8.6	24	31	71	6.6	16	.86
12	.00	.55	4.5	3.3	6.8	9.0	22	21	64	4.0	3.8	.80
13	.00	.84	3.5	2.5	8.4	9.0	21	15	46	3.4	2.5	.78
14	.00	1.5	3.2	1.7	11	8.2	21	12	35	2.9	1.8	.75
15	.00	1.8	2.8	2.0	12	7.8	20	9.1	32	2.5	1.2	1.0
16	.00	1.9	3.3	2.5	9.9	8.1	20	6.2	28	2.2	.98	.94
17	.00	1.9	2.9	3.1	9.9	9.7	19	4.8	21	22	.88	.78
18	.00	1.6	5.4	4.2	11	34	21	7.2	15	16	.86	.70
19	.00	1.2	5.4	7.0	12	49	20	9.9	11	12	.78	.63
20	.00	.96	5.0	10	15	40	19	13	8.4	7.7	.67	.63
21	.00	.98	4.5	21	15	46	16	33	6.6	5.9	.63	.42
22	.00	1.2	4.4	8.8	13	60	13	73	7.2	6.1	.57	.28
23	.00	1.5	4.5	7.2	11	80	12	40	94	10	1.2	.28
24	.00	1.8	3.6	6.0	9.4	60	11	35	40	7.7	2.5	.35
25	.00	2.2	4.0	5.6	8.3	50	11	30	114	5.9	18	.07
26	.00	2.2	3.5	5.0	7.7	45	9.0	28	117	5.3	19	.07
27	.00	2.0	3.2	4.5	8.2	40	8.4	26	61	4.3	28	.07
28	.00	1.9	4.5	4.1	8.4	35	9.7	25	50	3.4	13	.07
29	.00	1.8	4.4	3.7	---	32	12	20	45	2.8	6.0	.00
30	.00	1.7	3.8	3.4	---	27	21	37	35	2.4	3.9	.00
31	.00	---	3.2	3.1	---	25	---	53	---	3.1	3.3	---
TOTAL	.00	30.42	104.9	135.5	215.2	800.1	585.1	839.2	1487.2	292.5	152.55	26.71
MEAN	.000	1.01	3.38	4.37	7.69	25.8	19.5	27.1	49.6	9.44	4.92	.89
MAX	.00	2.2	5.4	21	15	80	33	73	146	30	28	3.0
MIN	.00	.00	1.6	1.7	2.7	7.8	8.4	4.8	6.6	2.2	.57	.00
AC-FT	.00	60	208	269	427	1590	1160	1660	2950	580	303	53

CAL YR 1978 TOTAL 4471.06 MEAN 12.2 MAX 231 MIN .00 AC-FT 8870
WTR YR 1979 TOTAL 4669.38 MEAN 12.8 MAX 146 MIN .00 AC-FT 9260

07324200 WASHITA RIVER NEAR HAMMON, OK

LOCATION.--Lat 35°39'23", long 99°18'21", on west line of sec.26, T.14 N., R.20 W., Custer County, Hydrologic Unit 11130301, on right bank near county road bridge, 2.2 mi (3.5 km) downstream from Quartermaster Creek, 4.7 mi (7.6 km) northeast of Hammon, and at mile 494.5 (795.7 km).

DRAINAGE AREA.--1,387 mi^2 (3,592 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,643.22 ft (500.853 m) National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--10 years, 28.9 ft^3/s (0.818 m^3/s), 20,940 acre-ft/yr (25.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,540 ft^3/s (71.9 m^3/s) April 18, 1970, gage height, 19.23 ft (5.861 m), from rating curve extended above 500 ft^3/s (14.2 m^3/s) on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 550 ft^3/s (15.6 m^3/s) June 10, gage height, 12.43 ft (3.789 m), no peak above base of 1,500 ft^3/s (42.5 m^3/s); minimum daily discharge, 6.2 ft^3/s (0.176 m^3/s) Oct. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	7.2	11	10	15	17	39	31	54	43	38	22
2	10	7.4	10	8.0	17	17	45	89	90	36	24	18
3	9.1	7.2	8.0	9.0	19	27	43	64	75	33	21	17
4	8.8	7.0	11	13	18	35	43	76	67	30	18	18
5	8.5	6.8	15	15	15	30	42	57	63	27	16	17
6	8.0	7.2	11	14	18	28	41	49	59	59	15	16
7	8.2	7.1	10	11	22	25	39	45	54	41	14	15
8	10	7.2	8.4	7.0	20	25	37	42	49	29	13	14
9	8.6	7.5	7.4	9.0	17	24	35	38	225	26	12	13
10	8.1	7.1	9.0	12	20	23	34	45	326	24	16	13
11	7.6	7.3	12	14	23	23	35	51	204	23	94	13
12	7.2	6.9	16	17	26	22	36	48	151	21	29	12
13	7.6	8.1	14	13	29	22	34	38	115	19	22	12
14	7.4	9.0	12	9.0	35	21	32	33	95	18	18	12
15	7.6	8.7	11	11	40	21	31	29	79	16	16	12
16	7.4	8.4	10	14	35	21	30	27	66	16	16	12
17	7.3	8.5	9.0	18	30	21	30	26	47	50	14	12
18	7.6	8.0	13	28	25	30	30	25	36	40	13	12
19	8.0	7.7	13	34	35	73	30	46	35	32	12	12
20	7.7	7.7	13	50	45	53	31	38	34	27	10	12
21	7.4	7.8	14	33	35	48	30	105	30	23	10	12
22	7.0	7.7	14	28	32	69	29	108	29	21	11	11
23	7.4	9.0	14	22	32	124	28	86	120	21	10	11
24	7.2	11	14	18	26	78	27	76	105	65	9.7	11
25	7.0	9.3	14	19	23	63	26	59	155	27	55	10
26	6.7	9.0	12	21	22	55	25	53	172	22	48	9.7
27	6.4	8.6	12	19	21	50	25	51	92	20	36	9.3
28	6.2	9.0	14	16	19	46	25	49	82	18	32	8.0
29	6.4	9.7	13	18	---	44	25	45	70	16	26	7.2
30	7.0	11	12	16	---	42	25	43	51	15	24	6.4
31	6.8	---	11	13	---	38	---	53	---	42	22	---
TOTAL	242.2	244.1	367.8	539.0	714	1215	982	1625	2830	900	716.7	379.6
MEAN	7.81	8.14	11.9	17.4	25.5	39.2	32.7	52.4	94.3	29.0	23.1	12.7
MAX	12	11	16	50	45	124	45	108	326	65	94	22
MIN	6.2	6.8	7.4	7.0	15	17	25	25	29	15	9.7	6.4
AC-FT	480	484	730	1070	1420	2410	1950	3220	5610	1790	1420	753

CAL YR 1978	TOTAL	12078.52	MEAN 33.1	MAX 674	MIN .13	AC-FT	23960
WTR YR 1979	TOTAL	10755.40	MEAN 29.5	MAX 326	MIN 6.2	AC-FT	21330

07324200 WASHITA RIVER NEAR HAMMON, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1970 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1969 to current year.
WATER TEMPERATURE: October 1969 to current year.

INSTRUMENTATION.--Water quality monitor since July 1970.

REMARKS.--In addition to water quality monitor, samples were collected by a local observer on a weekly basis. Partial analyses were made each month on three of those samples.

COOPERATION.--Monthly samples were collected by the U. S. Geological Survey and were analyzed by Oklahoma State Department of Health.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,850 micromhos Apr. 23, 1976; minimum daily, 450 micromhos July 24, 1975.
WATER TEMPERATURE: Maximum daily, 33.5°C June 18, 1974; minimum daily, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)
OCT											
03...	1200	1028	9740	9.1	2500	7.9	21.0	35	8.2	100	14
NOV											
01...	1600	--	80020	7.2	1760	8.1	15.0	--	--	--	--
07...	1245	1028	9740	7.1	1300	7.4	11.0	5.0	--	--	18
DEC											
21...	1600	--	80020	15	2020	7.6	.5	--	--	--	--
27...	1300	1028	9740	11	2150	7.8	8.0	11	12.7	115	14
JAN											
29...	1230	1028	9740	18	2300	8.6	.0	3.0	11.9	85	9
FEB											
22...	1000	1028	9740	32	1900	7.8	6.0	21	11.0	96	15
MAR											
09...	1600	--	80020	24	2060	8.1	11.0	--	--	--	--
20...	1615	1028	9740	53	2000	8.1	10.5	63	10.3	95	42
APR											
18...	0900	1028	9740	30	2000	--	16.5	53	8.8	95	25
MAY											
16...	0830	1028	9740	27	1800	8.0	18.5	52	9.2	105	31
30...	1700	--	80020	43	1740	7.9	24.0	--	--	--	--
JUN											
16...	1630	--	80020	66	1410	8.0	26.0	--	--	--	--
28...	0845	1028	9740	82	1100	8.3	26.5	64	7.5	99	32
JUL											
25...	1710	1028	9740	25	1750	7.9	28.5	88	--	--	25
AUG											
15...	1420	1028	9740	15	1700	8.4	25.5	10	--	--	16
SEP											
03...	2200	--	80020	16	1830	7.8	25.0	--	--	--	--
20...	0915	1028	9740	12	2100	8.2	18.0	7.0	7.3	82	7

07324200 WASHITA RIVER NEAR HAMMON, OK--Continued

DATE	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
OCT											
03...	--	--	--	--	--	--	--	14	.3	--	--
NOV											
01...	--	--	--	--	--	--	820	26	--	1400	1.90
07...	--	--	--	--	--	--	--	30	.4	--	--
DEC											
21...	--	--	--	--	--	--	960	37	--	1640	2.23
27...	1329	300	--	140	95	5.7	942	--	.3	--	--
JAN											
29...	--	--	--	--	--	--	1184	47	.5	--	--
FEB											
22...	1089	160	400	87	82	4.1	940	48	.4	--	--
MAR											
09...	--	--	--	--	--	--	950	49	--	1730	2.35
20...	--	--	--	--	--	--	902	--	.5	--	--
APR											
18...	--	250	625	100	160	5.5	856	66	.6	--	--
MAY											
16...	--	--	--	--	--	--	857	--	.6	--	--
30...	--	--	--	--	--	--	710	46	--	1360	1.85
JUN											
16...	--	--	--	--	--	--	510	44	--	1100	1.50
28...	489	101	252	55	66	6.2	349	--	.4	--	--
JUL											
25...	--	--	--	--	--	--	702	36	.2	--	--
AUG											
15...	887	96	240	157	63	6.8	695	25	.3	--	--
SEP											
03...	--	--	--	--	--	--	810	50	--	--	--
20...	--	--	--	--	--	--	794	46	.3	--	--

DATE	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT										
03...	--	71	--	2.3	--	--	.170	--	--	--
NOV										
01...	27.2	--	--	--	--	--	--	--	--	--
07...	--	2	--	1.8	--	--	--	--	--	--
DEC										
21...	66.4	--	--	--	--	--	--	--	--	--
27...	--	50	.60	1.5	2.1	9.5	<.001	--	--	--
JAN										
29...	--	10	.40	1.3	1.7	7.5	.200	--	--	--
FEB										
22...	--	55	.20	1.2	1.4	6.4	.100	--	3	18
MAR										
09...	112	--	--	--	--	--	--	--	--	--
20...	--	376	.30	2.1	2.3	11	.500	--	--	--
APR										
18...	--	173	.10	1.4	1.5	6.6	.265	--	--	--
MAY										
16...	--	246	.20	1.7	1.9	8.7	.190	--	--	--
30...	158	--	--	--	--	--	--	--	--	--
JUN										
16...	196	--	--	--	--	--	--	--	--	--
28...	--	356	.10	1.7	1.8	8.1	.335	--	--	--
JUL										
25...	--	199	--	1.9	1.9	--	.250	--	--	--
AUG										
15...	--	53	<.50	1.5	1.5	--	.125	<5	5	<10
SEP										
03...	--	--	--	--	--	--	--	--	--	--
20...	--	18	<.50	1.7	1.7	--	.095	--	--	--

07324200 WASHITA RIVER NEAR HAMMON, OK--Continued

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
03...	--	--	--	--	--	--	--	--	--	3.0
NOV										
01...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
DEC										
21...	--	--	--	--	--	--	--	--	--	--
27...	--	1410	--	90	--	--	--	--	--	--
JAN										
29...	--	--	--	--	--	--	--	--	--	--
FEB										
22...	9	2020	45	90	<.5	13	<1	4	20	--
MAR										
09...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
APR										
18...	--	4100	--	22[illegible]	[illegible]	--	--	--	--	--
MAY										
16...	--	--	--	--		--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
JUN										
16...	--	--	--	--	--	--	--	--	--	--
28...	--	5300	--	330	--	--	--	--	--	--
JUL										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
15...	6	200	<20	70	<.5	<10	<5	5	12	--
SEP										
03...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--

07324200 WASHITA RIVER NEAR HAMMON, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1760	---		---	---	---	---	---	---	---	---
2	---	---	---		---	---	---	1260	---	---	---	---
3	---	---	---		---	---	---	---	---	---	---	1830
4	1640	---	---		---	2200	---	---	---	---	1910	---
5	---	---	---		---	---	---	---	---	---	---	---
6	---	---	1890		---	---	1850	---	---	785	---	---
7	---	---	---		---	---	---	---	1490	---	---	---
8	---	---	---		---	---	---	---	---	---	---	---
9	---	---	---		---	2060	---	---	---	---	---	1880
10	---	---	---		---	---	---	2000	---	---	---	---
11	---	1780	---		---	---	---	---	---	1950	---	---
12	1700	---	---		---	---	---	---	---	---	1030	---
13	---	---	1840		---	---	---	---	---	---	---	---
14	---	---	---		---	---	1940	---	---	---	---	---
15	---	---	---		---	---	---	---	---	---	---	---
16	---	---	---		---	---	---	---	1410	---	---	1850
17	---	---	---		---	---	---	1990	---	---	---	---
18	---	1750	---		---	1910	---	---	---	---	---	---
19	---	---	---		---	---	---	---	---	---	1900	---
20	---	---	---		---	---	---	---	---	---	1920	---
21	---	---	2020		---	---	---	---	---	1770	1930	---
22	---	1810	---		---	---	---	---	---	---	---	---
23	---	---	---		2140	---	1870	---	---	---	---	---
24	---	---	---		---	---	---	1270	---	---	---	---
25	---	---	---		---	---	---	---	---	---	---	---
26	1740	---	---		---	1620	---	---	---	---	1250	---
27	---	---	---		---	---	1940	---	1010	---	---	---
28	---	---	---		---	1550	---	---	---	---	---	---
29	---	1840	2450		---	---	---	---	---	---	---	---
30	---	---	---		---	---	---	1740	---	1840	---	---
31	---	---	---		---	---	---	---	---	---	---	---
MEAN	1690	1790	2050		2140	1870	1900	1650	1300	1590	1660	1850

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	15.0	---		---	---	---	---	---	---	---	---
2	---	---	---		---	---	---	22.5	---	---	---	---
3	---	---	---		---	---	---	---	---	---	---	25.0
4	21.0	---	---		---	.0	---	---	---	---	30.0	---
5	---	---	---		---	---	---	---	---	---	---	---
6	---	---	4.0		---	---	18.0	---	---	25.0	---	---
7	---	---	---		---	---	---	---	29.5	---	---	---
8	---	---	---		---	---	---	---	---	---	---	---
9	---	---	---		---	11.0	---	---	---	---	---	26.0
10	---	---	---		---	---	---	20.0	---	---	---	---
11	---	9.5	---		---	---	---	---	---	30.0	---	---
12	22.5	---	---		---	---	---	---	---	---	23.5	---
13	---	---	---		---	---	---	---	---	---	---	---
14	---	---	---		---	---	---	---	---	---	---	---
15	---	---	---		---	---	---	---	---	---	---	---
16	---	---	---		---	---	---	---	26.0	---	---	21.5
17	---	---	---		---	---	---	20.0	---	---	---	---
18	---	10.5	---		---	.0	---	---	---	---	---	---
19	---	---	---		---	---	---	---	---	---	28.0	---
20	---	---	---		---	---	---	---	---	---	26.0	---
21	---	---	.5		---	---	---	---	---	29.0	26.0	---
22	---	8.0	---		---	---	---	---	---	---	---	---
23	---	---	---		2.0	---	23.0	---	---	---	---	---
24	---	---	---		---	---	---	19.0	---	---	---	---
25	---	---	---		---	---	---	---	---	---	---	---
26	15.0	---	---		---	15.0	---	---	---	---	24.5	---
27	---	---	---		---	14.0	12.0	---	27.0	---	---	---
28	---	---	---		---	---	---	---	---	---	---	---
29	---	9.5	6.0		---	---	---	---	---	---	---	---
30	---	---	---		---	---	---	24.0	---	29.5	---	---
31	---	---	---		---	---	---	---	---	---	---	---

07324300 FOSS RESERVOIR NEAR FOSS, OK

LOCATION.--Lat 35°32'18", long 99°10'40", in S½ sec.2, T.12 N., R.19 W., Custer County, Hydrologic Unit 11130301, near right end of dam on Washita River, 0.5 mi (0.8 km) upstream from Oak Creek, 3.5 mi (5.6 km) west of Stafford, 6.0 mi (9.7 km) north of Foss, and at mile 474.4 (763.3 km).

DRAINAGE AREA.--1,496 mi^2 (3,875 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Prior to October 1961, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by an earth dam. Outlet consists of four 6.0 ft x 7.5 ft high pressure gates and one uncontrolled spillway. Storage began Feb. 13, 1961. Capacity, 436,500 acre-ft (538 hm^3) at elevation 1,668.6 ft (508.59 m) crest of drop inlet and 256,100 acre-ft (316 hm^3) at elevation 1,652.0 ft (503.530 m) conservation pool. Dead storage, 12,420 acre-ft (15.3 hm^3) below elevation 1,597.2 ft (486.83 m) sill of gated outlet. Figures given herein represent total contents. Reservoir is designed for flood control, municipal water supply (inactive), and irrigation release. Revised capacity table used after Sept. 30, 1964. Water-quality samples were collected at 3 profile sites in the Reservoir - see partial-record stations 353325099111001, 353405099132501, and 353615099135001.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 195,800 acre-ft (241 hm^3) June 29, 1977, elevation, 1,644.53 ft (501.253 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 181,300 acre-ft (224 hm^3) June 12, elevation, 1,642.49 ft (500.631 m); minimum, 165,200 acre-ft (204 hm^3) Jan. 16, elevation, 1,640.07 ft (499.893 m).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30	1,641.00	171,200	--	--
Oct. 31	1,640.40	167,300	-3,900	373
Nov. 30	1,640.30	166,700	-600	316
Dec. 31	1,640.10	165,400	-1,300	286
CAL YR 78	--	--	-13,900	7,441
Jan. 31	1,640.20	166,000	+600	280
Feb. 28	1,640.20	166,000	0	260
Mar. 31	1,641.00	171,200	+5,200	273
Apr. 30	1,641.10	171,900	+700	279
May 31	1,641.70	175,900	+4,000	114
June 30	1,642.20	179,300	+3,400	2,924
July 31	1,642.20	179,300	0	1,713
Aug. 31	1,641.80	176,600	-2,700	871
Sept. 30	1,641.20	172,600	-4,000	135
WTR YR 79	--	--	+1,400	7,824

† Elevation at 0800 on following day.

07324400 WASHITA RIVER NEAR FOSS, OK

LOCATION.--Lat 34°32'20", long 99°10'10", in SW¼SW¼ sec.1, T.12 N., R.19 W., Custer County, Hydrologic Unit 11130302, on left bank on downstream side of pile bent of county road bridge, 0.4 mi (0.6 km) downstream from Oak Creek, 0.9 mi (1.4 km) downstream from Foss Dam, 2.5 mi (4.0 km) west of Stafford, 6.0 mi (9.7 km) north of Foss, and at mile 473.5 (761.9 km).

DRAINAGE AREA.--1,511 mi^2 (4,017 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 1,560 ft (475.5 m) from preliminary survey by Topographic Division.

REMARKS.--Records poor. Except for 55 mi^2 (142.4 km^2) intervening area, flow completely regulated since 1961 by Foss Reservoir (station 07324300).

AVERAGE DISCHARGE.--18 years (water years 1962-79), 16.0 ft^3/s (0.453 m^3/s), 11,590 acre-ft/yr (14.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft^3/s (397 m^3/s) Apr. 19, 1957, gage height, 20.40 ft (6.218 m), from rating curve extended above 3,600 ft^3/s (102 m3/s) on basis of velocity-area study; no flow at times in 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1959 reached a stage of 23.4 ft (7.13 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 600 ft^3/s (17.0 m^3/s) June 9, gage height, unknown; minimum daily, 2.9 ft^3/s (0.082 m^3/s) Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	8.3	5.5	2.9	4.5	6.7	6.9	7.1	9.0	6.2	136	5.8
2	7.4	8.3	5.5	3.1	5.2	8.1	6.9	7.0	8.2	6.2	126	5.2
3	7.2	8.3	5.5	3.2	4.8	11	6.9	25	10	6.2	118	5.0
4	7.1	8.3	5.5	4.8	4.5	7.6	6.9	18	8.9	6.2	115	5.0
5	7.3	8.3	5.5	5.0	4.0	6.7	6.9	11	8.0	6.2	111	5.0
6	7.7	8.3	5.5	5.0	5.1	6.7	6.9	8.4	7.2	100	25	4.9
7	7.8	8.2	5.5	5.0	5.4	6.7	6.9	7.2	6.8	50	9.0	4.8
8	7.8	9.4	5.5	4.0	5.5	6.5	6.9	6.9	15	30	7.0	4.8
9	7.8	10	5.1	4.8	3.7	6.5	6.9	6.9	350	19	6.7	4.7
10	8.0	10	5.0	5.3	5.7	6.4	6.9	8.0	200	10	6.7	4.6
11	8.1	11	5.6	5.3	6.9	6.2	6.9	7.2	90	7.0	6.7	4.6
12	8.1	11	6.0	5.3	7.4	6.0	7.1	6.9	150	6.2	6.7	4.8
13	8.1	10	6.0	5.8	7.4	6.0	9.0	6.6	338	6.2	6.7	4.8
14	8.1	7.5	6.0	4.2	7.4	6.0	7.4	6.4	213	6.2	6.6	4.8
15	8.1	6.2	6.0	5.3	7.4	6.2	6.9	6.4	156	6.2	6.6	5.1
16	8.1	6.2	6.0	5.3	5.7	6.2	6.9	6.1	153	15	10	5.0
17	8.1	6.1	6.0	5.6	5.5	6.4	7.0	6.1	153	8.0	7.4	4.6
18	8.1	5.3	6.1	11	5.7	50	10	8.0	154	6.4	6.6	4.4
19	8.1	5.3	6.4	7.4	6.7	8.3	7.6	6.6	158	30	6.6	4.3
20	8.1	5.3	6.4	6.0	6.9	7.0	7.0	6.1	70	54	6.6	4.5
21	8.1	5.3	6.4	5.7	6.8	8.0	6.9	43	6.4	54	6.6	4.8
22	8.1	5.3	6.4	5.7	6.9	90	6.9	20	6.2	80	6.6	4.2
23	8.1	5.3	6.4	5.7	7.1	30	6.8	13	6.2	115	6.6	4.3
24	8.1	5.3	6.4	5.7	7.1	18	6.8	9.0	6.2	164	15	4.0
25	8.1	5.5	6.4	5.7	7.1	12	6.7	6.8	29	150	35	4.3
26	8.1	5.5	6.4	5.7	6.7	9.1	6.7	6.6	7.0	140	10	4.4
27	8.2	5.5	5.8	5.7	6.7	8.0	6.9	6.4	6.2	134	7.0	4.7
28	8.3	5.5	5.7	4.8	6.7	7.6	6.7	6.4	6.2	130	6.6	5.5
29	8.3	5.5	6.0	6.0	---	7.4	6.8	6.4	6.2	128	6.4	3.9
30	8.3	5.5	6.0	5.9	---	7.2	6.7	6.4	6.2	126	6.2	3.9
31	8.3	---	5.0	4.0	---	7.0	---	10	---	145	6.2	---
TOTAL	246.5	215.5	181.5	164.9	170.5	385.5	212.7	305.9	2343.9	1751.2	843.1	140.7
MEAN	7.95	7.18	5.85	5.32	6.09	12.4	7.09	9.87	78.1	56.5	27.2	4.69
MAX	8.3	11	6.4	11	7.4	90	10	43	350	164	136	5.8
MIN	7.1	5.3	5.0	2.9	3.7	6.0	6.7	6.1	6.2	6.2	6.2	3.9
AC-FT	489	427	360	327	338	765	422	607	4650	3470	1670	279

CAL YR 1978 TOTAL 15060.7 MEAN 41.3 MAX 621 MIN 3.6 AC-FT 29870
WTR YR 1979 TOTAL 6961.9 MEAN 19.1 MAX 350 MIN 2.9 AC-FT 13810

07324400 WASHITA RIVER NEAR FOSS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947-48, 1950-51, 1956, 1958, 1970 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1946 to September 1948, October 1969 to September 1976.
WATER TEMPERATURE: October 1946 to September 1948, October 1969 to September 1976.

REMARKS.--Samples were collected by a local observer on a weekly basis. Partial analyses were made each month on three of these samples. An additional sample was collected monthly and specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Monthly samples were collected by the U.S. Geological Survey and selected parameters were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)
OCT											
03...	0945	1028	9740	7.1	2100	8.1	20.0	31	8.5	98	21
NOV											
07...	1030	1028	9740	8.3	--	7.2	12.0	11	--	--	18
DEC											
27...	1200	1028	9740	5.7	2000	8.4	6.0	5.0	10.2	87	16
JAN											
02...	0900	--	80020	.85	2240	7.6	.0	--	--	--	--
29...	1100	1028	9740	6.0	1950	8.5	.0	3.0	12.3	88	12
FEB											
20...	0800	--	80020	6.9	1860	8.5	1.0	--	--	--	--
22...	1145	1028	9740	7.1	2100	7.7	7.5	4.0	12.2	108	15
MAR											
21...	0935	1028	9740	8.0	1750	7.5	9.5	37	10.3	93	28
APR											
18...	1015	1028	9740	10	2050	--	15.5	21	9.8	104	18
MAY											
14...	0900	--	80020	6.4	1750	7.8	15.0	--	--	--	--
16...	1020	1028	9740	6.1	--	7.6	17.0	25	7.4	81	20
JUN											
28...	1040	1028	9740	6.2	1900	8.0	24.5	30	6.9	87	--
JUL											
02...	0900	--	80020	6.2	1740	7.7	21.5	--	--	--	--
25...	1445	1028	9740	150	1600	7.2	26.0	61	7.2	95	17
AUG											
13...	0900	--	80020	6.7	1830	7.5	22.0	--	--	--	--
15...	1245	1028	9740	6.6	2100	8.1	24.0	7.0	8.6	109	15
SEP											
20...	1100	1028	9740	4.8	2300	7.9	21.0	15	6.1	73	28

07324400 WASHITA RIVER NEAR FOSS, OK--Continued

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
03...	192	515	119	--	--	--	--	.4	--	--
NOV										
07...	357	893	196	--	--	--	--	.3	--	--
DEC										
27...	--	--	--	--	--	--	--	.3	--	--
JAN										
02...	--	--	--	--	--	1200	54	--	1950	2.65
29...	240	600	160	86	1.5	--	--	.3	--	--
FEB										
20...	--	--	--	--	--	880	33	--	1560	2.12
22...	--	--	--	--	--	--	--	.3	--	--
MAR										
21...	160	400	120	--	--	--	--	.5	--	--
APR										
18...	--	--	--	--	--	--	--	.4	--	--
MAY										
14...	--	--	--	--	--	810	35	--	1450	1.97
16...	--	--	--	--	--	1088	--	.5	--	--
JUN										
28...	--	--	--	--	--	--	--	.3	--	--
JUL										
02...	--	--	--	--	--	810	42	--	1440	1.96
25...	257	643	140	74	74	--	--	.1	--	--
AUG										
13...	--	--	--	--	--	860	35	--	1570	2.14
15...	--	--	--	--	--	--	--	.3	--	--
SEP										
20...	50	125	7.8	--	--	--	--	.4	--	--

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
OCT										
03...	--	114	--	--	--	--	.140	--	--	--
NOV										
07...	--	16	--	.76	--	--	.229	--	--	--
DEC										
27...	--	20	.30	1.3	1.6	7.2	.265	--	--	--
JAN										
02...	4.48	--	--	--	--	--	--	--	--	--
29...	--	10	.30	1.4	1.7	7.7	.400	<1	2	15
FEB										
20...	29.1	--	--	--	--	--	--	--	--	--
22...	--	7	.10	--	1.2	--	.300	--	--	--
MAR										
21...	--	103	.40	2.4	2.8	12	.500	--	--	--
APR										
18...	--	67	.20	1.1	1.3	5.8	.260	--	--	--
MAY										
14...	25.1	--	--	--	--	--	--	--	--	--
16...	--	64	.20	1.4	1.6	7.2	.315	--	--	--
JUN										
28...	--	74	<.50	1.2	1.2	--	.200	--	--	--
JUL										
02...	24.1	--	--	--	--	--	--	--	--	--
25...	--	127	<.50	1.7	1.7	--	.180	9	3	<10
AUG										
13...	28.4	--	--	--	--	--	--	--	--	--
15...	--	23	<.50	1.8	1.8	--	.160	--	--	--
SEP										
20...	--	321	<.50	1.8	1.8	--	.110	--	--	--

07324400 WASHITA RIVER NEAR FOSS, OK--Continued

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
03...	--	2530	--	100	--	--	--	--	--	5.0
NOV										
07...	--	730	--	50	--	--	--	--	--	--
DEC										
27...	--	--	--	--	--	--	--	--	--	--
JAN										
02...	--	--	--	--	--	--	--	--	--	--
29...	6	200	22	30	.5	9	--	3	8	--
FEB										
20...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
MAR										
21...	--	1300	--	200	--	--	--	--	--	--
APR										
18...	--	--	--	--	--	--	--	--	--	--
MAY										
14...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
JUN										
28...	--	--	--	--	--	--	--	--	--	--
JUL										
02...	--	--	--	--	--	--	--	--	--	--
25...	6	440	55	--	<.5	22	<5	3	10	--
AUG										
13...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
SEP										
20...	--	320	--	110	--	--	--	--	--	--

07324400 WASHITA RIVER NEAR FOSS, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	1950	---	---	2240	---	---	1930	---	---	1740	---	---
3	---	---	---	---	---	---	---	---	---	---	---	2150
4	---	---	2950	---	---	---	---	---	1890	---	---	---
5	---	---	---	---	2150	2090	---	---	---	---	---	---
6	---	2140	---	---	---	---	---	---	---	---	1880	---
7	---	---	---	---	---	---	---	1720	---	---	---	---
8	---	---	---	2090	---	---	---	---	---	---	---	---
9	2080	---	---	---	---	---	1850	---	---	1110	---	---
10	---	---	---	---	---	---	---	---	---	---	---	2120
11	---	---	2150	---	---	---	---	---	---	---	---	---
12	---	---	---	---	2090	2070	---	---	---	---	---	---
13	---	2120	---	---	---	---	---	---	---	---	2030	---
14	---	---	---	---	---	---	---	1750	---	---	---	---
15	---	---	---	2080	---	---	---	---	---	---	---	---
16	2110	---	---	---	---	---	1970	---	---	1980	---	---
17	---	---	---	---	---	---	---	---	---	---	---	2130
18	---	---	2130	---	---	---	---	---	1880	---	---	---
19	---	---	---	---	---	1380	---	---	---	---	---	---
20	---	2170	---	---	1860	---	---	---	---	---	2090	---
21	---	---	---	---	---	---	---	2030	---	---	---	---
22	---	---	---	2010	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	2020	---	---	1890	---	---
24	2120	---	---	---	---	---	---	---	---	---	---	2150
25	---	---	2130	---	---	---	---	---	1160	---	---	---
26	---	---	---	---	2120	1290	---	---	---	---	---	---
27	---	2110	---	---	---	---	---	---	---	---	1800	---
28	---	---	---	---	---	---	---	1030	---	---	---	---
29	---	---	---	2090	---	---	---	---	---	---	---	---
30	2100	---	---	---	---	---	1930	---	---	1900	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	8.0	---	---	---	---	---
2	20.0	---	---	.0	---	---	---	---	---	21.5	---	---
3	---	---	---	---	---	---	---	---	---	---	---	24.0
4	---	---	3.0	---	---	---	---	---	19.0	---	---	---
5	---	---	---	---	.0	3.0	---	---	---	---	---	---
6	---	12.0	---	---	---	---	---	---	---	---	25.0	---
7	---	---	---	---	---	---	---	17.0	---	---	---	---
8	---	---	---	.0	---	---	---	---	---	---	---	---
9	23.0	---	---	---	---	---	10.0	---	---	24.0	---	---
10	---	---	---	---	---	---	---	---	---	---	---	22.0
11	---	---	1.5	---	---	---	---	---	---	---	---	---
12	---	---	---	---	1.0	8.0	---	---	---	---	---	---
13	---	13.5	---	---	---	---	---	---	---	---	22.0	---
14	---	---	---	---	---	---	---	15.0	---	---	---	---
15	---	---	---	.0	---	---	---	---	---	---	---	---
16	16.0	---	---	---	---	---	14.0	---	---	23.0	---	---
17	---	---	---	---	---	---	---	---	---	---	---	20.0
18	---	---	6.0	---	---	---	---	---	21.0	---	---	---
19	---	---	---	---	---	8.0	---	---	---	---	---	---
20	---	8.0	---	---	1.0	---	---	---	---	---	22.0	---
21	---	---	---	---	---	---	---	19.0	---	---	---	---
22	---	---	---	1.0	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	15.0	---	---	24.0	---	---
24	14.0	---	---	---	---	---	---	---	---	---	---	20.0
25	---	---	3.0	---	---	---	---	---	23.0	---	---	---
26	---	---	---	---	1.0	9.0	---	---	---	---	---	---
27	---	6.0	---	---	---	---	---	---	---	---	22.0	---
28	---	---	---	---	---	---	---	19.0	---	---	---	---
29	---	---	---	.0	---	---	---	---	---	---	---	---
30	14.0	---	---	---	---	---	14.0	---	---	23.0	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

07325000 WASHITA RIVER NEAR CLINTON, OK

LOCATION.--Lat 34°31'52", long 98°57'57", in SW¼NE¼ sec.11, T.12 N., R.17 W., Custer County, Hydrologic Unit 11130302, on downstream side of pier of bridge on U.S. Highway 183, 0.5 mi (0.8 km) north of Clinton, 0.8 mi (1.3 km) upstream from Beaver Creek, 4.8 mi (7.7 km) downstream from Barnitz Creek, and at mile 447.4 (719.9 km).

DRAINAGE AREA.--1,977 mi^2 (5,120 km^2).

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

REVISED RECORDS.--WSP 1221: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,467.60 ft (447.324 m) National Geodetic Vertical Datum of 1929. See WSP 1920 for history of changes prior to Mar. 19, 1941.

REMARKS.-Records fair. Flow regulated since February 1961 by Foss Reservoir (station 07324300) and by numerous flood-retarding structures.

AVERAGE DISCHARGE.--(Prior to regulation by Foss Reservoir) 25 years (water years 1936-60), 146 ft^3/s (4.135 m^3/s), 105,700 acre-ft/yr (130 hm^3/yr); (since regulation by Foss Reservoir) 19 years (water years 1961-79), 54.9 ft^3/s (1.555 m^3/s), 39,780 acre-ft/yr (49.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,800 ft^3/s (1,890 m^3/s) May 16, 1951, gage height, 31.09 ft (9.476 m), from rating curve extended above 7,900 ft^3/s (224 m^3/s) by contracted-opening measurement of peak flow; no flow at times in 1952-56, 1964, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 3-4, 1934, reached a stage of 33.9 ft (10.33 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,870 ft^3/s (53 m^3/s) July 24, gage height, 17.32 ft (5.279 m); minimum daily discharge, 8.0 ft^3/s (0.227 m^3/s) Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	10	13	12	17	18	27	24	24	30	186	20
2	15	10	13	12	20	22	32	24	25	24	153	19
3	14	9.8	13	11	18	31	29	98	24	21	137	18
4	13	11	13	12	19	31	30	88	24	20	130	17
5	12	10	13	14	16	25	31	48	23	20	128	16
6	12	12	13	16	18	22	29	36	24	91	124	19
7	13	13	13	14	21	20	28	30	24	211	66	17
8	13	13	12	13	19	19	26	27	25	98	40	15
9	15	12	11	15	18	18	26	26	561	60	38	14
10	14	12	13	17	20	18	26	26	863	49	37	13
11	14	12	15	16	24	17	27	29	283	40	159	12
12	12	13	19	15	30	17	26	28	181	33	90	13
13	11	13	16	13	27	17	27	27	313	28	56	12
14	11	15	15	11	23	17	26	26	313	24	51	12
15	11	16	15	13	20	17	26	26	210	22	48	12
16	11	16	14	17	17	18	25	25	188	20	45	12
17	11	13	14	23	16	18	26	25	181	20	40	12
18	10	12	14	29	15	101	27	26	179	27	34	12
19	10	11	15	48	17	132	27	28	176	35	31	11
20	10	11	15	46	18	48	26	26	170	65	29	11
21	10	12	14	36	21	36	25	29	70	81	27	11
22	9.8	12	15	28	24	312	25	45	42	81	26	11
23	9.6	12	15	22	24	137	25	29	45	578	30	11
24	9.6	12	14	17	22	67	25	26	74	1240	27	11
25	10	12	14	20	21	51	24	26	224	445	65	10
26	10	13	14	22	19	41	24	25	126	318	33	9.0
27	11	12	15	20	19	34	24	25	65	244	24	8.6
28	11	12	14	17	18	31	24	24	49	208	22	8.0
29	11	12	14	20	---	30	24	24	42	172	21	8.7
30	11	13	13	18	---	28	24	25	35	156	20	8.2
31	10	---	13	15	---	27	---	24	---	247	22	---
TOTAL	361.0	366.8	434	602	561	1420	791	995	4583	4708	1939	383.5
MEAN	11.6	12.2	14.0	19.4	20.0	45.8	26.4	32.1	153	152	62.5	12.8
MAX	16	16	19	48	30	312	32	98	863	1240	186	20
MIN	9.6	9.8	11	11	15	17	24	24	23	20	20	8.0
AC-FT	716	728	861	1190	1110	2820	1570	1970	9090	9340	3850	761

CAL YR 1978 TOTAL 21285.5 MEAN 58.3 MAX 1510 MIN 8.7 AC-FT 42220
WTR YR 1979 TOTAL 17144.3 MEAN 47.0 MAX 1240 MIN 8.0 AC-FT 34010

07325500 WASHITA RIVER AT CARNEGIE, OK

LOCATION.--Lat 35°07'02", long 98°33'49", in NW¼NW¼ sec.3, T.7 N., R.13 W., Caddo County, Hydrologic Unit 11130302, on downstream side of right pier of bridge on State Highway 9, 1,300 ft (396.2 m) upstream from Running Creek, 2.7 mi (4.3 km) east of Carnegie, and at mile 353.9 (569.4 km). Records include flow of Running Creek.

DRAINAGE AREA.--3,129 mi^2 (8.104 km^2), includes that of Running Creek.

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,249.23 ft (380.765 m) National Geodetic Vertical Datum of 1929. Prior to October 1942, water-stage recorder at site 8.0 mi (12.9 km) upstream at datum 24.57 ft (7.489 m) higher.

REMARKS.--Records poor. Some diversion above station for irrigation. October 1942 to May 1949, occasional fluctuation caused by power plant at Carnegie, 7.5 mi (12.1 km) above station. Some regulation by Foss Reservoir since February 1961 (station 07324300), and by numerous flood-retarding structures.

AVERAGE DISCHARGE.--(Prior to regulation by Foss Reservoir) 23 years (water years 1938-60), 314 ft^3/s (8.892 m^3/s), 277,500 acre-ft/yr (342 hm^3/yr); (since regulation by Foss Reservoir) 18 years (water years 1962-79), 225 ft^3/s (6.372 m^3/s), 163,000 acre-ft/yr (201 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft^3/s (1,420 m^3/s) May 18, 1949, gage height, 26.21 ft (7.989 m), from rating curve extended above 35,500 ft^3/s (1,010 m^3/s) on basis of contracted-opening measurement of peak flow; no flow at times in 1956 and 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 23, 1903, reached a stage of about 29 ft (8.8 m) at former site and datum, from information by local resident; flood of May 18, 1949, reached a stage of 20.9 ft (6.37 m), from floodmark, at that site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,200 ft^3/s (119 m^3/s) at 0200 June 10, gage height, 18.90 ft (5.761 m), no other peak above base of 3,000 ft^3/s (85.0 m^3/s); minimum daily, 29 ft^3/s (0.82 m^3/s) Oct. 23, 26, Nov. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	31	57	56	70	67	94	88	484	163	578	101
2	56	31	55	56	70	69	91	148	322	144	472	96
3	48	30	53	56	70	73	115	1350	217	131	353	90
4	45	30	53	56	70	277	98	2380	110	119	297	74
5	42	29	53	56	70	198	97	1770	83	114	263	74
6	40	29	53	58	70	133	102	952	116	136	226	69
7	39	30	51	60	70	106	90	644	731	128	203	74
8	38	30	51	64	70	98	85	442	755	119	190	107
9	38	32	53	65	70	90	83	307	3280	226	163	96
10	41	34	38	63	70	85	92	233	3980	233	128	69
11	45	33	46	60	69	81	917	203	3530	179	113	60
12	44	35	58	56	76	79	1220	170	1980	136	104	55
13	38	35	72	56	81	77	492	134	1260	116	144	50
14	37	38	62	56	87	74	220	128	954	102	160	50
15	34	54	60	55	70	73	153	110	846	95	118	45
16	33	478	58	55	60	72	127	99	607	88	105	45
17	31	177	56	55	68	74	113	90	527	90	98	45
18	32	158	52	57	72	84	130	83	442	122	94	43
19	32	88	56	65	81	84	213	83	376	217	88	43
20	32	67	57	140	97	168	199	94	368	177	83	42
21	31	62	57	158	97	220	145	190	278	134	78	41
22	30	60	57	105	89	503	125	177	242	119	110	40
23	29	58	59	114	83	744	114	152	201	139	223	38
24	30	58	56	94	79	655	104	122	188	1050	136	38
25	30	56	56	72	76	307	96	112	158	2160	173	35
26	29	61	56	82	74	183	89	110	188	1320	235	30
27	30	59	56	88	69	148	88	100	432	698	148	30
28	31	56	57	71	67	133	88	110	298	504	166	32
29	32	56	57	72	---	96	88	113	223	395	154	42
30	32	55	55	70	---	99	89	113	186	346	101	36
31	31	---	56	70	---	99	---	732	---	356	101	---
TOTAL	1147	2050	1716	2241	2095	5249	5757	11539	23362	10056	5605	1690
MEAN	37.0	68.3	55.4	72.3	74.8	169	192	372	779	324	181	56.3
MAX	67	478	72	158	97	744	1220	2380	3980	2160	578	107
MIN	29	29	38	55	60	67	83	83	83	88	78	30
AC-FT	2280	4070	3400	4450	4160	10410	11420	22890	46340	19950	11120	3350

CAL YR 1978 TOTAL 72313 MEAN 198 MAX 5290 MIN 23 AC-FT 143400
WTR YR 1979 TOTAL 72507 MEAN 199 MAX 3980 MIN 29 AC-FT 143800

07325500 WASHITA RIVER AT CARNEGIE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1953 to September 1976.
WATER TEMPERATURE: October 1953 to September 1976.

REMARKS.--Samples were collected by a local observer on a weekly basis. Partial analyses were made bimonthly.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
DEC 18...	1200	52	2440	8.1	6.0	1100	120	2070	2.82	291
FEB 19...	1100	74	2290	8.1	4.0	1000	90	1940	2.64	388
MAY 14...	1600	128	1820	7.8	24.0	770	87	1460	1.99	505
JUL 02...	0900	146	1600	7.7	27.0	710	56	1320	1.80	520
SEP 03...	1500	90	1830	7.2	31.0	880	93	1490	2.03	362

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	2370	---	---	---	---	---	---	---	---
2	1970	---	---	---	---	---	2030	---	---	1600	---	---
3	---	---	---	---	---	---	---	---	---	---	---	1830
4	---	---	3040	---	---	---	---	---	1170	---	---	---
5	---	---	---	---	2530	---	---	---	---	---	---	---
6	---	2410	---	---	---	1480	---	---	---	---	1470	---
7	---	---	---	---	---	---	---	670	---	---	---	---
8	---	---	---	2730	---	---	---	---	---	---	---	---
9	2220	---	---	---	---	---	2200	---	---	2220	---	---
10	---	---	---	---	---	---	---	---	---	---	---	1890
11	---	---	2550	---	---	---	---	---	466	---	---	---
12	---	---	---	---	2440	2410	---	---	---	---	1740	---
13	---	2460	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	1820	---	---	---	---
15	---	---	---	2580	---	---	---	---	---	---	---	---
16	2360	---	---	---	---	---	---	---	---	1690	---	---
17	---	---	---	---	---	---	---	---	---	---	---	2370
18	---	---	2440	---	---	2470	1710	---	1150	---	---	---
19	---	---	---	---	2290	---	---	---	---	---	---	---
20	---	1440	---	---	---	---	---	---	---	---	1780	---
21	---	---	---	---	---	---	---	1730	---	---	---	---
22	---	---	---	1660	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	1830	---	---	1680	---	---
24	2500	---	---	---	---	---	---	---	---	---	---	2410
25	---	---	2510	---	---	---	---	---	1700	---	---	---
26	---	---	---	---	2390	924	---	---	---	---	---	---
27	---	2290	---	---	---	---	---	---	---	---	1110	---
28	---	---	---	---	---	---	---	1980	---	---	---	---
29	---	---	---	2110	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	2280	---	---	---	---	---
31	2590	---	---	---	---	---	---	---	---	1330	---	---

07325500 WASHITA RIVER AT CARNEGIE, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	2.0	---	---	---	---	---	---	---	---
2	23.0	---	---	---	---	---	14.0	---	---	27.0	---	---
3	---	---	---	---	---	---	---	---	---	---	---	31.0
4	---	---	5.0	---	---	---	---	---	24.0	---	---	---
5	---	---	---	---	2.0	---	---	---	---	---	---	---
6	---	14.0	---	---	---	8.0	---	---	---	---	32.0	---
7	---	---	---	---	---	---	---	20.0	---	---	---	---
8	---	---	---	2.0	---	---	---	---	---	---	---	---
9	19.0	---	---	---	---	---	21.0	---	---	28.0	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	5.0	---	---	---	---	---	22.0	---	---	---
12	---	---	---	---	3.0	15.0	---	---	---	---	27.0	---
13	---	16.0	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	24.0	---	---	---	---
15	---	---	---	4.0	---	---	---	---	---	---	---	---
16	20.0	---	---	---	---	---	---	---	---	31.0	---	---
17	---	---	---	---	---	---	---	---	---	---	---	20.0
18	---	---	6.0	---	---	---	21.0	---	25.0	---	---	---
19	---	---	---	---	4.0	13.0	---	---	---	---	---	---
20	---	8.0	---	---	---	---	---	---	---	---	30.0	---
21	---	---	---	---	---	---	---	24.0	---	---	---	---
22	---	---	---	4.0	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	22.0	---	---	29.0	---	---
24	15.0	---	---	---	---	---	---	---	---	---	---	22.0
25	---	---	4.0	---	---	---	---	---	27.0	---	---	---
26	---	---	---	---	6.0	16.0	---	---	---	---	---	---
27	---	14.0	---	---	---	---	---	---	---	---	25.0	---
28	---	---	---	---	---	---	---	26.0	---	---	---	---
29	---	---	---	3.0	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	17.0	---	---	---	---	---
31	17.0	---	---	---	---	---	---	---	---	27.0	---	---

07325800 COBB CREEK NEAR EAKLY, OK

LOCATION.--Lat 35°17'26", long 98°35'38", in NW¼NE¼ sec.5, T.9 N., R.13 W., Caddo County, Hydrologic Unit 11130302, near right abutment of bridge on downstream side of State Highway 152, 0.5 mi (0.8 km) downstream from Fivemile Creek, 2.4 mi (3.9 km) southwest of Eakly, 2.5 mi (4.0 km) upstream from Fort Cobb Reservoir, and at mile 22.9 (36.8 km).

DRAINAGE AREA.--132 mi^2 (342 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is 1,369.70 ft (417.485 m) National Geodetic Vertical Datum of 1929.

REMARKS.-Records good. Some regulation by three small reservoirs having combined surface-area 262 acres (1.06 km^2) and capacity of 3,100 acre-ft (3.82 hm^3).

AVERAGE DISCHARGE.--11 years, 20.9 ft^3/s (0.592 m^3/s), 15,150 acre-ft/yr (18.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 20.43 ft (6.227 m) June 24, 1975 (discharge not determined); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 450 ft^3/s (12.7 m^3/s) Mar. 22, gage height, 8.47 ft (2.582 m); minimum, 3 ft^3/s (0.085 m^3/s) Aug. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.8	4.5	4.8	6.4	12	17	12	9.8	6.7	4.9	4.0
2	4.1	4.9	4.5	4.5	7.0	14	14	13	9.8	6.1	4.9	3.7
3	3.8	5.0	4.5	4.9	8.0	57	13	184	10	5.8	4.7	3.7
4	3.6	5.0	4.8	5.4	9.0	40	15	42	9.7	5.8	4.4	3.7
5	3.6	5.0	4.5	6.0	8.6	24	13	22	9.9	5.9	4.5	3.6
6	3.6	5.4	4.5	5.6	8.0	19	12	17	11	5.2	4.3	3.5
7	4.0	5.6	4.6	5.4	9.0	17	12	15	11	5.1	4.1	6.9
8	4.8	5.7	4.4	5.2	10	15	11	13	10	4.8	3.9	7.5
9	5.2	8.1	4.4	8.0	9.0	14	11	13	87	4.6	4.3	6.1
10	4.8	5.9	4.3	10	8.0	13	27	12	21	4.4	4.2	4.9
11	4.5	6.0	4.6	10	12	13	35	11	14	4.0	4.1	4.5
12	4.2	5.8	4.6	10	13	12	17	11	11	4.0	3.9	4.2
13	3.8	6.2	4.6	8.0	14	12	15	10	9.4	3.8	3.7	3.9
14	3.8	6.4	4.9	6.6	16	12	14	10	8.4	3.7	3.6	3.8
15	5.6	27	5.0	5.8	27	11	13	9.4	7.5	3.7	3.9	3.8
16	4.5	7.6	5.0	8.0	13	11	12	8.9	7.0	3.6	3.8	3.8
17	4.4	6.4	5.0	11	12	12	12	8.9	6.5	4.0	3.6	3.6
18	4.2	5.5	5.0	20	13	19	20	9.8	6.2	5.1	3.4	3.5
19	4.5	5.0	5.1	48	14	16	17	11	6.2	5.0	3.1	3.4
20	4.4	4.6	5.3	27	15	15	15	18	6.9	4.5	3.2	3.4
21	4.4	4.5	5.4	20	14	14	15	27	6.9	4.4	3.2	3.5
22	4.2	4.5	5.2	18	14	184	14	15	34	4.4	3.0	3.5
23	3.9	4.5	5.1	15	15	50	13	13	19	4.4	5.0	3.5
24	4.3	4.5	5.2	12	14	25	13	11	14	5.3	3.8	3.4
25	5.0	4.8	5.3	10	13	19	12	11	12	6.2	3.6	3.4
26	4.8	5.3	5.0	9.0	13	15	12	9.9	11	5.2	3.7	3.4
27	4.5	5.3	5.0	8.0	12	14	11	9.8	9.6	5.1	4.4	3.2
28	4.7	5.0	5.2	7.4	12	13	12	9.7	8.3	4.6	4.5	3.2
29	4.8	4.6	5.3	7.0	---	13	12	9.3	7.4	4.0	3.9	3.2
30	4.8	4.5	5.4	8.0	---	12	12	11	7.1	3.9	3.2	3.2
31	4.8	---	5.0	7.0	---	11	---	11	---	6.0	3.9	---
TOTAL	135.7	183.4	151.2	335.6	339.0	728	441	588.7	401.6	149.3	122.7	119.0
MEAN	4.38	6.11	4.88	10.8	12.1	23.5	14.7	19.0	13.4	4.82	3.96	3.97
MAX	5.6	27	5.4	48	27	184	35	184	87	6.7	5.0	7.5
MIN	3.6	4.5	4.3	4.5	6.4	11	11	8.9	6.2	3.6	3.0	3.2
AC-FT	269	364	300	666	672	1440	875	1170	797	296	243	236

CAL YR 1978 TOTAL 4673.1 MEAN 12.8 MAX 950 MIN 2.5 AC-FT 9270
WTR YR 1979 TOTAL 3695.2 MEAN 10.1 MAX 184 MIN 3.0 AC-FT 7330

07325900 FORT COBB RESERVOIR NEAR FORT COBB, OK

LOCATION.--Lat 35°09'30", long 98°27'40", in SE¼ sec.21, T.8 N., R.12 W., Caddo County, Hydrologic Unit 11130302, in control house at right center of dam on Cobb Creek, 4.0 mi (6.4 km) northwest of Fort Cobb, and at mile 7.5 (12.1 km).

DRAINAGE AREA.--304 mi^2 (787 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Prior to October 1961, nonrecording gage at same datum.

REMARKS.--Reservoir is formed by earth dam. The outlet consists of two sets of controlled 5 ft x 5 ft steel gates and a uncontrolled concrete spillway. Storage began Mar. 30, 1959. Conservation pool was first filled in June 1962. Capacity, 143,700 acre-ft (177 hm^3) at elevation 1,354.8 ft (412.94 m) crest of drop inlet, 80,010 acre-ft (98.7 hm^3) at elevation 1,342.0 ft (409.04 m) conservation pool, and 1,664 acre-ft (2.05 hm^3) at elevation 1,300.0 ft (396.24 m) crest of gated outlet. Figures given herein represent total contents. Reservoir is used for flood control, for municipal and industrial water supply, and for irrigation releases. Revised capacity table used since May 1, 1964.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 102,600 acre-ft (127 hm^3) Sept. 26, 1965, elevation, 1,347.10 ft (410.596 m); minimum since conservation pool was first filled, 54,650 acre-ft (67.4 hm^3) Oct. 19, 1972, elevation 1,335.06 ft (406.926 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 77,290 acre-ft (95.3 hm^3) June 10, elevation, 1,341.33 ft (408.837 m); minimum, 67,930 acre-ft (83.8 hm^3) Dec. 28, elevation, 1,338.90 ft (408.097 m).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30	1,340.18	72,780	--	--
Oct. 31	1,339.37	69,690	-3,090	1,111
Nov. 30	1,339.12	68,750	-940	1,104
Dec. 31	1,338.90	67,930	-820	985
CAL YR 78	--	--	-3,390	11,632
Jan. 31	1,338.94	68,080	+150	1,001
Feb. 28	1,339.06	68,530	+450	998
Mar. 31	1,339.70	70,940	+2,410	801
Apr. 30	1,340.22	72,930	+1,990	595
May 31	1,341.03	76,100	+3,170	847
June 30	1,341.33	77,290	+1,190	747
July 31	1,340.70	74,800	-2,490	921
Aug. 31	1,340.00	72,080	-2,720	854
Sept. 30	1,339.32	69,500	-2,580	792
WTR YR 79	--	--	-3,280	10,757

† Elevation at 0800 on following day.

07326000 COBB CREEK NEAR FORT COBB, OK

LOCATION.--Lat 35°08'37", long 98°26'33", in NE¼NE¼ sec.27, T.8 N., R.12 W., Caddo County, Hydrologic Unit 11130302, on left bank 10 ft (3.0 m) upstream from county road bridge, 0.3 mi (0.5 km) upstream from Punjo Creek, 1.2 mi (1.9 km) downstream from Fort Cobb Dam, 3.0 mi (4.8 km) north of Fort Cobb, and at mile 5.8 (9.3 km).

DRAINAGE AREA.--313 mi^2 (811 km^2). Area at site used prior to Oct. 1, 1969, 319 mi^2 (826 km^2).

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,259.49 ft (383.893 m) Water and Power Resources Service datum. Oct 1, 1939, to Aug. 29, 1940, nonrecording gage and Aug. 30, 1940, to Sept. 30, 1969, water-stage recorder at site 0.8 mi (1.3 km) downstream at datum 6.92 ft (2.109 m) lower.

REMARKS.--Records good. Flow regulated since March 1959 by Fort Cobb Reservoir (station 07325900).

AVERAGE DISCHARGE.--(Prior to regulation by Fort Cobb Reservoir) 19 years (water years 1940-58), 50.2 ft^3/s (1.42 m^3/s) 36,340 acre-ft/yr (44.8 hm^3/yr); (since regulation by Fort Cobb Reservoir) 21 years (water years 1959-79), 17.0 ft^3/s (0.481 m^3/s), 12,320 acre-ft/yr (15.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,000 ft^3/s (991 m^3/s) May 17, 1949, gage height, 18.72 ft (5.706 m), from floodmark in gage well at former site and datum, from rating curve extended above 4,300 ft^3/s (122 m^3/s) on basis of contracted-opening measurements at gage heights 16.62 ft (5.066 m), 17.58 ft (5.358 m) and 18.72 ft (5.706 m), at former site and datum; minimum daily, 0.2 ft^3/s (0.006 m^3/s) Sept. 20, 24-28, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 15, 1937, reached a stage of 19.3 ft (5.88 m), site and datum used in 1939, from information by local resident.

EXTREMES FOR CURRENT YEAR.-Maximum discharge, 142 ft^3/s (4.02 m^3/s) June 9, gage height, 4.28 ft (1.305 m); minimum daily, 1.4 ft^3/s (0.040 m^3/s) several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.9	2.6	1.9	2.3	2.4	2.9	3.1	3.1	2.4	1.4	3.7
2	1.5	2.8	2.4	1.9	2.3	2.8	2.7	3.5	3.2	2.4	1.4	3.8
3	1.6	3.0	2.1	1.9	2.3	2.8	3.0	4.6	3.0	2.5	1.5	3.8
4	1.8	3.0	2.0	1.9	2.3	2.3	3.1	3.7	3.5	2.5	1.4	3.7
5	1.6	3.3	2.1	1.9	2.2	2.3	4.2	3.1	3.2	2.6	1.6	3.0
6	1.6	2.9	2.2	1.9	3.1	2.3	3.5	3.1	3.4	2.8	4.1	3.4
7	1.7	3.0	2.1	1.9	2.2	2.3	3.5	3.1	3.3	2.9	2.7	3.8
8	1.8	3.0	2.1	1.9	2.1	2.7	3.6	1.7	4.3	2.4	2.6	4.3
9	1.7	3.0	2.1	1.9	2.2	2.5	3.5	1.7	34	2.9	2.7	4.2
10	1.7	2.5	2.1	1.6	2.4	2.4	6.6	1.8	4.0	2.2	2.7	3.5
11	1.6	2.2	2.1	1.9	2.3	4.0	4.0	1.8	3.6	2.1	2.7	3.3
12	1.9	2.1	2.1	2.3	2.3	3.0	3.0	1.9	3.4	2.1	2.8	3.6
13	1.9	2.2	2.0	2.4	2.2	2.7	3.2	1.9	3.1	2.2	3.7	4.1
14	2.0	2.3	1.7	2.8	2.4	2.7	2.9	2.2	3.1	2.0	2.4	3.9
15	2.1	2.3	1.6	2.7	2.4	2.7	2.9	2.3	3.1	2.1	2.4	5.1
16	2.1	2.5	1.6	2.7	2.4	2.8	3.0	2.3	3.1	1.8	2.4	3.5
17	2.2	2.3	1.5	2.7	2.4	2.9	3.2	2.5	3.0	1.9	2.7	2.7
18	2.3	2.1	1.5	3.4	2.3	3.2	3.4	2.7	3.0	2.1	2.5	2.1
19	2.3	2.1	1.5	3.6	2.3	2.8	2.7	2.9	2.9	2.0	2.6	1.8
20	2.3	2.2	1.5	3.1	2.2	2.8	2.9	2.9	2.9	2.1	2.2	1.5
21	2.2	2.1	1.5	3.0	2.2	2.7	2.6	3.9	2.7	2.0	2.8	1.4
22	2.3	2.1	1.5	3.0	2.2	4.1	2.3	3.2	2.9	1.9	2.8	1.4
23	2.5	2.1	1.4	3.1	2.2	2.9	2.3	3.1	2.9	2.0	2.8	1.4
24	2.6	2.2	1.6	2.9	2.1	2.7	2.5	2.9	2.8	1.9	2.9	1.6
25	2.6	2.5	1.6	3.0	2.1	2.6	2.5	3.0	3.2	2.1	3.0	1.6
26	2.8	3.6	1.5	3.0	2.2	2.6	2.6	3.0	3.0	1.7	2.9	1.7
27	2.7	2.5	1.6	2.9	2.3	2.6	2.9	3.1	2.7	2.1	3.4	1.7
28	2.6	2.4	1.8	2.6	2.4	2.7	3.0	3.1	2.6	2.1	3.5	1.7
29	2.6	2.6	1.9	2.6	---	2.7	3.0	3.0	2.7	2.3	2.7	2.0
30	2.7	2.6	1.9	2.4	---	2.7	3.0	3.3	2.4	1.5	2.6	2.4
31	2.7	---	2.1	2.3	---	2.7	---	3.2	---	1.7	3.8	---
TOTAL	65.7	76.4	57.3	77.1	64.3	85.4	94.5	87.6	124.1	67.3	81.7	85.7
MEAN	2.12	2.55	1.85	2.49	2.30	2.75	3.15	2.83	4.14	2.17	2.64	2.86
MAX	2.8	3.6	2.6	3.6	3.1	4.1	6.6	4.6	34	2.9	4.1	5.1
MIN	1.5	2.1	1.4	1.6	2.1	2.3	2.3	1.7	2.4	1.5	1.4	1.4
AC-FT	130	152	114	153	128	169	187	174	246	133	162	170

CAL YR 1978 TOTAL 901.29 MEAN 2.47 MAX 48 MIN .34 AC-FT 1790
WTR YR 1979 TOTAL 967.10 MEAN 2.65 MAX 34 MIN 1.4 AC-FT 1920

07326500 WASHITA RIVER AT ANADARKO, OK

LOCATION.--Lat 35°05'06", long 98°14'35", in NW 1/4 sec.15, T.7 N., R.10 W., Caddo County, Hydrologic Unit 11130302, at left bank 35 ft (10.7 m) upstream from bridge on U.S. Highway 281 at north edge of Anadarko, 8.1 mi (13.0 km) upstream from Sugar Creek, and at mile 305.2 (491.1 km).

DRAINAGE AREA.--3,656 mi^2 (9,460 km^2).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1311: 1903, 1907-8, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,150.00 ft (350.520 m) National Geodetic Vertical Datum of 1929. October 26, 1902, to June 30, 1908, nonrecording gage at former bridge 125 ft (38.1 m) downstream at datum estimated to be 2.8 ft (8.53 m) higher. May 25, 1924, to June 30, 1925, nonrecording gage at county road bridge 14 mi (22.5 km) downstream at different datum. Jan. 10, 1936, to Mar. 7, 1938, non-recording gage on upstream side of bridge on U.S. Highway 281 at datum 1.88 ft (0.573 m) higher.

REMARKS.--Records fair. Some regulation by low-water dams upstream and since March 1959, by Fort Cobb Reservoir (station 07235900), since February 1961, by Foss Reservoir (station 07324300), and by numerour flood-retarding structures.

COOPERATION.--Records furnished by Agricultural Research Service prior to January 1, 1978.

AVERAGE DISCHARGE.--24 years (water years 1902-8, 1935-37, 1963-79), 373 ft^3/s (10.56 m^3/s), 270,200 acre-ft/yr (333 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 29,000 ft^3/s (821 m^3/s) May 25, 1903, gage height, 26.8 ft (8.169 m), site and datum then in use, affected by backwater; no flow Aug. 1, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1949, reached an elevation of 1,176.7 ft (358.66 m), from floodmark, at right bank on downstream side of bridge on U.S. Highway 281.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 3,000 ft^3/s (85.0 m^3/s) and maximum for each year (*):

WATER YEAR	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
1978	May 31, 1978	0945	*4,390	124	*17.38	5.297
1979	June 11, 1979	1545	*3,970	112	*15.84	4.828

Minimum daily discharge: Water year 1978, 30 ft^3/s (0.85 m^3/s) Aug. 30, Sept. 2, 20; water year 1979, 40 ft^3/s (1.13 m^3/s) Oct. 23, 26, Nov. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	342	118	107	120	143	128	140	3100	486	65	55
2	91	223	118	109	120	140	128	146	1610	486	55	30
3	91	183	118	109	115	134	137	168	1220	486	55	35
4	94	170	121	109	115	128	137	234	1030	486	60	35
5	96	166	121	107	115	125	137	307	940	486	55	35
6	99	157	121	107	115	120	134	260	1420	410	60	35
7	99	144	121	107	117	128	152	216	2730	323	65	35
8	148	150	121	109	123	140	191	187	2350	270	75	35
9	187	147	118	109	120	143	174	171	1880	230	65	40
10	197	138	112	107	115	137	1020	324	1210	180	55	40
11	197	138	118	105	115	131	1900	291	958	150	50	40
12	201	144	112	102	131	125	903	213	806	125	50	40
13	208	138	118	105	158	125	532	187	626	115	48	40
14	211	132	118	107	164	125	425	161	562	95	47	40
15	211	129	123	109	177	123	379	143	520	85	47	40
16	215	129	123	125	177	123	344	131	494	80	47	40
17	219	123	121	120	171	123	315	123	379	75	47	35
18	215	123	118	115	160	125	279	117	319	70	47	35
19	219	121	115	110	160	125	209	120	291	65	45	35
20	223	121	112	115	155	125	184	117	271	65	45	30
21	219	121	110	115	155	125	174	117	295	60	50	35
22	211	118	110	115	155	125	168	220	388	60	50	45
23	203	121	107	115	158	125	155	181	379	60	55	65
24	383	118	107	117	152	128	149	213	449	60	50	100
25	454	118	107	115	155	125	143	187	481	59	45	120
26	429	118	107	115	158	125	137	227	486	60	40	135
27	429	121	107	115	152	125	134	341	486	61	35	105
28	439	121	107	115	152	125	131	2840	486	60	35	90
29	449	118	110	117	---	128	131	4070	486	60	35	85
30	454	121	110	117	---	128	134	4210	486	55	30	100
31	449	---	110	123	---	128	---	4330	---	60	35	---
TOTAL	7431	4313	3559	3472	3980	3975	9264	20692	27138	5423	1543	1610
MEAN	240	144	115	112	142	128	309	667	905	175	49.8	53.7
MAX	454	342	123	125	177	143	1900	4330	3100	486	75	135
MIN	91	118	107	102	115	120	128	117	271	55	30	30
AC-FT	14740	8550	7060	6890	7890	7880	18380	41040	53830	10760	3060	3190

CAL YR 1977 TOTAL 136179 MEAN 373 MAX 6100 MIN 57 AC-FT 270100
WTR YR 1978 TOTAL 92400 MEAN 253 MAX 4330 MIN 30 AC-FT 183300

07326500 WASHITA RIVER AT ANADARKO, OK--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	43	76	80	95	80	128	169	949	214	334	111
2	75	42	74	80	95	94	123	198	637	188	517	106
3	65	42	72	80	90	114	118	500	376	175	491	100
4	60	41	71	80	90	101	147	2200	217	158	373	90
5	60	40	70	80	90	207	119	1900	171	155	324	88
6	55	41	69	80	90	228	120	1400	189	153	296	82
7	55	42	67	85	90	156	120	773	232	152	274	80
8	53	43	65	85	85	125	119	587	730	152	256	79
9	50	45	63	85	85	110	117	461	1690	151	242	80
10	50	47	61	117	85	103	122	368	3630	185	230	101
11	55	45	61	104	85	99	341	289	3940	214	167	94
12	60	48	63	87	85	94	923	242	3720	211	131	81
13	55	50	65	84	85	93	819	206	2040	168	117	72
14	50	60	68	81	89	89	339	173	1250	133	113	68
15	50	71	68	78	94	88	213	153	1050	123	175	66
16	50	76	70	76	89	87	147	143	932	118	136	64
17	48	337	73	71	61	89	149	129	850	110	117	62
18	48	198	73	80	70	93	146	121	686	110	109	65
19	45	134	73	125	90	100	161	116	559	140	104	59
20	44	102	73	131	92	103	185	114	466	210	102	60
21	43	92	73	120	99	113	224	140	386	180	101	63
22	43	87	73	168	107	220	174	213	354	145	136	60
23	40	85	75	140	104	550	153	200	320	135	60	60
24	41	80	75	125	97	850	142	175	293	150	204	60
25	42	80	75	120	92	650	137	150	252	1000	115	59
26	40	99	75	115	89	500	134	140	232	2200	118	54
27	43	94	75	107	89	300	141	130	226	1200	211	53
28	44	87	75	100	87	152	148	121	401	874	158	52
29	45	78	75	100	---	101	151	114	344	681	144	49
30	45	80	75	95	---	140	156	117	250	499	155	46
31	44	---	75	95	---	133	---	224	---	353	126	---
TOTAL	1598	2409	2196	3054	2499	5962	6216	11966	27372	10637	6136	2164
MEAN	51.5	80.3	70.8	98.5	89.3	192	207	386	912	343	198	72.1
MAX	100	337	76	168	107	850	923	2200	3940	2200	517	111
MIN	40	40	61	71	61	80	117	114	171	110	60	46
AC-FT	3170	4780	4360	6060	4960	11830	12330	23730	54290	21100	12170	4290

CAL YR 1978 TOTAL 83300 MEAN 228 MAX 4330 MIN 30 AC-FT 165200
WTR YR 1979 TOTAL 82209 MEAN 225 MAX 3940 MIN 40 AC-FT 163100

07326500 WASHITA RIVER AT ANADARKO, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1965-71, 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to September 1971.
WATER TEMPERATURE: October 1964 to September 1971.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)
OCT												
29...	1300	45	2100	8.0	16.0	10	10.1	107	21	1620	437	1093
NOV												
29...	1130	78	--	7.8	10.0	9.0	11.7	108	--	--	--	--
DEC												
06...	0930	69	--	8.1	4.0	6.0	9.4	75	8	--	--	--
JAN												
31...	1020	95	1500	8.7	.0	5.0	13.8	98	12	--	--	--
FEB												
13...	1530	85	2000	7.7	6.0	4.0	--	--	8	1378	370	925
MAR												
28...	1015	155	1050	8.3	15.5	53	10.1	105	19	--	--	--
APR												
10...	1130	112	2000	8.1	11.0	37	10.2	98	31	1170	310	775
MAY												
03...	1215	279	1950	8.1	18.0	33	8.0	89	20	--	--	--
JUN												
06...	1245	140	1000	8.4	26.0	62	8.4	109	15	434	120	300
JUL												
11...	1145	209	1600	7.6	30.0	17	8.6	118	--	--	--	--
AUG												
30...	1330	152	1150	8.3	29.5	13	8.6	118	28	152	34	85
SEP												
05...	1030	87	1500	7.3	29.0	22	8.4	114	20	--	--	--

DATE	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT												
29...	128	160	6.0	899	--	.4	23	--	2.2	--	--	.162
NOV												
29...	--	--	--	719	81	.3	10	.50	1.1	1.6	7.3	.260
DEC												
06...	--	--	--	942	83	.3	5	--	1.4	--	--	.319
JAN												
31...	--	--	--	870	62	.4	8	1.2	1.9	3.1	14	.270
FEB												
13...	110	--	4.4	852	85	.3	9	1.5	1.3	2.8	13	.200
MAR												
28...	--	--	--	426	14	.3	59	1.0	1.9	2.9	2.9	.250
APR												
10...	95	81	6.4	998	71	.3	104	6.9	2.2	9.1	9.1	.250
MAY												
03...	--	--	--	845	71	.4	90	.10	1.3	1.4	6.3	.155
JUN												
06...	44	54	6.6	298	51	.3	--	.70	1.2	1.9	8.5	.200
JUL												
11...	--	--	--	691	93	.3	67	<.50	1.9	1.9	--	.250
AUG												
30...	16	<10	7.0	420	53	<.1	39	<.50	2.7	2.7	--	.160
SEP												
05...	--	--	--	551	--	.2	55	<.50	2.1	2.1	--	.155

07326500 WASHITA RIVER AT ANADARKO, OK--Continued

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT												
29...	--	--	--	--	830	--	100	--	--	--	--	--
NOV												
29...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
06...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
31...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
13...	5	2	17	5	340	38	110	<.5	12	2	3	13
MAR												
28...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
10...	--	--	--	--	3400	--	220	--	--	--	--	--
MAY												
03...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
06...	--	--	--	--	4700	--	190	--	--	--	--	--
JUL												
11...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
30...	<10	<2	<10	8	560	28	90	<.5	16	<5	2	14
SEP												
05...	--	--	--	--	--	--	--	--	--	--	--	--

07327490 LITTLE WASHITA RIVER NEAR NINNEKAH, OK

LOCATION.--Lat 34°56'41", long 97°57'08", in SE¼SE¼ sec.32, T.6 N., R.7 W., Grady County, Hydrologic Unit 11130302, at left bank on downstream side of bridge on U.S. Highway 81, 1.0 mi (1.6 km) upstream from Rock Creek, 1.5 mi (2.4 km) west of Ninnekah, 5.5 mi (8.8 km) south of Chickasha, and at mile 8.4 (13.5 km).

DRAINAGE AREA.--208 mi^2 (539 km^2).

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

REVISED RECORDS.--WRD Okla. 1971, 1964-65 (M).

GAGE.-Water-stage recorder. Datum of gage is 1,065.94 ft (324.899 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Small diversions above station for irrigation.

COOPERATION.-Records furnished by Agricultural Research Service.

AVERAGE DISCHARGE.--16 years, 28.8 ft^3/s (0.816 m^3/s), 20,870 acre-ft/yr (25.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,560 ft^3/s (214 m^3/s) May 10, 1964, gage height, 20.65 ft (6.294 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft^3/s (42.5 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
May 2	1345	2,010	56.9	16.05	4.892	June 9	0600	*2,830	80.1	*18.14	5.529
May 3	2300	2,090	59.2	16.31	4.971	Sept. 2	0730	2,080	58.9	16.25	4.953

Minimum daily discharge, 2.0 ft^3/s (0.057 m^3/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	4.5	17	6.3	8.0	15	18	21	38	26	8.0	26
2	4.1	4.5	14	5.7	8.0	19	18	782	27	24	8.0	713
3	2.6	4.5	13	5.7	8.0	35	16	832	59	19	7.4	185
4	2.3	5.0	10	5.7	8.0	26	18	719	26	18	7.4	97
5	2.3	4.1	9.9	5.7	8.0	18	18	224	176	19	6.3	44
6	2.3	5.8	9.3	5.7	8.0	15	18	108	375	57	5.7	26
7	2.3	6.3	9.3	5.2	8.0	15	17	72	397	22	4.7	25
8	2.6	6.3	7.3	5.2	8.0	13	16	52	153	18	4.3	19
9	2.6	6.3	6.3	5.2	8.6	13	17	47	1420	15	4.3	15
10	2.6	6.3	12	5.2	8.6	13	88	47	311	14	4.7	10
11	2.3	5.8	12	5.2	17	13	562	49	147	12	5.2	9.8
12	2.3	5.8	12	5.7	26	13	115	47	105	12	4.7	10
13	2.3	6.3	9.9	5.7	22	15	63	37	59	11	4.3	10
14	2.0	11	7.8	5.2	20	12	44	32	39	10	4.3	9.8
15	2.6	12	9.9	5.2	16	12	37	31	31	9.8	3.8	8.6
16	3.0	31	8.8	6.3	15	13	31	28	28	9.2	6.8	7.4
17	3.4	19	8.8	7.4	15	18	33	27	31	29	5.2	6.3
18	3.4	19	8.8	24	15	23	94	28	30	31	4.3	6.3
19	3.7	10	8.8	91	31	26	64	31	25	28	5.7	5.7
20	3.7	10	8.8	35	24	29	34	35	26	26	18	6.8
21	3.7	10	8.8	18	18	23	25	97	26	25	22	8.6
22	3.7	9.9	8.8	14	18	149	22	56	24	24	50	8.0
23	4.1	9.9	8.8	14	18	44	21	48	24	22	12	7.4
24	4.1	9.9	8.8	14	16	29	20	44	73	21	6.8	6.8
25	4.1	47	8.3	15	17	22	18	41	72	18	5.7	6.8
26	4.1	134	8.3	18	15	18	18	37	27	17	5.7	5.7
27	4.5	27	8.3	10	15	17	22	33	25	15	6.8	5.7
28	4.5	21	8.3	9.2	15	17	31	31	22	14	8.6	5.7
29	4.5	21	8.3	8.0	---	18	26	27	22	12	8.0	5.7
30	4.5	19	7.3	8.0	---	20	22	151	26	8.6	7.4	5.7
31	4.5	---	6.8	8.0	---	18	---	100	---	8.6	48	---
TOTAL	104.1	492.2	294.5	382.5	414.2	731	1546	3914	3844	595.2	304.1	1306.8
MEAN	3.36	16.4	9.50	12.3	14.8	23.6	51.5	126	128	19.2	9.81	43.6
MAX	5.4	134	17	91	31	149	562	832	1420	57	50	713
MIN	2.0	4.1	6.3	5.2	8.0	12	16	21	22	8.6	3.8	5.7
AC-FT	206	976	584	759	822	1450	3070	7760	7620	1180	603	2590

CAL YR 1978 TOTAL 10866.9 MEAN 29.8 MAX 1780 MIN 1.4 AC-FT 21550
WTR YR 1979 TOTAL 13928.6 MEAN 38.2 MAX 1420 MIN 2.0 AC-FT 27630

07328070 WINTER CREEK NEAR ALEX, OK

LOCATION.--Lat 34°59'35", long 97°45'40", in NE 1/4 sec.18, T.6 N., R.5 W., Grady County, Hydrologic Unit 11130303, at left bank 1,000 ft (304.8 m) downstream from county road bridge, 0.7 mi (1.1 km) downstream from East Winter Creek, 3.2 mi (5.2 km) upstream from mouth, and 5.5 mi (8.9 km) north of Alex.

DRAINAGE AREA.--33 mi^2 (86 km^2).

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

GAGE.--Water-stage recorder and broad crest V-notch weir. Datum of gage is 1,040.00 ft (316.992 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1977 at datum 8.20 ft (2.499 m) higher.

REMARKS.--Records fair. Flow regulated by 16 flood-retarding structures, combined capacity, 1,050 acre-ft (1.29 hm^3). Minor diversions for irrigation above station.

COOPERATION.--Records furnished by Agricultural Research Service prior to January 1978.

AVERAGE DISCHARGE.--15 years, 8.89 ft^3/s (0.252 m^3/s), 6,440 acre-ft/yr (7.94 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,080 ft^3/s (172 m^3/s) May 27, 1978 gage height, 17.35 ft (5.288 m); no flow in most years.

EXTREMES FOR CURRENT PERIODS.--Peak discharges above base of 500 ft^3/s (14.2 m^3/s) and maximum for each year (*):

WATER YEAR	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
1978	May 27, 1978	2230	*6,080	172	*17.35	5.288
1978	June 6, 1978	0500	4,230	120	16.10	4.907
1979	May 3, 1979	0630	515	14.6	13.15	4.008
1979	June 6, 1979	2030	1,130	32.0	14.07	4.288
1979	June 8, 1979	1900	*4,120	117	*16.14	4.919
1979	July 6, 1979	1215	828	23.4	13.69	4.173

Minimum daily discharge: Water year 1978, 0.20 ft^3/s (0.006 m^3/s) Sept. 14-18; water 1979 0.20 ft^3/s (0.006 m^3/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	1.3	1.6	1.2	2.0	2.7	2.1	1.6	101	4.2	1.7	.65
2	.36	1.3	1.6	1.1	2.1	2.7	2.1	2.0	85	3.2	1.5	.44
3	.42	1.4	1.6	1.2	2.3	2.5	2.1	7.9	70	2.6	1.4	.30
4	.51	1.5	1.5	1.4	2.1	2.7	2.2	6.0	65	2.1	1.3	.27
5	.89	1.5	1.5	1.4	2.1	2.5	2.3	4.2	78	1.7	1.2	.27
6	.96	1.7	1.5	1.6	2.0	2.3	7.0	3.9	699	1.5	1.1	.30
7	1.0	1.6	1.3	1.6	2.1	5.3	3.9	3.7	152	1.5	1.0	.22
8	1.0	2.2	1.5	1.3	2.6	4.4	3.3	2.9	126	1.3	1.0	.24
9	.96	2.2	1.2	1.4	2.6	3.7	9.2	2.5	104	1.1	.90	.65
10	.96	1.6	1.3	1.3	2.6	3.3	16	2.1	75	1.0	.80	.59
11	.83	1.4	1.4	1.3	2.5	3.2	7.9	2.0	60	.90	.80	.40
12	.77	1.4	1.4	1.5	11	3.0	5.8	1.6	44	.80	.70	.40
13	.83	1.3	1.5	1.9	6.5	2.9	4.9	1.4	40	.80	.60	.21
14	.77	1.3	1.4	2.2	4.2	2.9	3.5	1.2	25	.70	.60	.20
15	.83	1.3	1.4	1.9	3.3	2.7	3.0	1.2	16	.60	.50	.20
16	.89	1.3	1.4	2.2	3.0	3.0	2.9	1.1	13	.60	.49	.20
17	.89	1.3	1.4	1.7	2.2	2.7	2.9	1.1	11	.50	.40	.20
18	.89	1.3	1.4	1.1	3.2	2.6	2.3	1.2	9.8	.50	.33	.20
19	.83	1.4	1.4	2.0	2.9	2.3	2.0	1.2	9.1	.50	1.7	.21
20	.83	1.5	1.4	2.3	3.9	3.9	2.0	8.2	7.6	.50	1.5	.23
21	1.1	1.4	1.3	2.1	3.0	3.0	2.0	36	17	.40	1.4	.73
22	1.2	1.4	1.3	1.9	2.7	2.7	1.7	19	17	1.9	1.2	.81
23	2.2	1.4	1.4	2.0	2.9	2.9	1.7	16	15	1.7	1.0	.87
24	1.7	1.4	1.4	2.0	3.0	3.0	1.6	10	12	1.5	.87	.87
25	1.5	1.4	1.4	2.1	3.0	2.6	1.4	6.8	8.5	1.4	.65	2.1
26	1.5	1.4	1.4	2.3	2.7	2.3	1.4	13	7.6	1.3	.49	1.7
27	1.3	1.4	1.4	2.3	2.7	2.2	1.4	674	6.5	3.2	.44	1.2
28	1.3	1.6	1.4	2.1	2.7	2.2	1.5	345	6.0	2.8	.36	1.2
29	1.3	1.7	1.5	2.0	---	2.1	1.7	187	5.1	2.4	.36	1.0
30	1.3	1.6	1.5	2.0	---	2.1	1.7	137	4.6	2.1	.65	.95
31	1.3	---	1.5	2.0	---	2.1	---	113	---	1.8	.79	---
TOTAL	31.52	44.5	44.0	54.4	87.9	88.5	103.5	1613.8	1889.8	47.10	27.73	17.81
MEAN	1.02	1.48	1.42	1.75	3.14	2.85	3.45	52.1	63.0	1.52	.89	.59
MAX	2.2	2.2	1.6	2.3	11	5.3	16	674	699	4.2	1.7	2.1
MIN	.36	1.3	1.2	1.1	2.0	2.1	1.4	1.1	4.6	.40	.33	.20
AC-FT	63	88	87	108	174	176	205	3200	3750	93	55	35

CAL YR 1977 TOTAL 1667.42 MEAN 4.57 MAX 185 MIN .20 AC-FT 3310
WTR YR 1978 TOTAL 4050.56 MEAN 11.1 MAX 699 MIN .20 AC-FT 8030

07328070 WINTER CREEK NEAR ALEX, OK--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.79	.72	2.7	1.7	.16	2.1	3.4	3.7	5.9	17	5.4	98
2	.72	.72	2.5	1.5	2.3	2.9	3.2	7.8	5.1	13	4.0	34
3	.49	.72	2.1	1.6	2.4	4.9	3.0	117	4.7	9.8	3.7	28
4	.36	.78	2.1	1.9	2.2	3.3	2.9	52	4.1	8.4	3.4	16
5	.27	.79	2.1	2.1	2.1	2.9	2.7	27	75	7.7	3.1	11
6	.24	2.0	2.1	1.9	2.6	2.9	2.7	18	178	186	3.2	6.3
7	.24	1.5	2.1	1.9	2.7	2.7	2.6	12	102	123	2.9	5.5
8	.20	1.2	1.7	1.7	2.4	2.7	2.7	9.7	495	100	2.6	3.0
9	.36	1.1	1.8	1.8	2.2	2.5	2.7	8.0	757	80	2.3	1.4
10	.65	1.1	1.9	2.1	2.9	2.5	21	7.3	251	60	2.1	1.6
11	.72	1.0	2.0	2.2	4.2	2.3	79	6.3	195	45	1.9	1.5
12	.72	1.0	2.2	2.4	3.6	2.2	21	5.5	144	30	1.7	2.5
13	.59	1.1	2.2	2.2	3.0	2.1	15	4.9	105	20	1.5	1.5
14	.49	3.3	2.2	1.7	3.1	2.1	11	4.3	82	15	1.3	1.4
15	.59	3.8	2.1	2.0	2.9	2.0	9.2	3.8	64	10	1.2	1.5
16	.65	17	2.1	2.8	1.3	2.1	7.6	4.0	50	8.0	2.0	1.6
17	.40	4.8	1.9	4.8	1.9	2.7	6.8	3.8	39	9.0	2.9	1.4
18	.34	3.3	2.0	6.2	2.3	3.7	8.5	4.9	30	14	4.0	1.8
19	.59	2.4	2.3	4.3	2.2	4.3	7.6	5.0	26	21	30	1.6
20	.65	2.2	2.3	3.0	2.3	4.2	7.1	47	23	13	13	2.5
21	.55	2.0	2.1	2.5	2.2	3.5	6.4	69	22	7.6	45	3.0
22	.46	2.0	2.1	2.5	2.0	28	5.9	44	15	7.2	73	2.0
23	.69	1.9	2.1	2.3	2.0	11	5.5	29	13	7.0	26	1.5
24	.80	2.0	2.1	2.4	2.2	6.6	7.3	19	64	6.6	33	1.3
25	.87	16	2.2	3.3	2.3	5.2	6.6	13	92	6.4	30	1.2
26	.85	20	2.2	3.6	2.0	4.3	3.8	9.8	79	6.0	24	1.3
27	.72	5.1	2.1	2.6	1.7	3.8	4.3	8.1	60	5.6	28	1.5
28	.72	4.3	2.1	2.3	1.8	3.7	4.4	7.6	43	5.8	27	1.6
29	.72	3.9	2.1	2.2	---	3.6	4.0	6.9	32	5.6	24	1.7
30	.72	3.3	1.8	2.1	---	5.1	3.8	23	23	5.0	19	1.5
31	.69	---	1.5	1.3	---	3.6	---	8.3	---	7.8	31	---
TOTAL	17.85	111.03	64.8	76.9	64.96	135.5	271.7	569.7	3078.8	860.5	452.2	238.7
MEAN	.58	3.70	2.09	2.48	2.32	4.37	9.06	19.0	103	27.8	14.6	7.96
MAX	.87	20	2.7	6.2	4.2	28	79	117	757	186	73	98
MIN	.20	.72	1.5	1.3	.16	2.0	2.6	3.7	4.1	5.0	1.2	1.2
AC-FT	35	220	129	153	129	269	539	1170	6110	1710	897	473

CAL YR 1978 TOTAL 4124.22 MEAN 11.3 MAX 699 MIN .20 AC-FT 8180
WTR YR 1979 TOTAL 5962.64 MEAN 16.3 MAX 757 MIN .16 AC-FT 11830

07328100 WASHITA RIVER AT ALEX, OK

LOCATION.--Lat 34°55'35", long 97°46'30", in NW¼ sec.7, T.5 N., R.5 W., Grady County, Hydrologic Unit 11130303, near left bank on downstream side of county road bridge, 1.0 mile (1.6 km) north of Alex, 3.8 miles (6.1 km) downstream from Winter Creek, and at mile 226.5 (362.4 km).

DRAINAGE AREA.--4,787 mi^2 (12,398 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,000.00 ft (304.800 m) above mean sea level.

REMARKS.--Records poor. Some regulation by Fort Cobb Reservoir (station 07325900), by Foss Reservoir (07324300), and by numerous flood-retarding structures.

COOPERATION.--Records furnished by Agricultural Research Service prior to January 1978.

AVERAGE DISCHARGE.--15 years, 383 ft^3/s (10.85 m^3/s), 277,500 acre-ft/yr (342 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,350 ft^3/s (265 m^3/s) May 7, 1969, gage height, 17.83 ft (5.435 m); maximum gage height 18.34 ft (5.590 m); June 2, 1973; no flow Aug. 13-18, 1970, Aug. 30 to Sept. 1, 1971.

EXTREMES FOR CURRENT PERIODS.--Maximum discharges above base of 3,800 ft^3/s (108 m^3/s) and maximum for year (*):

WATER YEAR	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
1978	May 28, 1978	Unknown	*8,770	247	*17.50	5.334
1978	June 6, 1978	1800	8,570	243	17.04	5.194
1979	May 4, 1979	0815	4,070	115	11.81	3.600
1979	June 10, 1979	0100	*9,090	257	*17.37	5.294

Minimum daily discharge; water year 1978, 37 ft^3/s (1.05 m^3/s) Sept. 8, 20; water year 1979, 53 ft^3/s (1.50 m^3/s) Oct. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	436	153	140	184	230	155	167	4440	623	72	40
2	102	422	153	138	170	226	153	177	4220	595	68	39
3	102	346	153	137	150	218	152	365	2750	591	66	41
4	113	264	153	144	150	208	159	428	2140	583	72	44
5	126	233	153	149	165	203	167	303	2390	575	68	46
6	124	214	153	144	170	205	179	318	6830	555	72	43
7	132	206	153	144	164	228	179	368	5170	559	68	39
8	129	214	153	140	144	266	162	334	4000	496	70	37
9	127	223	155	141	137	261	164	275	3390	371	73	38
10	146	214	153	136	159	244	349	238	2770	330	68	44
11	200	206	153	130	205	230	659	220	2160	282	66	77
12	206	196	162	125	284	216	1700	339	1760	243	65	54
13	212	190	151	124	493	200	1400	337	1470	214	64	47
14	216	192	153	123	405	190	922	244	1360	176	64	44
15	221	187	148	125	312	182	686	224	1120	153	56	42
16	225	177	150	118	279	179	619	194	981	129	93	40
17	225	168	153	117	266	175	552	177	909	110	63	39
18	231	164	151	118	220	174	482	169	702	95	52	40
19	235	157	148	122	210	172	431	284	567	83	55	39
20	233	160	146	124	222	170	362	768	611	78	103	37
21	233	153	144	127	231	169	291	694	447	75	69	42
22	233	151	143	132	238	169	266	951	1180	73	64	54
23	244	148	146	137	244	170	244	487	1150	125	57	72
24	253	150	141	145	282	172	224	383	926	80	54	53
25	235	151	143	145	318	170	206	289	839	74	59	54
26	376	151	143	145	275	169	194	289	782	68	61	65
27	428	153	139	150	246	165	184	1490	727	70	54	111
28	428	153	141	160	240	162	179	7240	690	72	44	152
29	428	153	141	177	---	159	179	5310	666	70	42	138
30	433	153	141	185	---	158	170	4330	640	72	38	132
31	433	---	144	179	---	155	---	4310	---	74	41	---
TOTAL	7130	6085	4613	4321	6563	5995	11769	31702	57787	7694	1961	1743
MEAN	230	203	149	139	234	193	392	1023	1926	248	63.3	58.1
MAX	433	436	162	185	493	266	1700	7240	6830	623	103	152
MIN	101	148	139	117	137	155	152	167	447	68	38	37
AC-FT	14140	12070	9150	8570	13020	11890	23340	62880	114600	15260	3890	3460

CAL YR 1977 TOTAL 176452 MEAN 483 MAX 5660 MIN 89 AC-FT 350000
WTR YR 1978 TOTAL 147363 MEAN 404 MAX 7240 MIN 37 AC-FT 292300

07328100 WASHITA RIVER AT ALEX, OK--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	58	112	90	132	145	148	167	278	396	615	649
2	60	60	108	84	128	146	150	563	614	289	548	972
3	67	65	126	90	150	218	145	1190	873	241	614	1180
4	81	58	118	100	160	338	145	3330	575	211	808	523
5	73	60	109	110	144	229	138	2440	586	192	676	329
6	68	68	100	102	125	188	169	2560	1150	666	518	236
7	63	72	90	97	121	241	125	2100	2230	680	434	201
8	61	71	87	90	129	272	131	1420	1830	390	382	173
9	62	68	95	100	134	213	127	1060	7430	282	337	159
10	63	67	90	110	156	181	172	848	7240	243	301	146
11	61	67	84	120	190	161	1450	683	4600	223	268	137
12	64	68	90	110	236	150	909	551	4300	240	244	149
13	61	71	93	100	206	142	1050	446	4080	284	213	142
14	60	83	90	110	196	134	1140	374	2940	271	183	123
15	64	92	100	120	194	130	686	313	1920	219	170	112
16	57	129	99	140	150	130	445	267	1520	190	164	107
17	58	134	100	150	130	133	329	237	1310	495	191	106
18	57	120	108	153	135	147	324	223	1160	592	166	104
19	57	208	111	260	150	163	403	212	983	350	165	100
20	56	190	108	210	184	174	287	232	802	259	181	102
21	55	158	110	170	189	167	262	693	675	227	211	110
22	53	138	111	150	180	513	269	637	569	251	460	105
23	54	128	110	131	185	643	282	387	491	304	363	106
24	55	121	113	133	189	486	234	366	568	244	416	105
25	55	150	110	135	169	641	207	323	740	213	204	99
26	56	308	108	132	161	719	186	279	594	478	245	92
27	58	179	105	138	156	523	174	246	439	1810	212	90
28	58	161	108	143	152	335	182	229	339	1490	244	86
29	58	146	112	150	---	257	178	214	330	1100	279	84
30	57	120	115	142	---	202	172	239	504	902	234	86
31	57	---	100	136	---	173	---	543	---	748	235	---
TOTAL	1893	3418	3220	4006	4531	8294	10619	23372	51670	14480	10283	6713
MEAN	61.1	114	104	129	162	268	354	754	1722	467	332	224
MAX	84	308	126	260	236	719	1450	3330	7430	1810	808	1180
MIN	53	58	84	84	121	130	125	167	278	190	164	84
AC-FT	3750	6780	6390	7950	8990	16450	21060	46360	102500	28720	20400	13320

CAL YR 1978 TOTAL 138066 MEAN 378 MAX 7240 MIN 37 AC-FT 273900
WTR YR 1979 TOTAL 142499 MEAN 390 MAX 7430 MIN 53 AC-FT 282600

07328100 WASHITA RIVER AT ALEX, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to 1971, November 1978 to September 1979.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to September 1971.
WATER TEMPERATURE: October 1964 to September 1971.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)
NOV												
30...	1100	120	2000	7.8	10.0	--	11.4	106	24	--	--	--
DEC												
06...	1200	100	1700	8.1	4.0	9.0	12.3	97	--	--	--	--
JAN												
31...	1145	136	1700	8.3	.0	--	12.3	86	--	--	--	--
FEB												
13...	1720	206	1750	7.8	4.5	24	13.3	106	21	1137	310	775
MAR												
28...	1200	325	1300	8.2	18.0	>1000	10.4	112	115	--	--	--
APR												
10...	1310	128	1950	8.2	9.0	34	11.1	102	37	1050	280	700
MAY												
03...	1400	1140	1450	7.8	14.0	21	9.1	93	86	--	--	--
JUN												
06...	1415	760	780	8.0	24.0	175	5.9	72	72	311	98	245
JUL												
11...	1320	224	1550	7.8	31.0	28	--	--	--	--	--	--
AUG												
30...	1400	228	1500	8.3	31.5	26	8.5	113	34	649	150	375
SEP												
05...	1200	331	975	7.5	29.0	78	7.7	104	--	--	--	--

DATE	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	PUTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV												
30...	--	--	--	622	98	.4	73	.70	1.5	2.2	9.7	.410
DEC												
06...	--	--	--	696	78	.4	20	--	2.5	--	--	.485
JAN												
31...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
13...	87	--	4.9	677	95	.3	62	1.0	2.4	3.4	15	.400
MAR												
28...	--	--	--	589	26	.4	1840	1.5	6.3	7.8	35	1.700
APR												
10...	84	86	5.6	929	75	.3	118	.10	2.4	2.4	11	.400
MAY												
03...	--	--	--	537	68	.3	1167	.30	3.9	4.2	19	.805
JUN												
06...	50	33	6.8	--	37	.2	1195	--	3.5	4.2	--	.720
JUL												
11...	--	--	--	512	57	.3	136	<.50	1.6	1.6	--	.250
AUG												
30...	66	75	8.3	536	70	.3	82	<.50	2.4	2.4	--	.300
SEP												
05...	--	--	--	303	48	.2	438	.60	2.9	3.5	15	.470

07328100 WASHITA RIVER AT ALEX, OK--Continued

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV 30...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 06...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 31...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	7	3	28	10	2200	98	130	<.5	18	<1	3	19
MAR 28...	--	--	--	--	--	--	--	--	--	--	--	--
APR 10...	--	--	--	--	3500	--	220	--	--	--	--	--
MAY 03...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 06...	--	--	--	--	40000	--	1800	--	--	--	--	--
JUL 11...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 30...	<10	<2	<10	8	1040	30	110	<.5	24	<5	3	13
SEP 05...	--	--	--	--	--	--	--	--	--	--	--	--

07328500 WASHITA RIVER NEAR PAULS VALLEY, OK

LOCATION.--Lat 34°45'17", long 97°15'04", in SE¼ sec.1, T.3 N., R.1 W., Garvin County, Hydrologic Unit 11130303, on right bank 200 ft (61.0 m) upstream from bridge on U.S. Highway 77, 2 mi (3 km) northwest of Pauls Valley, 6 mi (10 km) downstream from Owl Creek, 7 mi (11 km) upstream from Washington Creek, and at mile 146.5 (235.7 km).

DRAINAGE AREA.--5,330 mi^2 (13,805 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to December 1899 (gage heights only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "at Pauls Valley, Indian Territory" in 1899.

GAGE.--Water-stage recorder. Datum of gage is 854.61 ft (260.485 m) National Geodetic Vertical Datum of 1929. During 1899, nonrecording gage at site 9 mi (14 km) downstream at different datum. Mar. 29, 1938, to Jan. 25, 1939, nonrecording gage and Jan. 26, 1939, to Oct. 6, 1948, water-stage recorder at site 0.7 mi (1.1 km) upstream at datum 1.53 ft (0.466 m) higher.

REMARKS.--Records poor. Some diversion for irrigation above station. Some regulation since March 1959, by Fort Cobb Reservoir (station 07325900), since February 1961, by Foss Reservoir (station 07324300), and by numerous flood-retarding structures.

AVERAGE DISCHARGE.--42 years, 690 ft^3/s (19.54 m^3/s), 499,900 acre-ft/yr (616 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,800 ft^3/s (1,010 m^3/s) May 18, 1957, gage height, 27.34 ft (8.333 m); maximum gage height, 29.88 ft (9.107 m) May 11, 1950; no flow at times in 1956, 1964, 1966-67, 1970-72.

EXTREMES OUTSIDE PERIOD OF RECORD.--Stream is reported to have receded to no flow in 1882 and in 1897 (from information by local resident).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft^3/s (142 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
June 7	0900	7,910	224	15.43	4.703	June 9	1700	*12,200	346	*19.50	5.944

Minimum daily discharge, 60 ft^3/s (1.70 m^3/s) Oct. 31-Nov. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	60	162	105	130	156	272	207	460	840	507	335
2	149	60	145	100	150	148	225	216	424	700	443	460
3	118	60	131	120	170	159	208	772	462	620	404	784
4	76	60	125	130	180	161	206	1980	632	580	388	673
5	65	60	127	140	160	222	204	3480	782	500	443	460
6	81	73	149	130	150	257	195	2720	2860	560	434	373
7	84	70	102	125	142	226	192	2620	6560	800	364	300
8	75	71	104	115	139	194	208	1980	3530	1100	335	250
9	72	75	114	124	130	241	175	885	9680	700	335	220
10	69	74	95	135	122	249	194	624	10200	500	335	190
11	67	73	91	145	130	209	2360	519	9990	376	332	169
12	68	69	99	140	192	188	2190	455	7320	340	334	156
13	70	72	116	132	194	172	906	402	5960	304	277	149
14	70	94	114	140	183	161	883	352	5630	370	249	151
15	69	106	116	160	170	157	836	326	3830	443	227	147
16	68	115	127	150	140	145	528	308	2580	489	206	138
17	67	144	116	140	122	151	381	281	1990	725	211	127
18	70	161	116	272	120	164	637	258	1680	1890	174	114
19	69	181	116	287	138	188	774	250	1360	1000	208	122
20	68	160	122	586	151	215	597	924	1190	600	214	125
21	67	219	127	503	160	201	682	1800	1050	500	232	125
22	65	212	129	407	171	296	439	807	892	420	395	118
23	76	186	129	323	180	480	377	696	820	370	514	114
24	72	160	131	287	168	490	326	523	740	335	364	110
25	69	150	129	262	169	415	300	456	650	326	364	110
26	65	151	127	279	167	455	270	423	1000	308	335	108
27	65	228	127	259	167	503	247	395	1400	282	256	104
28	63	255	127	244	160	439	222	356	1200	1200	266	95
29	66	204	131	220	---	361	216	385	1000	877	256	93
30	63	188	133	180	---	306	217	379	900	673	264	82
31	60	---	110	160	---	272	---	415	---	571	272	---
TOTAL	2371	3791	3787	6500	4355	7981	15469	26194	86772	19299	9938	6502
MEAN	76.5	126	122	210	156	257	516	845	2892	623	321	217
MAX	165	255	162	586	194	503	2360	3480	10200	1890	514	784
MIN	60	60	91	100	120	145	175	207	424	282	174	82
AC-FT	4700	7520	7510	12890	8640	15830	30680	51960	172100	38280	19710	12900

CAL YR 1978 TOTAL 184305 MEAN 505 MAX 11000 MIN 58 AC-FT 365600
WTR YR 1979 TOTAL 192959 MEAN 529 MAX 10200 MIN 60 AC-FT 382700

07328500 WASHITA RIVER NEAR PAULS VALLEY, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-63, 1976 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT 11...	1545	67	1390	8.4	24.0	22	9.9	119	55	--
NOV 30...	1100	194	--	7.8	10.0	--	--	--	23	--
DEC 20...	1330	1310	--	8.3	13.5	9.0	--	--	20	1262
JAN 23...	0815	1900	790	8.5	20.0	--	13.2	98	24	--
FEB 28...	1200	165	1860	8.3	9.0	6.0	--	--	10	1599
MAR 21...	0845	206	1500	6.3	14.5	37	9.8	99	53	--
APR 03...	1210	208	1120	8.3	11.0	67	9.6	89	31	642
MAY 15...	0915	332	850	7.8	20.0	--	8.6	98	43	--
JUN 14...	0830	5950	410	7.5	22.5	>1000	6.8	82	120	153
JUL 11...	0930	376	1000	8.4	28.5	50	7.5	99	--	--
AUG 02...	1250	995	1000	8.1	29.5	>1000	7.1	97	70	493
SEP 05...	0920	946	720	--	25.5	16	6.8	85	139	--

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 11...	--	--	--	--	--	591	62	.3	51
NOV 30...	--	--	--	--	--	622	98	.4	73
DEC 20...	330	825	106	120	6.5	590	120	.4	51
JAN 23...	--	--	--	--	--	--	--	.4	60
FEB 28...	250	651	77	104	5.4	807	100	.4	56
MAR 21...	--	--	--	--	--	672	67	.6	149
APR 03...	170	425	52	52	6.5	524	48	.3	236
MAY 15...	--	--	--	--	--	298	52	.2	14
JUN 14...	94	235	80	19	7.7	73	13	.2	3382
JUL 11...	--	--	--	--	--	278	40	.3	196
AUG 02...	110	275	44	28	10	343	--	.3	1425
SEP 05...	--	--	--	--	--	171	--	.2	2573

07328500 WASHITA RIVER NEAR PAULS VALLEY, OK--Continued

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 11...	.10	2.5	2.6	12	.253	--	--	--	--
NOV 30...	--	1.5	2.2	--	.410	--	--	--	--
DEC 20...	.40	1.1	1.5	6.8	.107	--	--	--	--
JAN 23...	1.1	2.6	3.7	3.7	.500	--	--	--	--
FEB 28...	1.8	1.9	3.7	16	.400	21	2	--	5
MAR 21...	.10	2.0	2.1	2.1	.400	--	--	--	--
APR 03...	1.1	2.9	4.0	4.0	.400	--	--	--	--
MAY 15...	.90	2.1	3.0	13	.655	--	--	--	--
JUN 14...	.50	5.3	5.8	26	1.950	--	--	--	--
JUL 11...	<.50	1.7	1.7	--	.250	--	--	--	--
AUG 02...	1.1	4.3	5.4	24	1.100	7	7	76	32
SEP 05...	1.1	6.7	7.8	35	1.650	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 11...	--	--	--	--	--	--	--	--	16
NOV 30...	--	--	--	--	--	--	--	--	--
DEC 20...	--	--	40	--	--	--	--	--	--
JAN 23...	--	--	--	--	--	--	--	--	--
FEB 28...	1430	47	40	<.5	17	<1	2	10	--
MAR 21...	--	--	--	--	--	--	--	--	--
APR 03...	5900	--	290	--	--	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--
JUN 14...	--	--	2500	--	--	--	--	--	--
JUL 11...	--	--	--	--	--	--	--	--	--
AUG 02...	33000	57	1360	<.5	57	<5	4	100	--
SEP 05...	--	--	--	--	--	--	--	--	--

07329700 WILDHORSE CREEK NEAR HOOVER, OK

LOCATION.--Lat 34°32'29", long 97°14'49", on west line of SW¼ sec.19, T.1 N., R.1 E., Garvin County, Hydrologc Unit 11130303, on downstream left bank at bridge on State Highway 19A, 1.5 mi (2.4 km) north of Hoover, 1.8 mi (2.9 km) downstream from Sandy Creek, and at mile 7.9 (12.7 km).

DRAINAGE AREA.--604 mi^2 (1,564 km^2).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1944, 1951-69. October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 803.3 ft (244.85 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Duncan, Clear Creek, Humphries and Fuqua Lakes, combined surface-area, 3,340 acres (13.5 km^2), and capacity, 44,800 acre-ft (55.2 hm^3), and numerous flood-retarding structures.

AVERAGE DISCHARGE.--10 years, 178 ft^3/s (5.041 m^3/s), 129,000 acre-ft/yr (159 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,700 ft^2/s (530 m^3/s) May 20, 1977, gage height, 24.70 ft (7.529 m); no flow at times.

EXTREMES FOR CURRENT YEAR.-Peak discharges above base of 4,000 ft^3/s (113 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGES (ft^3/s)	DISCHARGES (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
June 7	0700	4,520	128	15.12	4.609	June 9	1045	*13,900	394	*23.22	7.077

No flow Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.09	3.4	3.1	7.8	9.1	100	7.5	57	67	15	46
2	1.2	.20	2.9	2.7	9.0	9.5	112	6.8	52	55	17	13
3	1.2	.00	2.2	2.8	11	12	48	99	30	48	17	8.1
4	1.1	.34	2.1	3.0	11	15	37	142	18	42	16	6.5
5	1.1	.37	1.9	2.9	9.2	16	31	59	117	39	20	5.2
6	1.1	3.2	1.8	2.8	9.5	15	27	39	2030	222	18	4.3
7	1.1	5.1	2.1	2.9	10	14	24	30	3700	171	17	3.9
8	1.1	2.8	1.8	2.6	11	13	22	24	1530	54	14	3.4
9	1.1	2.2	1.7	2.8	8.3	12	21	20	7390	47	12	3.2
10	1.1	1.9	1.7	3.1	8.5	10	21	18	3670	38	11	2.9
11	1.1	1.9	1.7	3.2	11	9.5	171	15	2150	31	17	2.9
12	1.1	1.9	1.8	3.5	17	8.9	86	14	1280	30	16	2.9
13	1.2	2.0	1.9	3.2	21	8.6	37	13	967	24	12	2.9
14	1.1	2.3	1.8	2.9	21	8.4	29	12	811	27	10	3.5
15	1.1	2.6	1.9	3.7	18	8.1	23	9.8	693	26	11	2.9
16	1.0	8.4	1.9	4.9	13	8.7	18	8.7	521	30	11	2.5
17	1.0	6.4	2.0	5.6	9.5	14	15	7.6	382	43	8.5	2.5
18	1.0	4.4	2.1	9.7	10	26	32	7.3	326	43	8.0	2.5
19	1.0	3.5	2.1	186	11	111	70	6.8	283	53	14	3.2
20	.90	2.8	2.3	50	11	241	45	102	243	44	193	6.7
21	1.0	2.5	2.5	34	12	114	46	1440	210	35	27	6.8
22	1.0	2.3	2.5	24	12	436	39	329	166	31	127	7.3
23	3.5	2.3	2.5	19	11	357	30	168	132	28	48	5.3
24	2.9	2.3	2.5	13	10	143	18	99	99	26	21	4.0
25	2.0	3.0	2.3	13	9.9	96	14	57	115	24	15	3.4
26	1.2	24	2.3	27	9.6	75	10	35	467	22	19	3.2
27	.96	50	2.3	28	9.2	61	8.7	24	175	21	9.8	2.5
28	.35	15	2.3	16	9.1	53	8.9	16	132	19	7.6	2.5
29	.33	6.8	2.3	16	---	49	9.1	17	105	17	6.7	2.2
30	.13	4.4	2.3	15	---	44	8.7	86	88	17	5.7	1.8
31	.07	---	2.9	11	---	37	---	254	---	16	5.5	---
TOTAL	35.44	165.00	67.8	517.4	320.6	2034.8	1161.4	3166.5	27939	1390	749.8	168.0
MEAN	1.14	5.50	2.19	16.7	11.5	65.6	38.7	102	931	44.8	24.2	5.60
MAX	3.5	50	3.4	186	21	436	171	1440	7390	222	193	46
MIN	.07	.00	1.7	2.6	7.8	8.1	8.7	6.8	18	16	5.5	1.8
AC-FT	70	327	134	1030	636	4040	2300	6280	55420	2760	1490	333

CAL YR 1978 TOTAL 36278.14 MEAN 99.4 MAX 5130 MIN .00 AC-FT 71960
WTR YR 1979 TOTAL 37715.74 MEAN 103 MAX 7390 MIN .00 AC-FT 74810

07331000 WASHITA RIVER NEAR DURWOOD, OK

LOCATION.--Lat 34°13'59", long 96°58'38" in SE¼SW¼ sec.3, T.4 S., R.3 E., Carter County, Hydrologic Unit 11130303, on right bank 500 ft (152.4 m) upstream from bridge on U.S. Highway 177, 1.2 mi (1.9 km) downstream from Caddo Creek, 4.0 mi (6.4 km) north of Durwood, 12.0 mi (19.3 km) northeast of Ardmore, and at mile 63.5 (102.2 km).

DRAINAGE AREA.--7,202 mi^2 (18,653 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1281: 1935 (m).

GAGE.-Water-stage recorder. Datum of gage is 650.57 ft (198.294 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Feb. 16, 1939, nonrecording gage at site 500 ft (152.4 m) downstream at same datum. Dec. 15, 1950, to Feb. 19, 1952, nonrecording gage at same site and datum. Feb. 20, 1952 to Apr. 23, 1975 water-stage recorder at site 500 ft (152.4 m) downstream at same datum.

REMARKS.--Records fair. Some diversions above station for irrigation. Some regulation since March 1959 by Fort Cobb Reservoir (station 07325900), since February 1961 by Foss Reservoir (station 07324300), and by numerous flood-retarding structures.

AVERAGE DISCHARGE.--51 years, 1,377 ft^3/s (39.00 m^3/s) 997,600 acre-ft/yr (1.23 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 98,000 ft^3/s (2,780 m^3/s) May 19, 1957; gage height, 42.30 ft (12.893 m), from flood mark; maximum gage height, 44.37 ft (13.524 m) Oct. 31, 1941; no flow Aug. 28, Sept. 14 to Oct. 1, Oct. 7-12, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft^3/s (283 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
May 21	1030	11,000	312	16.85	5.136	June 10	1345	*32,400	918	*28.31	8.629
June 8	0145	22,700	643	23.78	7.248						

Minimum daily discharge, 71 ft^3/s (2.01 m^3/s) Oct. 17, 18, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	79	265	129	160	287	700	479	826	947	910	541
2	112	80	236	128	150	295	1020	463	555	883	800	790
3	131	80	213	166	250	619	772	879	549	804	719	576
4	120	81	194	156	210	468	623	1510	449	681	640	1000
5	115	81	178	144	180	382	559	2310	826	586	583	1290
6	94	90	172	135	170	351	467	2600	6740	531	579	809
7	85	106	172	171	160	390	423	2370	14200	722	659	603
8	80	109	181	159	170	385	412	2340	15600	1060	613	499
9	82	107	153	187	190	352	401	1900	18700	1040	542	409
10	85	100	148	175	213	320	401	1510	30500	762	500	348
11	86	100	146	166	252	345	620	1320	21700	641	474	313
12	82	100	149	162	286	339	2320	1050	14300	556	452	281
13	79	100	149	150	284	310	1900	916	11100	495	454	258
14	74	101	149	150	322	292	1380	812	9680	444	415	234
15	73	113	143	190	325	276	1460	723	8280	422	387	213
16	73	175	148	190	322	276	1410	645	6440	431	362	210
17	71	225	149	186	289	504	1070	597	5250	460	350	211
18	71	194	150	229	243	659	1190	546	4430	1040	320	200
19	71	182	151	654	253	2180	1570	510	3650	1810	315	201
20	74	176	158	650	260	3780	1460	526	2540	1180	415	202
21	75	183	155	650	258	2020	1380	7720	2080	866	670	206
22	74	176	148	634	275	2930	1410	4410	1700	660	576	200
23	91	218	148	509	297	3520	1040	2970	1460	560	770	195
24	98	242	151	421	300	1950	874	1940	1310	504	892	183
25	92	234	151	350	311	1510	792	1370	1180	471	740	175
26	89	338	151	280	289	1160	719	1090	1560	470	601	172
27	84	460	147	250	286	1010	627	871	1570	457	566	170
28	81	348	147	220	292	1040	571	701	1350	420	479	166
29	80	336	147	190	---	965	530	584	1150	1350	393	158
30	78	320	149	170	---	812	494	634	1030	1300	387	153
31	78	---	153	163	---	747	---	757	---	1040	389	---
TOTAL	2658	5234	5051	8114	6997	30474	28595	47053	190705	23593	16952	10966
MEAN	85.7	174	163	262	250	983	953	1518	6357	761	547	366
MAX	131	460	265	654	325	3780	2320	7720	30500	1810	910	1290
MIN	71	79	143	128	150	276	401	463	449	420	315	153
AC-FT	5270	10380	10020	16090	13880	60450	56720	93330	378300	46800	33620	21750

CAL YR 1978 TOTAL 325180 MEAN 891 MAX 26300 MIN 71 AC-FT 645000
WTR YR 1979 TOTAL 376392 MEAN 1031 MAX 30500 MIN 71 AC-FT 746600

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1944 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1944 to current year.
WATER TEMPERATURE: April 1947 to current year.

REMARKS.--Samples were collected by a local observer on a daily basis. Partial analyses were made on at least one sample each month. An additional sample was collected monthly and specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Monthly samples were collected by the U.S. Geological Survey and selected parameters were analyzed by Oklahoma State Department of Health.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,120 micromhos Nov. 15, 1963; minimum daily, 95 micromhos Nov. 2, 1951.
WATER TEMPERATURE: Maximum daily, 37.0°C July 18, 1964; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,890 micromhos Oct. 11; minimum daily, 284 micromhos June 10.
WATER TEMPERATURE: Maximum daily, 35.0°C June 29; minimum daily, 0.5°C on Jan. 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 11...	1200	86	2170	8.0	19.0	14	9.4	102	130	--	--	--
DEC 20...	--	158	--	--	--	--	--	--	--	--	--	--
JAN 22...	1515	619	1410	7.4	7.0	32	11.1	95	340	580	--	--
FEB 27...	1400	284	1560	8.5	10.0	5.4	13.5	122	K13	43	730	550
MAR 20...	1430	3658	420	7.6	16.0	630	8.5	88	K13000	K13000	190	63
APR 02...	1430	1020	712	7.7	15.0	640	9.1	91	K7700	K9100	290	160
MAY 14...	1250	802	870	7.7	23.0	250	8.5	100	K420	650	360	230
JUN 13...	1515	10800	370	7.6	24.0	1300	6.7	82	2600	3600	150	47
JUL 10...	1455	738	690	8.2	31.0	150	7.2	99	K120	290	280	120
AUG 01...	1455	900	720	8.2	32.0	1200	7.4	103	K730	680	320	210
SEP 04...	1445	1160	880	7.7	30.5	370	7.2	97	2200	700	390	260

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 11...	--	84	110	--	--	--	7.2	170	740	120	.4	5.5
DEC 20...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 22...	--	54	73	--	--	--	4.2	160	470	81	.3	8.5
FEB 27...	190	61	80	19	1.3	--	4.2	180	510	92	.4	6.6
MAR 20...	59	11	18	17	.6	--	3.7	130	63	27	.3	6.3
APR 02...	80	22	33	20	.8	--	3.9	130	160	39	.3	6.6
MAY 14...	100	27	41	20	.9	47	5.5	130	260	52	.5	9.8
JUN 13...	39	12	17	19	.6	23	5.9	100	55	21	.3	7.3
JUL 10...	69	27	31	19	.8	36	5.3	160	140	35	.3	9.4
AUG 01...	85	26	26	15	.6	33	6.6	110	230	27	.4	.2
SEP 04...	94	37	51	22	1.1	57	6.1	130	320	44	.2	7.0

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
OCT												
11...	1460	--	1.99	339	.02	.01	--	.99	1.0	.37	.63	1.0
DEC												
20...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
22...	1040	--	1.41	1740	.73	.59	--	2.2	2.8	1.7	1.1	3.5
FEB												
27...	1160	1050	1.58	889	.50	.27	--	.70	.97	.36	.61	1.5
MAR												
20...	252	266	.34	2490	.34	.15	--	2.1	2.2	1.5	.74	2.5
APR												
02...	417	423	.57	1150	.92	.03	--	3.0	3.0	2.5	.46	3.9
MAY												
14...	622	574	.85	1350	.81	.02	.02	1.6	1.6	.00	2.3	2.4
JUN												
13...	237	218	.32	6910	.56	.03	.04	4.8	4.8	3.4	1.4	5.4
JUL												
10...	436	413	.59	869	.48	.00	.00	.76	.76	.00	2.6	1.2
AUG												
01...	491	468	.67	1190	1.6	.01	.01	4.4	4.4	3.6	.79	6.0
SEP												
04...	615	637	.84	1960	.45	.34	.41	.37	.71	.67	.04	1.2

DATE	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS PO4)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT												
11...	4.5	.230	--	--	.050	--	--	--	--	--	--	--
DEC												
20...	--	--	--	--	--	--	--	--	--	200	85	79
JAN												
22...	16	.530	--	--	.200	--	21	--	--	2000	3340	39
FEB												
27...	6.5	.130	--	--	.090	--	--	5.2	2.2	196	150	77
MAR												
20...	11	.530	--	--	.050	4700	29	--	--	2100	20700	94
APR												
02...	17	.570	--	--	.070	--	--	--	--	1700	4680	78
MAY												
14...	11	.460	1.4	1.4	.080	650	--	--	--	398	862	96
JUN												
13...	24	.570	1.7	1.7	.080	--	--	--	--	6950	203000	93
JUL												
10...	5.5	.210	--	.64	.070	25000	19	--	--	346	689	98
AUG												
01...	27	.600	--	1.8	.150	1300	--	--	--	2020	4910	97
SEP												
04...	5.1	.520	--	1.6	.050	130000	23	--	--	1170	3730	99

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, SUS-PENDED RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM SUS-PENDED RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, SUS-PENDED RECOV. (UG/L AS CR)
FEB										
27...	4	4	100	0	100	1	1	0	0	0
MAY										
14...	7	4	400	200	200	0	0	0	50	30
AUG										
01...	7	3	700	500	200	1	0	<1	70	60

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
FEB 27...	0	2	2	0	11	10	1	400	380	20
MAY 14...	20	9	7	2	20	16	4	14000	14000	20
AUG 01...	10	21	18	<3	61	57	4	37000	37000	0

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV, (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)
FEB 27...	23	23	0	60	40	20	.1	.1	.0
MAY 14...	46	46	0	900	890	10	.2	.2	.0
AUG 01...	49	45	4	2000	2000	<1	.2	.2	.0

DATE	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
FEB 27...	1	0	1	0	0	0	30	10	20
MAY 14...	1	0	1	0	0	0	80	60	20
AUG 01...	1	0	1	0	0	4	200	200	<3

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAR 20,79	MAY 14,79	JUL 10,79	AUG 1,79	SEP 4,79
TIME	1430	1250	1455	1455	1445
TOTAL CELLS/ML	4700	650	25000	1300	130000
DIVERSITY: DIVISION	1.4	0.7	1.8	0.7	0.7
.CLASS	1.4	0.7	1.8	0.7	0.7
..ORDER	2.5	0.7	2.3	0.7	1.3
...FAMILY	2.5	0.7	2.7	0.7	2.0
....GENUS	2.5	0.7	3.3	0.7	2.2

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	2200	9	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	--	-	3000	2
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	--	-	400	2	--	-	*	0
....CLOSTERIOPSIS	--	-	--	-	130	1	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	130	1	--	-	--	-
....OOCYSTIS	--	-	--	-	540	2	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	--	-	760	1
....SCENEDESMUS	780#	17	520#	80	940	4	1000#	80	3800	3
....TETRASTRUM	--	-	--	-	1300	5	--	-	--	-
..TETRASPORALES										
...PALMELLACEAE										
....GLOEOCYSTIS	1000#	22	--	-	--	-	--	-	--	-
....SPHAEROCYSTIS	--	-	--	-	1100	4	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	390	8	--	-	540	2	--	-	--	-
...PHACOTACEAE										
....PHACOTUS	--	-	--	-	270	1	--	-	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	650	14	--	-	7400#	29	260#	20	3400	3
....MELOSIRA	--	-	--	-	940	4	--	-	--	-
..PENNALES										
...FRAGILARIACEAE										
....SYNEDRA	--	-	--	-	--	-	--	-	*	0
...NAVICULACEAE										
....NAVICULA	--	-	--	-	--	-	--	-	*	0
...NITZSCHIACEAE										
....NITZSCHIA	1300#	28	130#	20	940	4	--	-	5700	4
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	130	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	4300#	17	--	-	--	-
....ANACYSTIS	520	11	--	-	2700	11	--	-	19000	14
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	24000#	18
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	--	-	--	-	4600	3
....SCHIZOTHRIX	--	-	--	-	--	-	--	-	67000#	50
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	1100	4	--	-	*	0
....PHACUS	--	-	--	-	130	1	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1410	1560	1060	---	1350	1520	944	1200	910	943	743	1140
2	1450	1620	---	1720	1300	1550	711	1280	881	1010	824	1120
3	1560	1650	913	1880	1370	931	708	772	803	1200	910	904
4	1660	1640	1020	---	1460	1090	728	948	1040	1280	899	939
5	1650	1650	1180	---	1640	1140	786	1010	1000	1290	1030	836
6	1620	1550	1240	---	1560	1260	859	882	385	1290	1090	---
7	1610	1530	1260	---	1380	---	890	948	288	1310	1150	803
8	1710	1540	1420	1870	1300	1520	961	997	334	1030	1240	758
9	1840	1590	1390	1800	1410	1480	970	623	355	859	1310	778
10	1810	1590	1410	1830	1410	1400	983	641	284	734	1320	800
11	1890	1640	1500	1800	---	1240	923	679	396	749	1200	890
12	1720	1630	1560	1790	---	1560	615	764	430	790	1220	947
13	1500	1600	1540	1790	1370	1460	606	903	415	894	1240	---
14	1410	1670	1540	---	1320	1530	747	905	423	1010	1190	1060
15	1410	1640	1690	1860	1390	1520	879	903	416	1080	1200	1090
16	1410	1300	1590	1780	1480	1690	1100	886	456	1140	1250	1130
17	1270	1400	1700	1800	1510	852	992	911	463	1140	1270	1210
18	1250	1580	1730	1760	1480	834	698	988	471	873	1270	1290
19	1350	1500	1690	1090	1510	345	633	1010	509	678	1290	1300
20	1460	1430	1700	1020	1420	454	466	1050	543	571	1300	1280
21	1580	1510	1720	1200	1470	578	538	347	600	667	1260	1340
22	1610	1520	1680	1430	1500	425	---	368	637	759	917	1300
23	1480	1560	1720	1310	1510	549	517	454	672	747	---	1310
24	1480	1560	1720	831	1510	593	---	598	798	858	1080	1310
25	1430	1560	1770	711	1490	838	769	573	848	909	965	1440
26	1410	1340	1740	825	1530	765	869	566	903	989	663	1380
27	1390	1160	1720	942	1570	946	980	631	667	1100	915	1380
28	1390	1280	1690	1100	1600	1230	1040	796	803	1200	836	1380
29	1470	1180	1700	1190	---	1490	1110	980	821	1310	792	1330
30	1490	1080	1730	1290	---	1030	1120	1060	866	884	818	1290
31	1540	---	---	1360	---	866	---	924	---	767	976	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.0	21.0	14.0	---	3.5	14.0	20.0	23.0	27.0	31.0	31.0	32.0
2	28.0	23.0	---	4.0	5.0	11.0	16.0	20.0	24.0	31.0	31.0	32.0
3	26.0	25.0	12.0	3.0	5.0	11.0	15.0	18.0	25.0	32.5	31.0	31.0
4	28.0	17.0	8.0	---	9.0	12.0	18.0	18.0	29.0	32.5	31.0	32.0
5	22.0	21.0	12.0	---	5.0	15.0	20.0	21.0	26.0	33.0	34.0	32.0
6	24.0	18.0	7.0	---	4.0	15.0	20.0	20.0	25.0	28.0	34.0	---
7	24.0	12.5	5.0	---	6.0	---	21.0	22.0	25.0	30.5	33.0	31.0
8	23.0	17.0	7.0	2.0	5.0	17.0	21.0	21.0	27.0	32.5	34.0	28.0
9	26.0	18.0	5.0	2.0	5.0	15.0	23.0	25.0	---	33.0	32.0	29.0
10	24.0	20.5	7.0	3.0	9.0	17.0	17.0	24.0	25.0	34.0	30.0	25.0
11	27.0	16.5	11.0	3.0	---	17.0	21.0	19.0	26.0	31.0	28.0	28.0
12	28.0	17.0	7.0	5.0	---	17.0	19.0	21.5	27.0	34.0	30.0	28.0
13	22.0	---	9.0	.5	11.0	21.5	20.0	23.5	28.0	33.5	30.0	---
14	22.0	16.0	7.0	---	10.0	17.0	22.0	24.0	28.0	33.0	32.0	25.0
15	22.0	11.5	13.0	2.5	10.0	16.0	23.0	25.0	---	30.0	32.0	---
16	24.0	12.0	13.0	4.5	6.0	13.0	24.0	27.0	27.0	33.0	33.0	26.0
17	23.0	14.0	14.0	9.0	5.0	11.0	24.0	26.0	27.0	31.0	33.0	26.0
18	23.0	20.0	13.0	7.0	9.0	17.0	19.0	27.0	---	27.0	33.0	23.5
19	22.0	15.0	16.0	10.0	---	15.0	20.5	27.0	28.0	27.0	32.0	23.0
20	26.0	12.0	14.0	9.0	6.0	11.0	21.0	27.0	30.0	27.5	---	22.0
21	24.0	12.0	15.0	10.0	10.0	17.0	23.0	22.0	32.0	31.0	30.0	26.0
22	24.0	14.0	7.0	8.0	14.0	19.0	---	22.0	30.5	31.0	30.5	27.0
23	17.0	16.0	12.0	7.0	15.0	16.0	23.0	24.0	31.0	31.0	---	26.0
24	15.0	17.0	14.0	6.0	7.0	15.0	---	24.0	28.0	33.0	---	27.5
25	25.0	16.0	10.0	6.0	10.0	17.0	24.0	23.5	30.0	32.0	30.5	25.0
26	21.0	16.5	11.0	5.0	12.0	19.0	23.5	23.0	29.0	28.0	29.0	25.0
27	20.0	15.0	11.0	7.0	16.0	18.0	18.0	27.0	29.0	27.0	32.0	26.0
28	15.0	14.0	8.5	4.5	12.0	18.0	17.0	27.0	31.0	31.0	28.0	27.0
29	23.0	15.0	10.0	2.5	---	20.0	22.0	27.0	35.0	33.0	32.0	27.0
30	17.0	12.0	7.5	4.0	---	23.0	24.0	23.0	30.0	33.0	32.0	30.0
31	22.0	---	---	2.5	---	21.0	---	26.5	---	31.0	27.0	---

07331500 LAKE TEXOMA NEAR DENISON, TX

LOCATION.--Lat 33°49'05", long 96°34'20", in NE¼ sec.33, T.8 S., R.7 E., Bryan County, Okla., Hydrologic Unit 11130210, in control tower of Denison Dam on Red River, 1.2 mi (1.9 km) upstream from Shawnee Creek, 1.8 mi (2.9 km) upstream from Sand Creek, 4.0 mi (6.4 km) northwest of Denison, and at mile 725.9 (1,168.0 km).
DRAINAGE AREA.--39,719 mi^2 (102,872 km^2), of which 5,936 mi^2 (15,374 km^2) is probably noncontributing.
PERIOD OF RECORD.--July 1942 to current year. Month-end contents only for some periods, published in WSP 1311.
REVISED RECORDS.--WSP 1211: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929. Prior to Mar. 30, 1944, nonrecording gage at same site and datum. Prior to Oct. 1, 1948, supplementary nonrecording gage in Cumberland pool at the same datum.
REMARKS.--Reservoir is formed by a rolled-fill earth dam. The controlled outlet consists of eight 20-feet diameter conduits and the uncontrolled outlet is a concrete ogee-type weir spillway. Flow was diverted through conduits July 27, 1942; regulated storage began Oct. 31, 1943; power-pool was first filled March 15, 1945. Capacity, based on 1969 survey, 5,312,000 acre-ft (6.55 km^3) at elevation 640.0 ft (195.07 m), crest of spillway, 2,643,000 acre-ft (3.26 km^3) at elevation 617.0 ft (188.06 m), maximum power pool, 1,031,000 acre-ft (1.27 km^3) at elevation 590.0 ft (179.83 m), minimum power pool, in Denison pool. Dead storage, 11,000 acre-ft (13.6 hm^3) at elevation 610.0 ft (185.93 m) in Cumberland pool. When contents are below 2,105,000 acre-ft (2.60 km^3), the reservoir is divided into two pools by protective levees around the Cumberland oilfield on the Washita River arm with bottom of outlet channel for the upper pool (known as Cumberland pool) at elevation 610 ft (185.9 m). At higher elevations the two pools are considered as being at a common level, contents being computed from gage in Denison pool. Figures given herein represent total contents of both pools. Reservoir is used principally for flood control and power development. Revised capacity table, based on survey in 1969, used since Oct. 1, 1977.
COOPERATION.--Records furnished by Corps of Engineers.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,991,300 acre-ft (7.39 km^3) June 5, 1957, elevation, 643.18 ft (196.041 m). Minimum contents since power pool was first filled, 1,565,100 acre-ft (1.93 km^3) Sept. 16, 1964; minimum elevation, 599.96 ft (182.868 m) Mar. 1, 2, 1957.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,957,000 acre-ft (3.65 km^3) June 14, elevation, 620.38 ft (189.092 m). Minimum, 2,103,000 acre-ft (2.59 km^3) Jan. 16, elevation, 609.97 ft (185.919 m).

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

609	2,037,000	614	2,399,000
610	2,105,000	617	2,643,000
612	2,248,000	621	3,018,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2286000	2208000	2196000	2148000	2141000	2170000	2550000	2595000	2727000	2706000	2667000	2680000
2	2285000	2205000	2202000	2132000	2136000	2170000	2554000	2593000	2728000	2704000	2666000	2689000
3	2286000	2202000	2196000	2130000	2138000	2185000	2559000	2596000	2726000	2698000	2667000	2693000
4	2285000	2203000	2193000	2130000	2140000	2186000	2560000	2588000	2723000	2696000	2664000	2692000
5	2289000	2202000	2191000	2129000	2140000	2184000	2560000	2590000	2729000	2692000	2665000	2692000
6	2285000	2204000	2190000	2130000	2150000	2182000	2562000	2594000	2727000	2691000	2660000	2689000
7	2282000	2194000	2184000	2130000	2146000	2181000	2563000	2602000	2734000	2693000	2656000	2686000
8	2279000	2190000	2176000	2119000	2149000	2182000	2568000	2616000	2766000	2696000	2655000	2685000
9	2275000	2187000	2171000	2119000	2145000	2185000	2567000	2630000	2792000	2697000	2652000	2688000
10	2272000	2192000	2169000	2119000	2147000	2186000	2576000	2654000	2805000	2697000	2650000	2683000
11	2268000	2190000	2169000	2117000	2150000	2187000	2594000	2661000	2850000	2694000	2649000	2680000
12	2265000	2188000	2166000	2115000	2150000	2184000	2602000	2656000	2906000	2684000	2648000	2678000
13	2263000	2190000	2166000	2117000	2145000	2182000	2608000	2648000	2947000	2680000	2644000	2673000
14	2261000	2194000	2161000	2107000	2144000	2182000	2614000	2641000	2952000	2680000	2643000	2660000
15	2261000	2213000	2159000	2105000	2153000	2179000	2625000	2634000	2929000	2682000	2641000	2659000
16	2256000	2220000	2161000	2104000	2147000	2179000	2632000	2636000	2895000	2678000	2641000	2657000
17	2252000	2219000	2159000	2106000	2147000	2179000	2634000	2638000	2856000	2685000	2642000	2653000
18	2250000	2219000	2157000	2117000	2149000	2188000	2648000	2634000	2822000	2686000	2642000	2643000
19	2248000	2219000	2156000	2126000	2151000	2242000	2641000	2629000	2807000	2686000	2651000	2638000
20	2245000	2219000	2159000	2135000	2154000	2302000	2637000	2626000	2800000	2685000	2648000	2634000
21	2242000	2213000	2152000	2130000	2156000	2329000	2637000	2681000	2793000	2686000	2647000	2620000
22	2245000	2208000	2150000	2130000	2164000	2373000	2636000	2733000	2779000	2691000	2650000	2613000
23	2244000	2210000	2157000	2135000	2162000	2393000	2635000	2747000	2766000	2687000	2642000	2611000
24	2237000	2206000	2151000	2131000	2172000	2414000	2626000	2766000	2751000	2684000	2641000	2605000
25	2234000	2208000	2153000	2138000	2175000	2432000	2623000	2776000	2738000	2680000	2643000	2597000
26	2226000	2219000	2150000	2143000	2171000	2456000	2609000	2775000	2734000	2680000	2645000	2588000
27	2221000	2209000	2146000	2145000	2171000	2468000	2605000	2768000	2727000	2678000	2646000	2576000
28	2220000	2208000	2146000	2145000	2172000	2475000	2600000	2757000	2718000	2676000	2649000	2567000
29	2220000	2205000	2149000	2146000	---	2494000	2600000	2745000	2707000	2677000	2650000	2566000
30	2215000	2201000	2151000	2151000	---	2522000	2597000	2721000	2705000	2674000	2660000	2558000
31	2209000	---	2154000	2142000	---	2531000	---	2731000	---	2671000	2673000	---
MAX	2289000	2220000	2202000	2151000	2175000	2531000	2648000	2776000	2952000	2706000	2673000	2693000
MIN	2209000	2187000	2146000	2104000	2136000	2170000	2550000	2588000	2705000	2671000	2641000	2558000
†	611.46	611.35	610.70	610.53	610.94	615.68	616.47	617.98	617.69	617.31	617.34	616.02
‡	-80,000	-8,000	-47,000	-12,000	+30,000	+359,000	+66,000	+134,000	-26,000	-34,000	+2,000	-115,000

CAL YR 1978 MAX 2908000 MIN 2067000 ‡ -94000
WTR YR 1979 MAX 2952000 MIN 2104000 ‡+269000

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

07331600 RED RIVER AT DENISON DAM NEAR DENISON, TX

LOCATION.--Lat 33°49'08", long 96°33'47", Grayson County, Hydrologic Unit 11140101, on right bank 1,800 ft (548.6 m) downstream from Denison Dam powerhouse, 0.4 mi (0.6 km) upstream from Shawnee Creek (spillway flow return), 4.5 mi (7.2 km) north of Denison, and at mile 725.5 (1,167.3 km).

DRAINAGE AREA.--39,720 mi^2 (102,875 km^2), of which 5,936 mi^2 (15,374 km^2) is probably noncontributing. At site used prior to October 1961, drainage area 39,777 mi^2 (103,022 km^2), of which 5,936 mi^2 (15,374 km^2) was probably noncontributing.

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1934, published as "near Denison, Tex.", and October 1934 to September 1961, published as "near Colbert, Okla.". Gage-height records collected at various sites in this vicinity 1892-93, 1906-28, 1931-49 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 807: 1935 (M). WSP 1211: Drainage area. WSP 1241: 1924-29, 1932-33, 1934 (M), 1935.

GAGE.--Water-stage recorder. Datum of gage is 500.00 ft (152.400 m) National Geodetic Vertical Datum of 1929. Oct. 9, 1923, to Sept. 24, 1934, nonrecording gage, and July 29, 1942, to Sept. 30, 1961, water-stage recorder at county road bridge 2.5 miles (4.0 km) downstream at datum 6.85 ft (2.088 m) higher prior to Oct. 1, 1931, at datum 7.07 ft (2.155 m) higher Oct. 1, 1931, to Sept. 24, 1934, and at datum 2.64 ft (0.805 m) lower July 29, 1942, to Sept. 30, 1961. Sept. 25, 1934, to July 28, 1942, water-stage recorder at railway bridge 1.9 miles (3.1 km) downstream at datum 7.36 ft (2.243 m) higher.

REMARKS.--Records fair. Flow regulated since October 1943 by Lake Texoma (station 07331500).

COOPERATION.--Gage-height record and 11 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(Prior to regulation by Denison Dam) 20 years, 1924-43, 5,684 ft^3/s (161 m^3/s), 4,118,000 acre-ft/yr (5.08 km^3/yr); (since regulation by Denison Dam) 35 years (water years 1945-1979), 4,303 ft^3/s (121.9 m^3/s), 3,118,000 acre-ft/yr (3.84 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 201,000 ft^3/s (5,690 m^3/s) May 21, 1935, gage height, 31.8 ft (9.69 m) at site and datum then in use; maximum gage height, 32.0 ft (9.75 m) Apr. 25, 1942 (at site and datum used in 1943); minimum daily discharge, 12 ft^3/s (0.340 m^3/s) Jan. 10, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 26, 1908, reached a stage of 45.5 ft (13.87 m) at site and datum used July 29, 1942, to Sept. 30, 1961, from records of U.S. Weather Bureau.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,800 ft^3/s (872 m^3/s) June 14, 16, gage height, 15.04 ft (4.584 m); minimum daily, 50 ft^3/s (1.42 m^3/s) Oct.22, May 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2100	1100	2740	1220	381	1420	1190	2220	10500	2300	2560	2270
2	1960	1050	100	5480	3290	821	674	3640	5860	3850	2650	1020
3	185	1040	1100	1210	137	940	1840	4470	5800	5600	1380	1140
4	71	118	972	956	60	165	297	2460	5830	3090	2130	3410
5	89	719	975	931	526	2520	1480	145	6450	3910	264	3340
6	2070	1030	1330	111	394	1610	1220	121	8690	5310	3560	3120
7	1170	2450	3710	68	350	1600	2150	104	10400	2380	3550	3440
8	1210	650	3050	2800	807	77	78	80	10700	166	2260	239
9	1120	99	581	604	1680	54	81	50	11000	2760	2150	117
10	1860	66	83	541	66	59	80	1830	11000	4140	3510	2690
11	2620	70	612	566	65	443	67	4960	12500	4500	194	1980
12	1420	69	821	570	713	1010	75	5360	20600	5980	122	2380
13	1450	74	577	2250	2550	2860	73	5400	27500	5080	2500	2870
14	97	80	1720	1760	753	117	73	5070	30700	702	1430	4760
15	75	115	568	747	523	2840	299	4820	30500	131	1390	349
16	1370	149	87	549	546	1200	1580	257	30500	3630	1700	121
17	1140	81	61	83	87	69	1290	66	30500	3210	207	2760
18	1140	70	1160	63	62	414	3200	3070	26700	2860	117	4560
19	1190	64	782	61	60	743	8680	3630	16100	2850	1070	5660
20	1110	965	765	2140	62	174	6010	3890	10800	3130	1870	5600
21	98	2560	1350	112	61	81	5330	4750	10800	285	2230	6100
22	50	2450	582	59	257	103	5380	8490	10800	139	4280	2920
23	1040	142	67	1300	1420	1370	5390	10800	10900	3040	4680	1480
24	2670	1550	66	86	2250	844	6960	10700	10900	3480	1980	3530
25	2160	154	67	61	115	77	6290	10700	11000	3190	198	4240
26	2360	324	729	529	3540	71	6900	10700	6090	3190	677	4430
27	1880	2980	410	72	1710	76	5520	10700	7360	3210	1620	4680
28	365	1970	570	62	1580	904	3250	10700	7390	2410	2110	5130
29	69	1730	589	343	---	2090	3030	10700	8040	277	2000	1740
30	2150	1620	94	342	---	1610	2390	10800	3340	3140	3290	3620
31	3140	---	283	2720	---	104	---	10800	---	4800	3060	---
TOTAL	39429	25539	26601	28396	24045	26466	80877	161483	409250	92760	60739	89696
MEAN	1272	851	858	916	859	854	2696	5209	13640	2992	1959	2990
MAX	3140	2980	3710	5480	3540	2860	8680	10800	30700	5980	4680	6100
MIN	50	64	61	59	60	54	67	50	3340	131	117	117
AC-FT	78210	50660	52760	56320	47690	52500	160400	320300	811700	184000	120500	177900

CAL YR 1978 TOTAL 984880 MEAN 2698 MAX 30900 MIN 50 AC-FT 1954000
WTR YR 1979 TOTAL 1065281 MEAN 2919 MAX 30700 MIN 50 AC-FT 2113000

07332390 BLUE RIVER NEAR CONNERVILLE, OK

LOCATION.--Lat 34°23'00", long 96°36'01", in SW¼NW¼ sec.17, T.2 S., R.7 E., Johnston County, Hydrologic Unit 11140102, on left bank, 2.0 mi (3.2 km) upstream from State Highway 7, 4 mi (6.4 km) southeast of Connerville and at mile 99.9 (160.7 km).

DRAINAGE AREA.--162 mi^2 (420 km^2).

PERIOD OF RECORD.--October 1976 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 896.75 ft (273.329 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,100 ft^3/s (201 m^3/s) Mar. 27, 1977, gage height, 12.01 ft (3.661 m); minimum daily, 29 ft^3/s (0.82 m^3/s) Jan. 8, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,370 ft^3/s (67.1 m^3/s) at 0415 June 9, gage height, 9.19 ft (2.801 m), no other peak above base of 1,800 ft^3/s (51.0 m^3/s); minimum daily discharge, 31 ft^3/s (0.88 m^3/s) Nov. 28 - Dec. 1, Jan. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	35	31	33	33	40	248	54	62	58	46	42
2	37	36	32	33	33	41	104	55	62	58	67	40
3	37	38	32	33	33	92	71	77	62	57	50	40
4	37	34	33	34	34	48	66	59	62	55	46	40
5	37	34	35	35	34	45	64	54	131	54	46	40
6	38	37	33	33	37	44	63	54	141	53	45	38
7	38	35	34	33	36	44	62	54	1050	55	45	38
8	39	34	33	32	34	44	62	54	208	54	45	38
9	40	35	32	32	33	42	61	54	862	54	43	38
10	38	36	33	32	33	42	64	54	173	54	42	38
11	40	36	33	32	35	42	148	95	120	54	42	39
12	39	36	33	32	37	42	103	59	97	54	43	40
13	37	37	33	32	37	42	69	55	90	55	44	40
14	36	34	34	31	37	42	64	55	85	54	43	37
15	37	43	34	32	36	42	62	54	78	56	44	37
16	37	46	34	33	34	42	62	54	76	56	45	37
17	36	41	34	34	34	45	61	52	72	55	42	38
18	35	36	35	36	34	48	75	54	72	56	42	38
19	35	36	36	37	34	269	67	54	74	62	42	41
20	35	35	37	37	36	334	64	52	72	56	43	45
21	35	34	33	33	36	94	62	359	72	55	43	44
22	35	35	34	34	40	256	60	246	71	54	50	42
23	39	36	34	33	59	138	59	158	71	52	43	42
24	39	36	33	32	37	78	59	95	73	51	43	42
25	39	39	34	34	37	70	59	86	81	50	42	42
26	38	64	34	36	45	68	55	83	166	49	41	42
27	36	33	33	35	40	66	57	67	77	50	41	42
28	37	31	33	34	45	66	57	90	66	50	89	44
29	37	31	35	34	---	66	57	67	61	49	40	44
30	37	31	34	34	---	65	55	65	59	48	39	42
31	36	---	37	32	---	63	---	64	---	48	39	---
TOTAL	1153	1104	1045	1037	1033	2460	2220	2533	4446	1666	1415	1210
MEAN	37.2	36.8	33.7	33.5	36.9	79.4	74.0	81.7	148	53.7	45.6	40.3
MAX	40	64	37	37	59	334	248	359	1050	62	89	45
MIN	35	31	31	31	33	40	55	52	59	48	39	37
CFSM	.23	.23	.21	.21	.23	.49	.46	.50	.91	.33	.28	.25
IN.	.26	.25	.24	.24	.24	.56	.51	.58	1.02	.38	.32	.28
AC-FT	2290	2190	2070	2060	2050	4880	4400	5020	8820	3300	2810	2400

CAL YR 1978	TOTAL	23493	MEAN 64.4	MAX 1740	MIN 29	CFSM .40	IN 5.39	AC-FT	46600	
WTR YR 1979	TOTAL	21322	MEAN 58.4	MAX 1050	MIN 31	CFSM .36	IN 4.90	AC-FT	42290	

07332400 BLUE RIVER AT MILBURN, OK

LOCATION.--Lat 34°15'04", long 96°33'05", in SW¼SW¼ sec.35, T.3 S., R.7 E., Johnston County, Hydrologic Unit 11140102, on downstream side of left pier of bridge on State Highway 48A, 0.5 mi (0.8 km) north of Milburn, and at mile 84.9 (136.6 km).

DRAINAGE AREA.--203 mi^2 (526 km^2).

PERIOD OF RECORD.--Occasional low flow measurements made in water years 1956-61. October 1965 to current year. Prior to October 1975 published as Blue Creek near Milburn.

GAGE.--Water-stage recorder. Datum of gage is 649.65 ft (198.013 m), Oklahoma State Highway Department datum.

REMARKS.-Records good.

AVERAGE DISCHARGE.--14 years, 140 ft^3/s (3.965 m^3/s), 9.37 in/yr (238 mm/yr), 101,400 acre-ft/yr (125 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,100 ft^3/s (994 m^3/s) Oct. 8, 1970, gage height, 27.87 ft (8.495 m); minimum, 20 ft^3/s (0.57 m^3/s) Mar. 15-19, Apr. 5-7, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,230 ft^3/s (205 m^3/s) at 2200 Mar. 19, gage height, 22.84 ft (6.962 m), no other peak above base of 2,200 ft^3/s (62.3 m^3/s); minimum daily, 28 ft^3/s (0.79 m^3/s) Jan. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	31	35	34	33	71	345	63	88	67	48	38
2	32	31	35	32	30	65	242	63	84	64	47	37
3	32	31	34	32	32	206	126	63	80	64	70	37
4	31	31	33	32	32	105	113	98	75	62	48	36
5	32	31	33	33	31	77	100	75	356	62	43	35
6	31	34	34	32	34	70	94	70	517	66	41	35
7	31	36	34	30	38	66	90	66	791	68	41	34
8	31	32	33	30	34	62	89	65	600	64	40	34
9	31	32	32	30	33	59	84	63	868	60	40	34
10	31	32	32	30	32	56	97	63	317	68	39	34
11	32	32	32	33	32	54	595	113	176	64	39	33
12	32	32	32	32	32	53	240	82	137	60	38	33
13	31	33	32	32	34	52	134	66	120	58	37	33
14	29	34	32	29	37	50	109	63	110	58	37	34
15	30	46	32	32	37	50	99	61	102	56	37	33
16	30	64	32	32	34	52	92	60	96	56	50	33
17	30	47	32	28	33	59	88	58	91	56	43	33
18	30	37	32	36	34	95	119	58	88	56	40	34
19	30	34	32	62	34	1830	90	57	86	64	39	40
20	31	34	33	97	35	1920	80	63	84	60	46	46
21	30	33	32	48	37	273	73	834	82	56	41	39
22	30	33	31	37	40	613	70	637	80	55	55	35
23	33	34	31	34	61	320	68	546	78	54	46	34
24	32	33	31	31	66	168	66	166	78	54	43	34
25	32	39	31	32	100	132	65	122	82	53	41	34
26	31	85	31	46	102	119	64	102	156	52	40	34
27	30	62	31	41	69	109	64	94	102	53	39	34
28	31	40	31	35	94	105	64	280	82	52	58	34
29	31	37	31	34	---	123	64	201	73	51	48	34
30	31	36	31	35	---	117	63	122	68	49	44	34
31	31	---	36	35	---	123	---	109	---	48	40	---
TOTAL	961	1146	1003	1136	1240	7254	3687	4583	5747	1810	1392	1052
MEAN	31.0	38.2	32.4	36.6	44.3	234	123	148	192	58.4	44.9	35.1
MAX	33	85	36	97	102	1920	595	834	868	68	88	46
MIN	29	31	31	28	30	50	63	57	68	48	37	33
CFSM	.15	.19	.16	.18	.22	1.15	.61	.73	.95	.29	.22	.17
IN.	.18	.21	.18	.21	.23	1.33	.68	.84	1.05	.33	.26	.19
AC-FT	1910	2270	1990	2250	2460	14390	7310	9090	11400	3590	2760	2090

CAL YR 1978 TOTAL 29599 MEAN 81.1 MAX 1410 MIN 29 CFSM .40 IN 5.42 AC-FT 58710
WTR YR 1979 TOTAL 31011 MEAN 85.0 MAX 1920 MIN 28 CFSM .42 IN 5.68 AC-FT 61510

07332500 BLUE RIVER NEAR BLUE, OK

LOCATION.--Lat 33°59'49", long 96°14'27", on line between sec.27 and 34, T.6 S., R.10 E., Bryan County, Hydrologic Unit 11140102, near left bank on downstream side of pier of bridge on U.S. Highway 70, 1.0 mi (1.6 km) west of Blue, 7.0 mi (11.3 km) east of Durant, 7.7 mi (12.4 km) upstream from Caddo Creek, and at mile 38.8 (62.1 km).

DRAINAGE AREA.--476 mi^2 (1,233 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to current year. Monthly discharge only for some periods, published in WSP 1311, 1731.

REVISED RECORDS.--WSP 957: 1938. WSP 1241: 1936, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 503.36 ft (153.424 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 13, 1945, nonrecording gage and Mar. 13, 1945, to Feb. 2, 1960, water-stage recorder at site 1.2 mi (1.9 km) downstream at datum 5.00 ft (1.524 m) lower.

REMARKS.--Records good. Some regulation at low flow by State Fish Hatchery, 16.0 miles (25.7 km) above station. Small diversion above station for municipal water supply of city of Durant.

COOPERATION.--Gage-height record and 19 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--43 years, 250 ft^3/s (7.080 m^3/s), 8.47 in/yr (215 mm/yr), 215,200 acre-ft/yr (265 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,400 ft^3/s (974 m^3/s) Feb. 17, 1938, gage height, 31.81 ft (9.696 m), site and datum then in use; no flow (estimated) Aug. 3, 4, 1936, result of regulation at fish hatchery, and no flow Sept. 19, to Oct. 16, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft^3/s (113 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 21	0500	6,940	197	23.99	7.312	May 23	0445	*7,820	221	*24.83	7.568

Minimum daily discharge, 23 ft^3/s (0.651 m^3/s) Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	25	36	37	48	371	2170	102	228	88	52	40
2	26	25	35	28	55	200	1210	103	253	82	52	40
3	24	25	34	24	62	863	502	101	180	78	60	41
4	24	26	33	27	54	604	305	103	154	75	70	37
5	23	26	32	30	51	238	263	121	479	73	60	37
6	23	28	32	35	53	150	217	106	2510	174	50	34
7	24	31	32	33	67	124	188	96	1210	510	48	35
8	24	30	34	25	77	111	177	89	975	147	47	34
9	25	31	33	28	80	100	166	88	863	88	44	31
10	24	30	32	32	69	92	167	85	1020	170	45	31
11	25	29	31	36	123	85	564	117	479	340	46	31
12	26	29	33	34	717	80	1500	183	275	107	46	30
13	26	30	33	34	242	77	435	152	211	84	43	30
14	25	30	33	28	124	74	254	101	178	77	41	30
15	25	45	33	25	102	72	199	88	157	73	39	30
16	24	254	33	28	82	78	170	82	144	71	41	28
17	24	154	32	38	67	91	151	79	132	75	47	27
18	25	80	33	61	60	110	148	77	122	77	47	27
19	25	48	33	456	57	844	215	76	118	74	40	29
20	27	35	34	1090	59	5120	211	73	112	74	43	49
21	27	33	34	423	61	5800	173	3900	106	75	51	62
22	27	33	33	141	91	2190	152	5910	98	68	67	45
23	27	33	32	83	886	2220	140	7350	93	65	63	36
24	27	33	32	65	269	665	132	2940	88	62	56	31
25	28	34	32	60	917	368	126	488	96	62	46	31
26	28	65	32	237	1800	281	120	311	132	60	44	30
27	25	134	31	179	646	240	113	245	137	64	54	30
28	25	115	31	106	745	212	109	212	156	64	43	29
29	25	61	32	72	---	198	109	394	105	60	53	28
30	25	43	32	63	---	2140	106	480	92	57	72	28
31	25	---	36	56	---	1110	---	317	---	55	43	---
TOTAL	785	1595	1018	3614	7664	24908	10492	24569	10903	3229	1553	1021
MEAN	25.3	53.2	32.8	117	274	803	350	793	363	104	50.1	34.0
MAX	28	254	36	1090	1800	5800	2170	7350	2510	510	72	62
MIN	23	25	31	24	48	72	106	73	88	55	39	27
CFSM	.05	.11	.07	.25	.58	1.69	.74	1.67	.76	.22	.11	.07
IN.	.06	.12	.08	.28	.60	1.95	.82	1.92	.85	.25	.12	.08
AC-FT	1560	3160	2020	7170	15200	49410	20810	48730	21630	6400	3080	2030

CAL YR 1978	TOTAL	49480	MEAN 136	MAX 3430	MIN 21	CFSM .29	IN 3.87	AC-FT	98140	
WTR YR 1979	TOTAL	91351	MEAN 250	MAX 7350	MIN 23	CFSM .53	IN 7.14	AC-FT	181200	

07332500 BLUE RIVER NEAR BLUE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-58, 1960-63, 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1959 to September 1963.
WATER TEMPERATURE: November 1959 to September 1963.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT 19...	1600	25	650	8.6	19.0	3.0	--	--	9	286
NOV 30...	1430	42	340	8.0	12.5	41	10.0	96	19	--
DEC 20...	1230	33	480	8.8	13.5	10	--	--	8	346
JAN 26...	1230	324	240	7.7	3.0	76	11.9	88	40	--
FEB 12...	1400	724	250	7.8	3.0	82	13.4	99	30	133
MAR 19...	1315	147	440	8.1	15.5	24	9.4	95	16	--
APR 18...	1245	146	480	8.0	19.0	17	8.5	91	14	221
MAY 16...	1700	82	600	8.2	24.0	9.0	9.4	110	10	--
JUN 26...	1215	128	620	7.8	26.0	12	3.9	49	9	278
JUL 19...	1130	74	580	8.3	26.5	11	8.1	101	--	--
AUG 07...	1000	47	500	8.1	27.0	8.0	--	--	7	250
SEP 26...	1630	31	460	8.4	22.0	--	10.1	115	5	--

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 19...	49	123	42	20	2.2	10	11	.1	13
NOV 30...	--	--	--	--	--	13	12	.1	63
DEC 20...	70	175	41	10	2.1	11	3.0	.1	25
JAN 26...	--	--	--	--	--	30	17	.2	252
FEB 12...	52	130	14	--	2.2	21	10	.1	188
MAR 19...	--	--	--	--	--	26	10	.5	71
APR 18...	51	128	19	12	2.3	20	12	.1	47
MAY 16...	--	--	--	--	--	20	--	.2	34
JUN 26...	59	147	31	<10	2.3	14	6.0	.0	34
JUL 19...	--	--	--	--	--	16	11	.1	32
AUG 07...	51	128	30	<10	1.8	12	4.0	.2	38
SEP 26...	--	--	--	--	--	14	18	.1	12

07332500 BLUE RIVER NEAR BLUE, OK--Continued

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 19...	--	1.5	--	--	.579	--	--	--	--
NOV 30...	.30	.91	1.2	5.4	--	--	--	--	--
DEC 20...	.50	1.0	1.5	6.8	--	--	--	--	--
JAN 26...	2.7	1.0	3.7	16	.700	--	--	--	--
FEB 12...	.90	2.4	3.3	15	.400	<2	<1	37	13
MAR 19...	.40	1.7	2.1	9.3	.220	--	--	--	--
APR 18...	.40	.90	1.3	5.8	.130	--	--	--	--
MAY 16...	.30	.89	1.1	5.3	.135	--	--	--	--
JUN 26...	.20	1.1	1.3	5.8	.110	--	--	--	--
JUL 19...	<.50	1.4	1.4	--	.310	--	--	--	--
AUG 07...	<.50	1.8	1.8	--	.180	<5	<2	<10	<3
SEP 26...	<.50	2.7	2.7	--	.280	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 19...	200	--	50	--	--	--	--	--	3.0
NOV 30...	--	--	--	--	--	--	--	--	--
DEC 20...	1270	--	80	--	--	--	--	--	--
JAN 26...	--	--	--	--	--	--	--	--	--
FEB 12...	5300	23	380	<.5	20	<1	<2	47	--
MAR 19...	--	--	--	--	--	--	--	--	--
APR 18...	2400	--	140	--	--	--	--	--	--
MAY 16...	--	--	--	--	--	--	--	--	--
JUN 26...	1500	--	140	--	--	--	--	--	--
JUL 19...	--	--	--	--	--	--	--	--	--
AUG 07...	2450	11	100	<.5	17	<5	<3	5	--
SEP 26...	--	--	--	--	--	--	--	--	--

07332900 COAL CREEK NEAR LEHIGH, OK

LOCATION.--Lat 34°27'06", long 96°13'56", on west line of sec.23, T.1 S., R.10 E., Coal County, Hydrologic Unit 11140103, on downstream side of county road bridge, 1.5 mi (2.4 km) southwest of intersection of county road and U.S. Highway 75 in Lehigh, 2.4 mi (3.9 km) upstream from French Henry Creek and at mile 6.4 (10.3 km).

DRAINAGE AREA.--8.50 mi^2 (22.02 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water stage recorder. Datum of gage is 572.53 ft (174.507 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,450 ft^3/s (69.4 m^3/s) Mar. 19, 1979, gage height, 11.45 ft (3.490 m); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s (5.66 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 19	1745	*2,450	69.4	*11.45	3.490	May 28	2145	862	24.4	10.26	3.127
Mar. 22	1315	230	6.51	5.80	1.768	June 5	1945	299	8.47	6.87	2.094
May 22	0730	590	16.7	9.60	2.926	Aug. 31	2030	265	7.50	6.30	1.920

No flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.11	3.8	5.2	.17	1.6	.00	.00	4.3
2	.00	.00	.00	.00	.07	2.1	3.0	.17	18	.00	.00	.10
3	.00	.00	.00	.00	.09	20	1.5	.29	4.9	.00	.00	.01
4	.00	.00	.00	.00	.11	3.3	2.1	.49	1.8	.00	.00	.00
5	.00	.00	.00	.00	.09	1.2	1.5	.44	80	.00	.00	.00
6	.00	.00	.00	.00	.12	.66	.97	.33	35	.00	.00	.00
7	.00	.00	.00	.00	.23	.43	.67	.28	4.7	.00	.00	.00
8	.00	.00	.00	.00	.25	.31	.54	.19	1.6	.00	.00	.00
9	.00	.00	.00	.00	.18	.24	.46	.16	1.2	.00	.00	.00
10	.00	.00	.00	.00	.17	.17	2.5	.15	.81	.00	.00	.00
11	.00	.00	.00	.00	8.7	.14	52	.57	.35	.00	.00	.00
12	.00	.00	.00	.00	6.8	.13	5.2	.79	.23	.00	.00	.00
13	.00	.00	.00	.00	1.7	.11	2.2	.33	.17	.00	.00	.00
14	.00	.00	.00	.00	.94	.10	1.3	.17	.17	.00	.00	.00
15	.00	.00	.00	.14	.70	.09	.85	.13	.13	.00	.00	.00
16	.00	.95	.00	.25	.21	.09	.62	.10	.08	.00	.00	.00
17	.00	.02	.00	3.3	.12	.10	.43	.09	.07	.78	.00	.00
18	.00	.00	.00	4.3	.08	.39	6.1	.05	.05	.42	.00	.00
19	.00	.00	.00	15	.05	436	3.6	.01	.02	.04	.00	.00
20	.00	.00	.00	14	.05	74	1.9	.18	.00	.00	.00	.00
21	.00	.00	.00	1.8	.06	12	1.2	40	.00	.00	.00	.00
22	.00	.00	.00	.40	.20	72	.86	213	.00	.00	.00	.00
23	.00	.00	.00	.19	.49	11	.75	22	.00	.00	.00	.00
24	.00	.00	.00	.12	11	4.5	.69	3.8	.00	.00	.00	.00
25	.00	.05	.00	.18	7.2	2.8	.45	1.6	.00	.00	.00	.00
26	.00	7.0	.00	4.9	6.7	2.2	.32	.84	.00	.00	.00	.00
27	.00	.80	.00	2.8	5.7	1.6	.22	.68	.00	.00	.00	.00
28	.00	.12	.00	.51	14	1.1	.17	124	.00	.00	.00	.00
29	.00	.05	.00	.19	---	1.3	.17	59	.00	.00	.00	.00
30	.00	.01	.00	.14	---	3.6	.17	7.0	.00	.00	.00	.00
31	.00	---	.00	.12	---	2.2	---	3.9	---	.00	36	---
TOTAL	.00	9.00	.00	48.34	66.12	657.66	97.64	480.91	150.88	1.24	36.00	4.41
MEAN	.000	.30	.000	1.56	2.36	21.2	3.25	15.5	5.03	.040	1.16	.15
MAX	.00	7.0	.00	15	14	436	52	213	80	.78	36	4.3
MIN	.00	.00	.00	.00	.05	.09	.17	.01	.00	.00	.00	.00
AC-FT	.00	18	.00	96	131	1300	194	954	299	2.5	71	8.7

CAL YR 1978 TOTAL 889.24 MEAN 2.44 MAX 208 MIN .00 AC-FT 1760
WTR YR 1979 TOTAL 1552.20 MEAN 4.25 MAX 436 MIN .00 AC-FT 3080

07332900 COAL CREEK NEAR LEHIGH, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
NOV											
16...	1645	.84	102	7.4	6.0	240	280	10.4	--	33	5
26...	1200	.21	119	6.6	14.5	960	220	7.9	--	32	11
JAN											
17...	1120	2.9	75	6.8	.5	120	34	12.3	2.2	32	8
FEB											
27...	1230	5.0	110	6.9	7.0	120	54	11.1	2.9	35	12
28...	0740	21	102	6.9	7.5	--	--	10.1	--	--	--
MAR											
03...	0640	39	107	6.9	10.0	270	180	9.5	1.8	45	19
22...	1030	149	90	6.8	15.0	200	210	9.7	1.5	29	9
22...	1120	207	82	6.7	15.5	200	300	9.5	1.3	24	6
22...	1255	233	83	6.7	16.0	200	210	9.1	1.2	26	12
APR											
11...	0745	99	124	7.1	15.5	--	--	7.1	--	--	--
11...	0812	119	121	7.1	15.5	--	--	7.0	--	--	--
11...	0846	145	100	6.9	15.5	--	--	6.9	--	--	--
18...	1420	13	163	7.1	18.5	--	--	7.6	--	--	--
MAY											
03...	1945	.40	218	7.2	18.0	--	--	5.8	--	--	--
16...	0800	.10	250	7.1	19.5	40	14	4.1	1.2	100	15
21...	0233	9.8	216	7.2	20.5	--	--	5.2	--	--	--
21...	0345	26	175	7.2	20.5	--	--	6.1	--	--	--
21...	0530	92	151	7.0	21.0	--	--	5.6	--	--	--
21...	0700	157	79	6.8	20.0	--	--	6.5	--	--	--
21...	0800	145	70	6.8	20.0	--	--	6.7	--	--	--
21...	0948	73	73	6.8	20.0	--	--	6.5	--	--	--
23...	0930	21	87	6.8	20.0	--	--	7.8	--	--	--
29...	0014	369	--	--	--	--	--	--	--	--	--
29...	0105	296	--	--	--	--	--	--	--	--	--
JUN											
05...	1535	30	128	7.0	22.5	--	--	6.7	--	--	--
05...	1730	211	95	6.8	22.0	--	--	6.6	--	--	--
05...	1909	296	90	6.7	22.0	90	220	6.3	1.0	30	9

07332900 COAL CREEK NEAR LEHIGH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
NOV											
16...	9.2	2.4	5.1	23	.4	--	2.8	28	12	3.1	.2
26...	7.5	3.3	4.6	21	.4	--	5.1	21	21	4.7	.1
JAN											
17...	7.5	3.3	4.4	20	.3	--	4.0	24	14	3.4	.1
FEB											
27...	8.6	3.4	6.0	25	.4	--	2.6	23	16	5.4	.1
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	12	3.7	6.5	23	.4	--	2.7	26	15	5.2	.1
22...	6.6	3.0	5.0	25	.4	7.7	2.7	20	10	4.7	.1
22...	5.5	2.6	4.8	27	.4	--	2.7	18	11	3.5	.1
22...	5.9	2.7	4.3	24	.4	7.0	2.7	14	11	3.6	.1
APR											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
MAY											
03...	--	--	--	--	--	--	--	--	--	--	--
16...	24	9.7	16	25	.7	21	5.2	85	17	13	.3
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUN											
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	7.8	2.5	4.4	22	.4	8.1	3.7	21	8.3	10	.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
NOV											
16...	3.7	79	63	.11	.18	--	--	.77	1.6	.14	.02
26...	4.9	80	64	.11	4.54	--	--	.50	.57	.38	.04
JAN											
17...	7.0	90	58	.12	.70	--	--	1.0	.99	.57	.17
FEB											
27...	8.0	81	64	.11	1.09	--	--	2.0	2.0	.06	.00
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	8.2	88	69	.12	9.27	.88	.12	1.0	.97	--	.03
22...	9.1	76	53	.10	30.6	--	--	.82	.80	.12	.02
22...	12	65	53	.09	36.3	--	--	.48	.45	.10	.04
22...	8.5	72	47	.10	45.3	--	--	.44	.41	.09	.04
APR											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
MAY											
03...	--	--	--	--	--	--	--	--	--	--	--
16...	3.2	160	140	.22	.04	--	--	.35	.27	.32	.30
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUN											
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	7.1	58	57	.08	46.4	--	--	.15	.14	.12	.01

07332900 COAL CREEK NEAR LEHIGH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS PO4)
NOV											
16...	--	.03	1.2	.79	1.3	--	.81	2.1	9.2	.380	--
26...	--	.05	2.1	1.1	2.5	--	1.1	3.0	13	.390	--
JAN											
17...	--	.22	1.4	1.0	2.0	--	1.2	3.0	13	.210	--
FEB											
27...	--	.00	1.0	.92	1.1	--	.92	3.1	14	.110	--
28...	--	--	--	--	--	--	--	--	--	--	--
MAR											
03...	--	.04	--	.82	--	--	.85	--	--	.150	--
22...	--	.03	2.0	.70	2.1	--	.72	2.9	13	.190	--
22...	--	.05	2.3	.79	2.4	--	.83	2.9	13	.180	--
22...	--	.05	2.0	.77	2.1	--	.81	2.5	11	.100	--
APR											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
MAY											
03...	--	--	--	--	--	--	--	--	--	--	--
16...	.39	.39	.88	.64	1.2	.26	.94	1.6	6.9	.060	.18
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUN											
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--
05...	.15	.01	1.9	.88	2.0	1.1	.89	2.2	9.5	.240	.74

DATE	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, SUSPENDED RECOV. (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BORON, TOTAL RECOVERABLE (UG/L AS B)	BORON, SUSPENDED RECOVERABLE (UG/L AS B)	BORON, DISSOLVED (UG/L AS B)
NOV											
16...	--	.100	4500	4200	260	2	1	1	90	40	50
26...	--	.060	8100	7900	220	3	2	1	140	60	80
JAN											
17...	--	.100	1000	910	90	1	0	1	70	10	60
FEB											
27...	--	.060	1600	1500	100	1	1	0	70	10	60
28...	--	--	4300	4200	110	1	1	0	80	0	90
MAR											
03...	--	.070	5100	5000	50	1	1	0	90	30	60
22...	--	.050	5800	5700	120	2	2	0	90	20	70
22...	--	.050	7700	7600	130	2	2	0	70	0	70
22...	--	.050	8200	8100	90	2	2	0	90	20	70
APR											
11...	--	--	10000	9900	90	3	2	1	90	20	70
11...	--	--	9500	9400	80	2	1	1	60	0	80
11...	--	--	12000	12000	150	3	2	1	80	10	70
18...	--	--	530	480	50	4	2	2	80	0	80
MAY											
03...	--	--	250	220	30	3	0	3	110	50	60
16...	.18	.000	410	390	20	3	3	3	80	10	70
21...	--	--	5500	5300	210	3	2	2	110	50	60
21...	--	--	9600	9500	120	5	2	3	120	50	70
21...	--	--	9700	9500	210	5	3	2	110	50	60
21...	--	--	9600	8900	660	5	3	2	--	--	--
21...	--	--	12000	12000	140	5	3	2	110	30	80
21...	--	--	7000	6900	90	2	0	2	120	50	70
23...	--	--	970	950	20	2	2	2	70	0	70
29...	--	--	4000	3800	190	3	0	3	90	30	60
29...	--	--	5200	5100	100	4	2	2	100	40	60
JUN											
05...	--	--	2600	2600	40	3	3	2	140	50	90
05...	--	--	10000	10000	30	2	2	2	80	50	30
05...	.74	.050	7700	7700	40	2	2	2	60	30	30

07332900 COAL CREEK NEAR LEHIGH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM SUSPENDED RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)
NOV											
16...	0	0	1	20	20	0	11	1	10	7300	7100
26...	6	>5	<1	10	10	0	13	10	3	12000	11000
JAN											
17...	1	0	2	0	0	0	6	1	5	2100	1500
FEB											
27...	0	0	0	0	0	0	13	12	1	1500	1300
28...	0	0	0	10	10	0	8	6	2	4600	4400
MAR											
03...	0	0	0	10	10	0	8	6	2	5400	5100
22...	1	1	0	10	10	0	12	10	2	7300	7000
22...	0	0	0	10	10	0	14	12	2	9800	9500
22...	0	0	0	10	10	0	13	11	2	11000	11000
APR											
11...	0	0	1	20	20	0	16	12	4	14000	13000
11...	1	--	--	10	--	--	16	--	--	13000	12000
11...	0	0	0	40	40	0	18	14	4	15000	15000
18...	0	0	<1	10	0	10	2	0	2	1400	900
MAY											
03...	1	1	0	20	20	0	0	0	0	1000	690
16...	0	0	2	20	0	20	2	2	0	910	820
21...	1	0	3	20	0	20	7	0	10	6200	6100
21...	0	0	0	30	10	20	10	4	6	12000	12000
21...	0	0	1	30	10	20	13	3	10	14000	14000
21...	0	0	0	30	10	20	14	8	6	12000	11000
21...	1	1	0	30	0	30	12	8	4	14000	14000
21...	1	1	0	30	10	20	8	5	3	--	--
23...	0	0	1	20	10	10	7	7	0	1400	1200
29...	1	1	0	20	0	20	7	2	5	4900	4500
29...	0	0	0	20	0	30	9	6	3	5700	5500
JUN											
05...	1	0	1	20	10	10	7	7	0	3800	3700
05...	0	0	1	30	10	20	10	9	1	13000	13000
05...	0	0	0	20	0	30	9	9	0	10000	9900

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)
NOV											
16...	190	7	7	0	120	80	40	.0	.0	.0	0
26...	660	14	14	0	520	260	260	.0	.0	.0	0
JAN											
17...	600	1	0	1	220	40	180	.1	.1	.0	0
FEB											
27...	200	19	19	0	70	30	40	.1	.1	.0	0
28...	230	25	25	0	140	110	30	.1	.1	.0	0
MAR											
03...	280	17	17	0	170	140	30	.1	.1	.0	0
22...	270	34	34	0	310	270	40	.1	.1	.0	0
22...	330	32	32	0	510	470	40	.0	.0	.0	0
22...	250	19	19	0	500	420	80	.1	.1	.0	0
APR											
11...	530	66	66	0	720	670	50	.1	.1	.0	0
11...	550	45	--	--	690	630	60	.3	--	--	1
11...	400	56	56	0	720	680	40	.1	.1	.0	0
18...	500	30	30	0	160	70	90	.1	.0	.1	0
MAY											
03...	310	6	6	0	260	60	200	.1	.0	.1	0
16...	90	9	9	0	360	40	320	.1	.1	.0	0
21...	80	40	37	3	600	280	320	.1	.1	.0	0
21...	270	17	16	1	1100	540	560	.1	.0	.1	0
21...	510	39	37	2	1500	1000	470	.2	.2	.0	0
21...	550	23	21	2	850	610	240	.1	.1	.0	0
21...	300	24	23	1	700	500	200	.1	.1	.0	0
21...	440	23	22	1	420	260	160	.1	.1	.0	0
23...	250	17	17	0	100	40	60	.1	.0	.1	17
29...	430	16	14	2	250	180	70	.1	.1	.0	0
29...	160	25	24	1	240	180	60	.1	.1	.0	0
JUN											
05...	130	25	25	0	190	120	70	.1	.1	.0	0
05...	220	140	140	1	700	630	70	.2	.1	.1	0
05...	100	51	47	4	600	520	80	.1	.0	.1	0

07332900 COAL CREEK NEAR LEHIGH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MOLYB-DENUM, SUS-PENDED RECOV. (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, SUS-PENDED TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, SUS-PENDED RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV											
16...	0	0	1	0	1	50	30	20	378	.86	100
26...	0	0	2	2	0	50	45	5	--	--	--
JAN											
17...	0	0	0	0	0	20	0	20	--	--	--
FEB											
27...	0	0	0	0	0	30	30	0	--	--	--
28...	0	0	0	0	1	40	30	10	--	--	--
MAR											
03...	0	0	0	0	0	40	40	0	238	25	96
22...	0	0	1	1	0	40	30	10	--	--	--
22...	0	0	1	1	0	50	40	10	--	--	--
22...	0	0	0	0	1	40	30	10	--	--	--
APR											
11...	0	0	0	0	0	70	60	10	--	--	--
11...	1	0	1	1	0	70	--	--	--	--	--
11...	0	0	1	1	0	70	60	10	864	338	85
18...	0	<10	0	0	0	20	20	<3	64	2.2	88
MAY											
03...	0	0	0	0	0	10	0	10	--	--	--
16...	0	0	1	0	1	20	10	10	53	.01	98
21...	0	0	0	0	0	30	20	10	227	6.0	96
21...	0	0	0	0	0	40	30	10	456	32	90
21...	0	0	0	0	0	30	0	30	735	183	77
21...	0	0	0	0	0	70	60	10	755	320	83
21...	0	0	0	0	0	50	40	10	589	231	86
21...	0	0	0	0	0	40	30	10	528	104	94
23...	17	0	0	0	1	10	0	10	60	3.4	87
29...	0	0	0	0	0	40	30	10	--	--	--
29...	0	0	0	0	0	50	40	10	--	--	--
JUN											
05...	0	0	1	1	0	40	40	0	168	14	90
05...	0	0	1	1	0	50	40	10	869	495	75
05...	0	0	1	1	0	50	50	0	743	594	74

07332900 COAL CREEK NEAR LEHIGH, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---		---	132	109	158	208	148	---		52
2		---		---	133	117	159	212	---	---		64
3		---		---	132	108	162	218	110	---		---
4		---		---	139	107	166	225	133	---		---
5		---		---	135	112	167	231	128	---		---
6		---		---	142	118	168	235	107	---		---
7		---		---	144	122	169	238	---	---		---
8		---		---	136	127	174	232	---	---		---
9		---		---	122	131	180	---	165	---		---
10		---		---	---	134	185	---	183	---		---
11		---		---	119	---	111	221	188	---		---
12		---		---	80	---	102	236	195	---		---
13		---		---	86	---	118	246	201	---		---
14		---		---	109	---	130	---	206	---		---
15		---		114	122	---	139	255	210	---		---
16		141		122	94	---	148	258	216	---		---
17		135		92	---	---	157	261	222	---		---
18		---		89	---	162	157	266	226	235		---
19		---		111	---	---	151	271	229	---		---
20		---		100	---	---	159	---	---	---		---
21		---		103	---	101	161	103	---	---		---
22		---		106	---	92	162	---	---	---		---
23		---		110	---	103	171	97	---	---		---
24		---		109	---	120	176	121	---	---		---
25		182		117	---	132	185	143	---	---		---
26		---		111	---	144	191	155	---	---		---
27		---		113	---	150	196	---	---	---		---
28		---		116	108	151	201	---	---	---		---
29		---		119	---	158	203	---	---	---		---
30		---		120	---	164	205	124	---	---		---
31		---		125	---	159	---	136	---	---		---

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---		---	6.9	7.0	7.2	7.3	6.9	---		6.5
2		---		---	6.9	7.1	7.3	7.3	---	---		6.5
3		---		---	6.9	7.1	7.2	7.2	6.9	---		---
4		---		---	6.9	7.2	7.3	7.3	6.9	---		---
5		---		---	7.0	7.3	7.4	7.2	6.9	---		---
6		---		---	7.0	7.3	7.4	7.3	6.9	---		---
7		---		---	7.0	7.3	7.4	7.3	---	---		---
8		---		---	7.0	7.3	7.4	7.3	---	---		---
9		---		---	7.0	7.4	7.5	---	7.1	---		---
10		---		---	7.1	7.4	7.4	---	7.2	---		---
11		---		---	7.0	---	7.0	7.2	7.2	---		---
12		---		---	6.7	---	7.0	7.3	7.2	---		---
13		---		---	6.8	---	7.1	7.2	7.2	---		---
14		---		---	6.8	---	7.2	---	7.2	---		---
15		---		7.0	6.8	---	7.2	7.2	7.2	---		---
16		7.6		7.1	7.0	---	7.2	7.2	7.2	---		---
17		7.4		6.8	---	---	7.3	7.2	7.2	---		---
18		---		6.9	---	7.2	7.2	7.2	7.3	7.1		---
19		---		6.9	---	---	7.2	7.3	7.2	---		---
20		---		6.8	---	---	7.1	7.2	---	---		---
21		---		6.9	---	6.7	7.1	6.9	---	---		---
22		---		6.9	---	6.7	7.1	---	---	---		---
23		---		6.9	7.0	6.7	7.2	6.8	---	---		---
24		---		6.9	7.1	6.7	7.2	6.9	---	---		---
25		7.1		7.0	6.9	6.7	7.2	6.9	---	---		---
26		6.8		6.9	6.9	6.7	7.2	6.9	---	---		---
27		6.5		6.9	6.9	6.8	7.2	---	---	---		---
28		6.6		6.9	7.0	6.9	7.2	---	---	---		---
29		6.6		6.9	---	7.1	7.2	---	---	---		---
30		6.6		6.9	---	7.2	7.2	6.9	---	---		---
31		---		6.9	---	7.3	---	6.9	---	---		---

07332900 COAL CREEK NEAR LEHIGH, OK--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---		---	2.0	9.5	18.5	17.5	22.0	---		23.5
2		---		---	2.0	10.5	15.0	19.0	---	---		26.0
3		---		---	2.0	11.0	12.5	18.0	21.5	---		---
4		---		---	2.0	8.5	12.0	15.5	22.5	---		---
5		---		---	2.0	8.5	13.5	16.0	22.5	---		---
6		---		---	1.5	10.5	17.0	18.0	23.0	---		---
7		---		---	1.5	12.5	17.0	20.5	---	---		---
8		---		---	1.5	12.0	18.0	22.5	---	---		---
9		---		---	---	11.5	17.5	---	25.5	---		---
10		---		---	---	11.5	16.0	---	23.5	---		---
11		---		---	2.0	---	17.5	17.5	22.0	---		---
12		---		---	3.5	---	18.0	16.5	22.5	---		---
13		---		---	3.5	---	18.0	17.5	23.0	---		---
14		---		---	7.5	---	18.5	---	23.5	---		---
15		---		1.0	10.0	---	20.0	---	24.5	---		---
16		---		.5	4.5	---	21.0	21.5	24.5	---		---
17		---		.5	---	---	21.0	22.0	24.5	---		---
18		---		1.5	---	14.0	18.0	22.0	24.5	25.0		---
19		---		5.5	---	---	18.0	22.5	---	---		---
19		---		5.5	---	---	18.0	22.5	---	---		---
20		---		6.5	---	---	20.0	---	---	---		---
21		---		4.5	---	16.0	20.0	20.5	---	---		---
22		---		4.0	---	17.0	19.0	---	---	---		---
23		---		3.5	11.0	14.5	19.0	---	---	---		---
24		---		2.0	5.0	12.0	20.0	20.5	---	---		---
25		13.5		2.0	3.0	13.0	21.5	20.0	---	---		---
26		14.5		1.5	5.5	16.0	19.0	---	---	---		---
27		11.5		1.5	7.0	17.0	17.0	---	---	---		---
28		9.5		1.5	8.5	17.0	16.0	---	---	---		---
29		9.0		1.5	---	17.5	16.5	---	---	---		---
30		---		1.5	---	18.5	18.0	---	---	---		---
31		---		2.0	---	18.0	---	22.0	---	---		---

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---		---	14.4	10.5	7.5	7.7	7.2	---		6.0
2		---		---	14.0	10.1	8.5	7.4	---	---		3.6
3		---		---	13.7	9.9	8.8	6.0	7.2	---		---
4		---		---	13.5	11.5	9.5	6.6	6.6	---		---
5		---		---	13.3	12.0	9.5	7.3	6.3	---		---
6		---		---	13.1	11.0	9.0	7.6	6.6	---		---
7		---		---	13.2	10.5	8.4	7.3	---	---		---
8		---		---	13.9	10.2	8.1	7.4	---	---		---
9		---		---	14.0	10.3	8.3	---	5.9	---		---
10		---		---	14.1	10.9	7.7	---	6.2	---		---
11		---		---	13.8	---	7.0	6.2	6.5	---		---
12		---		---	13.6	---	7.3	6.4	6.6	---		---
13		---		---	14.3	---	7.4	6.3	6.5	---		---
14		---		---	12.5	---	7.5	---	6.5	---		---
15		---		12.1	10.8	---	7.3	5.7	6.4	---		---
16		10.4		11.6	11.5	---	7.4	4.4	6.1	---		---
17		8.9		12.3	---	---	7.4	4.3	6.1	---		---
18		---		12.6	---	10.4	7.3	4.3	6.2	3.4		---
19		---		12.2	---	---	7.7	4.4	5.7	---		---
20		---		11.9	---	---	7.4	---	---	---		---
21		---		12.5	---	9.9	6.9	6.2	---	---		---
22		---		13.7	11.3	8.7	6.9	---	---	---		---
23		---		14.0	10.3	7.9	6.7	7.2	---	---		---
24		---		14.6	11.6	8.0	6.8	7.3	---	---		---
25		7.2		14.4	13.1	6.9	6.8	7.1	---	---		---
26		7.6		13.2	12.1	5.6	6.9	6.9	---	---		---
27		9.0		13.9	11.3	7.1	6.7	---	---	---		---
28		8.8		15.2	10.6	8.8	7.2	---	---	---		---
29		8.3		14.9	---	8.0	7.5	---	---	---		---
30		7.8		14.6	---	8.0	7.5	---	---	---		---
31		---		14.6	---	8.1	---	7.6	---	---		---

07332950 MUDDY BOGGY CREEK AT ATOKA, OK

LOCATION.--Lat 34°23'23", long 96°07'12", in SE¼SW¼ sec.11, T.2 S., R.11 E., Atoka County, Hydrologic Unit 11140103, on right downstream side of MKT railroad bridge in northeast Atoka and at mile 80.1 (128.9 km).

DRAINAGE AREA.--445 mi^2 (1,153 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to September 1979.

GAGE.--Water-stage recorder. Altitude of gage is 560 ft (171 m) from topographic map.

REMARKS.--Records good except for period of no gage height record, October 5 to November 15, which are poor.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft^3/s (113 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATA	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 20	0415	7,240	205	22.28	6.791	May 29	0830	4,180	118	15.98	4.871
May 22	2200	6,050	171	18.98	5.770	June 9	1715	*8,860	251	*25.30	7.711

No flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.00	44	2.6	21	805	1110	19	149	34	5.4	79
2	.02	.00	33	2.6	16	343	3210	19	171	23	5.1	30
3	.04	.00	42	2.6	13	817	878	25	900	17	7.1	39
4	.10	.00	17	2.6	11	930	303	740	249	15	6.9	28
5	.08	.00	8.5	2.6	10	367	214	374	257	12	6.1	19
6	.06	.20	5.6	2.6	9.5	192	154	175	1080	14	5.0	15
7	.04	.40	3.1	2.6	10	119	117	113	2040	160	4.0	12
8	.03	.86	2.4	2.6	19	74	88	73	5480	359	3.5	10
9	.02	.87	2.5	2.6	18	52	68	47	8480	151	3.1	8.3
10	.01	.87	1.7	2.7	17	38	57	33	7850	71	3.4	6.7
11	.00	.88	1.7	2.7	100	29	688	109	6970	48	3.7	5.2
12	.00	.89	3.0	2.7	390	24	2580	452	5330	138	8.4	4.1
13	.00	.90	2.7	2.9	430	19	915	240	425	88	30	3.6
14	.00	1.0	2.5	4.3	180	15	227	115	193	46	17	3.1
15	.00	3.0	2.0	5.7	135	13	145	65	140	27	11	2.7
16	.00	16	1.3	7.6	91	12	108	39	108	20	8.2	2.4
17	.00	103	2.2	9.2	66	11	89	27	83	21	87	2.4
18	.00	77	2.9	35	43	11	88	20	63	331	36	2.3
19	.00	83	3.1	150	28	1980	522	17	50	250	17	2.4
20	.00	32	3.0	750	20	6910	739	25	41	87	11	2.4
21	.00	39	2.7	400	17	5940	372	2310	35	45	82	2.7
22	.00	55	2.9	230	16	2570	343	4540	30	27	80	2.9
23	.19	35	2.7	130	446	2840	130	5130	26	19	159	3.6
24	.14	23	2.7	75	1220	1150	93	2600	23	14	115	4.0
25	.10	14	2.7	43	1160	321	71	288	22	10	50	3.8
26	.08	35	2.7	70	2010	186	52	153	43	8.4	27	3.3
27	.06	400	2.6	165	1160	142	38	111	151	7.9	17	3.4
28	.04	200	2.6	100	997	116	29	998	105	7.2	148	2.8
29	.03	90	2.6	70	---	100	23	3900	66	6.7	275	2.3
30	.02	56	2.5	45	---	273	20	2210	39	6.7	62	1.9
31	.00	---	2.5	30	---	120	---	297	---	6.0	33	---
TOTAL	1.10	1267.87	213.4	2354.2	8653.5	26519	13471	25264	40599	2069.9	1326.9	308.3
MEAN	.035	42.3	6.88	75.9	309	855	449	815	1353	66.8	42.8	10.3
MAX	.19	400	44	750	2010	6910	3210	5130	8480	359	275	79
MIN	.00	.00	1.3	2.6	9.5	11	20	17	22	6.0	3.1	1.9
CFSM	.000	.10	.02	.17	.69	1.92	1.01	1.83	3.04	.15	.10	.02
IN.	.00	.11	.02	.20	.72	2.22	1.13	2.11	3.39	.17	.11	.03
AC-FT	2.2	2510	423	4670	17160	52600	26720	50110	80530	4110	2630	612

WTR YR 1979 TOTAL 122048.17 MEAN 334 MAX 8480 MIN .00 CFSM .75 IN 10.20 AC-FT 242100

07332950 MUDDY BOGGY CREEK AT ATOKA, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to September 1979.

REMARKS.--Point sediment samples were collected on a daily basis by an automatic sampler, complete sediment samples were collected on a weekly basis; additional samples were collected for chemical analyses on a monthly basis. Specific conductance, pH, water temperature, and dissolved oxygen were also determined in the field on a weekly basis.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
DEC											
07...	0800	3.3	240	6.9	5.4	7.4	60	--	--	--	--
14...	0845	2.0	276	7.0	4.0	6.8	52	--	--	--	--
21...	0900	2.6	280	6.3	6.0	7.3	59	--	--	--	--
29...	0800	1.1	300	7.3	6.0	9.3	76	--	--	--	--
JAN											
16...	0800	3.8	345	7.2	3.0	8.7	65	99	28	23	10
26...	0825	58	255	7.3	2.0	--	--	--	--	--	--
FEB											
14...	1000	186	259	7.3	7.0	13.4	113	--	--	--	--
23...	0849	11	298	6.8	6.0	--	--	--	--	--	--
28...	0942	1108	125	7.6	7.0	--	--	--	--	--	--
MAR											
07...	0817	95	168	7.1	9.5	--	--	--	--	--	--
13...	0955	20	312	7.1	12.0	--	--	--	--	--	--
21...	0815	5980	81	6.7	14.0	7.9	77	--	--	--	--
30...	0755	462	105	6.7	16.0	8.9	92	--	--	--	--
APR											
13...	1100	915	186	7.2	17.0	8.2	86	60	19	16	4.8
18...	1330	116	--	7.1	19.0	--	--	--	--	--	--
24...	0802	92	178	7.0	19.0	6.9	76	53	13	13	4.9
27...	0735	39	243	7.2	19.5	6.5	72	--	--	--	--
MAY											
08...	0900	63	382	7.3	20.0	6.8	76	90	39	22	8.5
16...	0805	38	217	7.3	21.0	6.1	68	68	15	17	6.3
24...	1005	3600	122	7.2	21.0	5.3	60	39	7	9.8	3.6
31...	0937	303	129	6.9	21.0	7.4	84	--	--	--	--
JUN											
06...	0748	1337	101	7.2	22.0	6.7	79	38	4	9.4	3.5
13...	0850	392	210	6.9	23.0	5.3	62	--	--	--	--
19...	0830	53	320	7.4	26.0	6.0	75	110	26	30	9.6
23...	0815	25	385	7.5	28.5	5.4	71	120	19	31	11
28...	0900	107	552	7.4	26.5	6.1	75	--	--	--	--
JUL											
06...	0845	14	435	7.2	29.0	2.5	31	--	--	--	--
12...	0609	79	430	7.2	28.0	4.4	57	--	--	--	--
19...	1935	149	127	6.9	26.0	5.2	65	34	0	8.7	3.0
31...	0830	7.6	245	7.3	28.0	5.1	65	--	--	--	--
AUG											
08...	1755	4.5	305	7.4	31.0	5.6	76	--	--	--	--
13...	1735	26	380	7.5	28.0	4.7	60	--	--	--	--
16...	1620	9.4	405	7.6	29.0	6.2	82	--	--	--	--
21...	1830	203	150	7.1	28.0	4.5	58	--	--	--	--
29...	1545	163	83	6.8	26.0	5.3	66	--	--	--	--
SEP											
06...	1800	15	405	7.3	29.0	5.7	75	--	--	--	--
13...	1615	3.1	225	7.4	27.0	6.9	87	61	0	15	5.8
20...	1555	2.8	284	7.3	21.0	7.4	84	79	17	20	7.0
26...	1755	3.4	225	7.3	22.0	6.7	80	--	--	--	--

07332950 MUDDY BOGGY CREEK AT ATOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
DEC											
07...	--	--	--	--	--	43	0	36	8.7	--	--
14...	--	--	--	--	--	57	0	47	9.1	--	--
21...	--	--	--	--	--	59	0	48	42	--	--
29...	--	--	--	--	--	74	0	61	5.9	--	--
JAN											
16...	30	39	1.3	--	4.0	86	0	71	8.7	54	25
26...	--	--	--	--	--	45	0	37	3.6	--	--
FEB											
14...	--	--	--	--	--	28	0	23	1.9	--	--
23...	--	--	--	--	--	45	0	37	11	--	--
28...	--	--	--	--	--	26	0	21	.9	--	--
MAR											
07...	--	--	--	--	--	31	0	25	3.9	--	--
13...	--	--	--	--	--	50	0	41	6.4	--	--
21...	--	--	--	--	--	24	0	20	7.7	--	--
30...	--	--	--	--	--	30	0	24	8.5	--	--
APR											
13...	15	34	.8	--	2.6	50	0	41	5.0	23	18
18...	--	--	--	--	--	60	0	49	7.5	--	--
24...	13	33	.8	--	2.8	49	0	40	7.8	22	11
27...	--	--	--	--	--	62	0	51	6.0	--	--
MAY											
08...	41	49	1.9	--	3.2	62	0	51	5.0	29	67
16...	18	35	.9	--	3.1	65	0	53	5.2	31	18
24...	8.7	30	.6	13	3.8	39	0	32	3.9	8.9	6.5
31...	--	--	--	--	--	47	0	39	8.4	--	--
JUN											
06...	6.7	26	.5	10	3.3	42	0	34	4.2	12	6.1
13...	--	--	--	--	--	71	0	58	14	--	--
19...	24	31	1.0	27	3.4	102	0	84	6.5	39	27
23...	30	34	1.2	34	3.7	123	0	101	6.2	45	34
28...	--	--	--	--	--	154	0	126	9.8	--	--
JUL											
06...	--	--	--	--	--	110	0	90	11	--	--
12...	--	--	--	--	--	84	0	69	8.5	--	--
19...	7.9	30	.6	12	4.1	42	0	34	8.5	10	8.6
31...	--	--	--	--	--	85	0	70	6.8	--	--
AUG											
08...	--	--	--	--	--	114	0	94	7.3	--	--
13...	--	--	--	--	--	137	0	112	6.9	--	--
16...	--	--	--	--	--	145	0	119	5.8	--	--
21...	--	--	--	--	--	58	0	47	7.4	--	--
29...	--	--	--	--	--	28	0	23	7.1	--	--
SEP											
06...	--	--	--	--	--	69	0	57	5.5	--	--
13...	18	37	1.0	22	3.5	74	0	61	4.7	30	9.6
20...	20	34	1.0	24	4.4	75	0	62	6.0	37	10
26...	--	--	--	--	--	81	0	66	6.5	--	--

07332950 MUDDY BOGGY CREEK AT ATOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)
DEC										
07...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
JAN										
16...	.1	10	217	200	.30	2.23	.24	1.1	.01	.03
26...	--	--	--	--	--	--	--	--	--	--
FEB										
14...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
MAR										
07...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
APR										
13...	.2	6.4	--	113	.20	366	.33	1.5	.02	.07
18...	--	--	--	--	--	--	--	--	--	--
24...	.1	9.0	112	101	.15	27.8	.18	.80	.01	.03
27...	--	--	--	--	--	--	--	--	--	--
MAY										
08...	.1	8.4	248	211	.34	42.2	.20	.89	.01	.03
16...	.2	6.8	139	134	.19	14.3	.22	.97	.01	.03
24...	.2	7.3	91	69	.12	885	.20	.89	.02	.07
31...	--	--	--	--	--	--	--	--	--	--
JUN										
06...	.1	7.3	88	70	.12	318	.10	.44	.02	.07
13...	--	--	--	--	--	--	--	--	--	--
19...	.2	10	206	195	.28	29.5	.20	.89	.01	.03
23...	.2	13	243	229	.33	16.4	.03	.13	.00	.00
28...	--	--	--	--	--	--	--	--	--	--
JUL										
06...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
19...	.0	5.3	81	71	.11	32.6	.41	1.8	.02	.07
31...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
SEP										
06...	--	--	--	--	--	--	--	--	--	--
13...	.2	18	129	138	.18	1.08	.28	1.2	.01	.03
20...	.2	8.4	165	165	.22	1.25	4.1	18	.04	.13
26...	--	--	--	--	--	--	--	--	--	--

07332950 MUDDY BOGGY CREEK AT ATOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS PO4)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)
DEC										
07...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	110	1	--	5
21...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
JAN										
16...	.25	.04	.05	.140	.43	--	20	1	80	9
26...	--	--	--	--	--	--	--	--	--	--
FEB										
14...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	40	1	--	4
28...	--	--	--	--	--	--	--	--	--	--
MAR										
07...	--	--	--	--	--	--	30	1	--	3
13...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
APR										
13...	.35	.06	.08	.260	.80	.80	200	1	120	9
18...	--	--	--	--	--	--	--	--	--	--
24...	.19	.04	.05	.090	.28	.28	40	1	60	2
27...	--	--	--	--	--	--	20	1	--	2
MAY										
08...	.21	.04	.05	.110	.34	.34	60	1	60	2
16...	.23	.00	.00	.120	.37	.37	40	1	60	4
24...	.22	.14	.18	.130	.40	.40	20	1	60	4
31...	--	--	--	--	--	--	--	--	--	--
JUN										
06...	.12	.00	.00	.060	.18	.18	190	2	80	1
13...	--	--	--	--	--	--	--	--	--	--
19...	.21	.14	.18	.070	.21	.21	20	2	50	3
23...	.03	.00	.00	.040	.12	.12	20	2	90	2
28...	--	--	--	--	--	--	--	--	--	--
JUL										
06...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
19...	.43	.07	.09	.210	--	.64	120	1	40	1
31...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	0	1	--	1
21...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	70	1	--	0
SEP										
06...	--	--	--	--	--	--	--	--	--	--
13...	.29	.01	.01	.080	--	.25	50	1	90	2
20...	4.1	2.2	2.8	.240	--	.74	20	1	90	1
26...	--	--	--	--	--	--	--	--	--	--

07332950 MUDDY BOGGY CREEK AT ATOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED (MG/L AS C)
DEC										
07...	--	--	--	--	--	--	--	--	--	--
14...	0	2	--	10	--	.0	0	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
JAN										
16...	0	3	200	14	300	.0	0	7	10	1.1
26...	--	--	--	--	--	--	--	--	--	--
FEB										
14...	--	--	--	--	--	--	--	--	--	--
23...	0	2	--	45	--	.0	0	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
MAR										
07...	0	3	--	34	--	.0	0	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
APR										
13...	0	5	650	82	30	.0	0	20	--	--
18...	--	--	--	--	--	--	--	--	--	--
24...	0	2	200	14	70	.4	<10	<3	--	--
27...	10	1	--	5	--	.2	0	--	--	--
MAY										
08...	0	4	90	30	130	.2	<10	40	13	1.5
16...	0	2	220	58	150	.1	0	10	11	2.0
24...	0	3	240	20	30	.6	0	10	16	--
31...	--	--	--	--	--	--	--	--	--	--
JUN										
06...	20	2	440	0	40	.0	0	10	15	8.1
13...	--	--	--	--	--	--	--	--	--	--
19...	10	3	40	15	150	.7	0	10	8.5	2.3
23...	10	2	10	0	8	.0	<10	<3	7.8	--
28...	--	--	--	--	--	--	--	--	--	--
JUL										
06...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
19...	0	4	190	1	40	.0	<10	5	14	2.5
31...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
16...	10	1	--	0	--	.0	0	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
29...	10	2	--	0	--	.0	0	--	--	--
SEP										
06...	--	--	--	--	--	--	--	--	--	--
13...	20	2	110	0	120	.0	<10	110	5.8	1.4
20...	0	1	30	0	100	.3	<10	20	5.8	3.3
26...	--	--	--	--	--	--	--	--	--	--

07332950 MUDDY BOGGY CREEK AT ATOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
01...	0730	3.6	--	--	--	--	--	330	3.2	97
02...	0730	3.0	--	--	--	--	--	244	2.0	98
04...	--	--	--	--	--	--	--	52	--	99
04...	0730	3.6	--	--	--	--	--	153	1.5	100
NOV										
16...	1700	--	--	--	--	--	--	173	--	93
17...	0730	--	--	--	--	--	--	159	--	94
18...	0800	--	--	--	--	--	--	220	--	96
19...	0900	--	--	--	--	--	--	184	--	92
20...	0820	--	--	--	--	--	--	290	--	96
21...	0800	--	--	--	--	--	--	160	--	97
22...	0800	--	--	--	--	--	--	116	--	94
DEC										
07...	0915	--	--	--	--	--	--	161	--	100
08...	0830	2.6	--	--	--	--	--	214	1.5	98
09...	0830	2.6	--	--	--	--	--	67	.47	96
11...	1000	1.6	--	--	--	--	--	142	.61	96
12...	0900	2.6	--	--	--	--	--	126	.88	96
13...	0900	2.6	--	--	--	--	--	124	.87	96
14...	0900	2.6	--	--	--	--	--	120	.84	96
14...	0910	2.7	--	--	--	--	--	31	.23	86
15...	0800	1.9	--	--	--	--	--	114	.58	96
16...	0900	1.4	--	--	--	--	--	107	.40	96
17...	0800	2.2	--	--	--	--	--	121	.72	96
21...	0900	2.6	280	6.3	6.0	7.3	59	136	.95	97
22...	1310	2.6	--	--	--	--	--	1800	13	73
23...	1300	2.6	--	--	--	--	--	1860	13	70
24...	0930	--	--	--	--	--	--	380	--	90
25...	1530	2.6	--	--	--	--	--	2180	15	74
26...	1530	2.6	--	--	--	--	--	464	3.3	84
27...	1400	1.9	--	--	--	--	--	1030	5.3	84
28...	1530	1.9	--	--	--	--	--	1000	5.1	95
29...	0800	1.1	300	7.3	6.0	9.3	76	106	.31	97
29...	1500	2.2	--	--	--	--	--	290	1.7	84
30...	1430	2.6	--	--	--	--	--	1290	9.1	91
31...	1500	2.6	--	--	--	--	--	931	6.5	68
JAN										
16...	0800	3.8	345	7.2	3.0	8.7	65	103	1.1	93
26...	0825	58	255	7.3	2.0	--	--	52	8.2	90
FEB										
14...	1000	186	259	7.3	7.0	13.4	113	307	154	98
23...	0849	11	298	6.8	6.0	--	--	178	5.3	96
24...	0900	1141	--	--	--	--	--	3010	9270	98
25...	0800	990	--	--	--	--	--	637	1700	98
25...	1200	1010	--	--	--	--	--	591	1610	97
25...	1700	1031	--	--	--	--	--	685	1910	96
26...	0700	2009	--	--	--	--	--	841	4560	92
26...	0800	1988	--	--	--	--	--	797	4280	93
27...	0800	1180	--	--	--	--	--	514	1640	98
27...	1200	1201	--	--	--	--	--	491	1590	97
28...	0942	1108	125	7.6	7.0	--	--	300	897	98
28...	1200	833	--	--	--	--	--	277	623	97
28...	1700	833	--	--	--	--	--	276	621	98
MAR										
01...	1700	145	--	--	--	--	--	251	98	97
02...	1700	260	--	--	--	--	--	392	275	95
03...	0800	877	--	--	--	--	--	499	1180	93
03...	1700	790	--	--	--	--	--	5200	11100	55
04...	1200	1051	--	--	--	--	--	352	999	94
04...	1700	855	--	--	--	--	--	1440	3320	64
05...	0800	363	--	--	--	--	--	2350	2300	88
05...	1000	32	--	--	--	--	--	551	48	94
06...	1700	77	--	--	--	--	--	336	70	96
07...	0817	95	168	7.1	9.5	--	--	208	53	97
07...	1200	103	--	--	--	--	--	550	153	94
08...	0900	55	--	--	--	--	--	840	125	96
08...	1200	334	--	--	--	--	--	1100	992	93
08...	1300	923	--	--	--	--	--	270	673	98
08...	1700	64	--	--	--	--	--	814	141	95
09...	1300	614	--	--	--	--	--	248	411	99
12...	--	6945	--	--	--	--	--	1010	18900	97
13...	0955	20	312	7.1	12.0	--	--	161	8.9	99
13-16	--	--	--	--	--	--	--	954	--	90
17...	1700	8.4	--	--	--	--	--	1210	27	89
18...	1000	11	--	--	--	--	--	966	29	93
19...	0800	85	--	--	--	--	--	325	75	99
20...	0800	7049	--	--	--	--	--	1120	21300	94
20...	1700	6613	--	--	--	--	--	908	16200	98
21...	0820	6086	--	--	--	--	--	838	13800	94

07332950 MUDDY BOGGY CREEK AT ATOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR										
21...	1800	5633	--	--	--	--	--	711	10800	98
22...	0800	1845	--	--	--	--	--	730	3640	98
22...	1700	1811	--	--	--	--	--	742	3630	96
23...	0800	2959	--	--	--	--	--	1030	8230	97
23...	1200	2959	--	--	--	--	--	1020	8150	96
23...	1700	2981	--	--	--	--	--	940	7570	97
24...	0800	1297	--	--	--	--	--	434	1520	97
24...	1200	1171	--	--	--	--	--	509	1610	97
24...	1700	744	--	--	--	--	--	504	1010	98
25...	0700	242	--	--	--	--	--	328	214	98
25...	0800	334	--	--	--	--	--	416	375	98
25...	1200	255	--	--	--	--	--	327	225	98
26...	1700	165	--	--	--	--	--	219	98	98
27...	0800	141	--	--	--	--	--	886	337	86
28...	0800	124	--	--	--	--	--	2160	723	68
28...	1700	106	--	--	--	--	--	1480	424	72
29...	0900	93	--	--	--	--	--	1330	334	75
30...	0732	566	--	--	--	--	--	437	668	95
30...	0847	447	--	--	--	--	--	372	449	94
31...	0800	92	--	--	--	--	--	624	155	74
APR										
02...	0800	3409	--	--	--	--	--	1860	17100	83
02...	1200	3559	--	--	--	--	--	1420	13600	94
02...	1800	3260	--	--	--	--	--	879	7740	95
03...	0600	429	--	--	--	--	--	379	439	97
03...	0800	914	--	--	--	--	--	439	1080	96
04...	0900	669	--	--	--	--	--	328	592	98
08...	0700	87	--	--	--	--	--	532	125	89
08...	1300	606	--	--	--	--	--	427	699	92
09...	1800	58	--	--	--	--	--	868	136	88
10...	1500	49	--	--	--	--	--	746	99	89
11...	1300	735	--	--	--	--	--	381	756	95
12...	0600	2593	--	--	--	--	--	823	5760	97
13...	0600	447	--	--	--	--	--	895	1080	99
13...	1130	868	--	--	--	--	--	1090	2560	98
14...	0700	234	--	--	--	--	--	620	392	99
15...	0700	141	--	--	--	--	--	375	143	98
17...	0800	62	--	--	--	--	--	1240	208	90
18...	0700	353	--	--	--	--	--	152	145	95
18...	1325	106	--	--	--	--	--	126	36	99
19...	0600	891	--	--	--	--	--	417	1000	96
19...	0800	182	--	--	--	--	--	141	69	97
20...	0600	932	--	--	--	--	--	430	1080	98
20...	0700	846	--	--	--	--	--	602	1380	98
21...	0600	141	--	--	--	--	--	596	227	99
21...	0700	312	--	--	--	--	--	514	433	97
22...	0500	187	--	--	--	--	--	553	279	98
23...	0600	356	--	--	--	--	--	392	377	96
24...	0600	80	--	--	--	--	--	810	175	97
24...	0802	92	178	7.0	19.0	6.9	76	116	29	98
27...	0735	39	243	7.2	19.5	6.5	72	101	11	99
28...	0700	28	--	--	--	--	--	575	43	97
29-30	--	--	--	--	--	--	--	491	--	93
MAY										
03...	1900	16	--	--	--	--	--	101	4.4	93
05...	2000	397	--	--	--	--	--	514	551	99
06...	1600	149	--	--	--	--	--	222	89	99
08...	0845	77	--	--	--	--	--	211	44	98
08...	1300	19	--	--	--	--	--	165	8.5	97
08...	1400	19	--	--	--	--	--	482	25	98
08...	1600	1018	--	--	--	--	--	448	1230	98
08...	1900	40	--	--	--	--	--	204	22	98
10...	1600	30	--	--	--	--	--	1060	86	94
11...	2000	46	--	--	--	--	--	514	64	98
12...	0900	44	--	--	--	--	--	831	99	96
12...	2000	390	--	--	--	--	--	599	631	98
13...	2000	266	--	--	--	--	--	383	275	99
14...	2000	106	--	--	--	--	--	205	59	98
16...	0805	38	217	7.3	21.0	6.1	68	195	20	98
16...	1600	36	--	--	--	--	--	696	68	96
17...	1600	27	--	--	--	--	--	321	23	97
18-20	--	--	--	--	--	--	--	580	--	96
21...	1600	2139	--	--	--	--	--	638	3690	93
21...	1900	2793	--	--	--	--	--	991	7470	94
22...	1200	4972	--	--	--	--	--	804	10800	97
22...	1700	5209	--	--	--	--	--	678	9540	950
22...	2000	4052	--	--	--	--	--	1210	13200	97
23...	1200	5019	--	--	--	--	--	425	5760	93
23...	1700	5043	--	--	--	--	--	491	6690	91

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MAY										
23...	2000	5185	--	--	--	--	--	633	8860	96
24...	1005	3600	122	7.2	21.0	5.3	60	136	1320	94
24...	1800	990	--	--	--	--	--	212	567	95
24...	2000	3874	--	--	--	--	--	195	2040	92
25...	2100	318	--	--	--	--	--	182	156	97
26-28	--	--	--	--	--	--	--	345	--	93
29...	1200	4210	--	--	--	--	--	740	8410	96
29...	1700	103	--	--	--	--	--	699	194	93
29...	2100	4210	--	--	--	--	--	648	7370	97
30...	1900	1201	--	--	--	--	--	258	837	96
30...	2000	2945	--	--	--	--	--	512	4070	94
31...	0937	303	129	6.9	21.0	7.4	84	152	124	97
JUN										
01...	2000	165	--	--	--	--	--	152	68	98
02-03	--	--	--	--	--	--	--	406	--	98
03...	2100	1106	--	--	--	--	--	742	2220	98
04...	2100	255	--	--	--	--	--	226	156	99
05...	0945	119	--	--	--	--	--	153	49	98
06...	0748	1337	101	7.2	22.0	6.7	79	368	1330	94
06...	1400	900	--	--	--	--	--	284	690	94
07...	1700	3226	--	--	--	--	--	1430	12500	94
07...	2000	946	--	--	--	--	--	240	613	98
08...	1200	5619	--	--	--	--	--	671	10200	96
08...	1700	6236	--	--	--	--	--	497	8370	96
08...	2000	4784	--	--	--	--	--	691	8930	96
09...	1200	8775	--	--	--	--	--	362	8580	94
09...	1800	8857	--	--	--	--	--	292	6980	96
09...	2000	8503	--	--	--	--	--	291	6680	95
10...	1200	7956	--	--	--	--	--	511	11000	97
10...	1800	7355	--	--	--	--	--	892	17700	83
10...	2000	8191	--	--	--	--	--	393	8690	99
11...	1200	6997	--	--	--	--	--	426	8050	92
11...	1800	7049	--	--	--	--	--	570	10800	85
11...	2000	6920	--	--	--	--	--	627	11700	92
12...	1200	6276	--	--	--	--	--	736	12500	92
12...	1800	4382	--	--	--	--	--	4934	58400	34
12...	1900	6705	--	--	--	--	--	1410	25500	73
13...	0840	386	--	--	--	--	--	252	263	98
13...	1800	285	--	--	--	--	--	1620	1250	84
14...	2000	219	--	--	--	--	--	248	147	95
15...	1800	143	--	--	--	--	--	755	292	88
16...	2100	126	--	--	--	--	--	178	61	95
17...	1800	285	--	--	--	--	--	1080	831	93
18-19	--	--	--	--	--	--	--	667	--	90
19...	0830	53	320	7.4	26.0	6.0	75	125	18	88
21...	1900	34	--	--	--	--	--	374	34	93
22...	1800	23	--	--	--	--	--	425	26	91
23...	0815	25	385	7.5	28.5	5.4	71	83	5.6	99
26...	1800	59	--	--	--	--	--	713	114	68
27...	1600	182	--	--	--	--	--	886	435	85
28...	0900	107	552	7.4	26.5	6.1	75	144	42	99
28...	1900	92	--	--	--	--	--	664	165	91
29...	1900	62	--	--	--	--	--	837	140	86
JUL										
01...	2100	34	--	--	--	--	--	416	38	77
02...	2000	23	--	--	--	--	--	772	48	88
03-05	--	--	--	--	--	--	--	553	--	84
04-07	--	--	--	--	--	--	--	743	--	95
06...	0845	14	435	7.2	29.0	2.5	31	150	5.8	98
08...	2000	425	--	--	--	--	--	304	349	97
09...	2000	169	--	--	--	--	--	2280	1040	72
10...	2000	68	--	--	--	--	--	442	81	84
11...	2000	44	--	--	--	--	--	1420	169	68
12...	0609	79	430	7.2	28.0	4.4	57	252	54	99
12...	2000	169	--	--	--	--	--	421	192	99
13...	2000	68	--	--	--	--	--	1880	345	88
14-17	--	--	--	--	--	--	--	1050	--	88
18...	1900	713	--	--	--	--	--	1060	2040	98
19...	1600	193	--	--	--	--	--	329	171	98
19...	1935	149	127	6.9	26.0	5.2	65	304	122	98
20...	2000	87	--	--	--	--	--	256	60	98
21...	2100	53	--	--	--	--	--	300	43	99
22...	2100	31	--	--	--	--	--	332	28	99
23...	2000	20	--	--	--	--	--	309	17	99
24-28	--	--	--	--	--	--	--	299	--	77
29-30	--	--	--	--	--	--	--	358	--	90
31...	0830	7.6	245	7.3	28.0	5.1	65	149	3.1	91
31-31	--	--	--	--	--	--	--	771	--	82

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AUG										
01-01	--	--	--	--	--	--	--	771	--	82
02...	0800	5.7	--	--	--	--	--	466	7.2	72
03...	0800	7.9	--	--	--	--	--	254	5.4	87
04-05	--	--	--	--	--	--	--	359	--	87
06-07	--	--	--	--	--	--	--	342	--	81
08...	1755	4.5	305	7.4	31.0	5.6	76	62	.75	98
08-10	--	--	--	--	--	--	--	393	--	87
11...	0900	2.8	--	--	--	--	--	510	3.9	87
12...	1900	14	--	--	--	--	--	241	9.1	73
13...	0900	34	--	--	--	--	--	448	41	91
13...	1735	26	380	7.5	28.0	4.7	60	125	8.9	95
14...	1000	20	--	--	--	--	--	1300	70	80
15...	0900	11	--	--	--	--	--	262	7.8	85
16...	0900	8.1	--	--	--	--	--	712	16	80
16...	1620	9.4	405	7.6	29.0	6.2	82	101	2.6	97
17...	1000	127	--	--	--	--	--	623	214	74
18...	1800	29	--	--	--	--	--	271	21	97
19-21	--	--	--	--	--	--	--	222	--	97
21...	1500	51	--	--	--	--	--	280	39	97
21...	1620	196	--	--	--	--	--	229	121	97
22-23	--	--	--	--	--	--	--	335	--	99
24...	0900	132	--	--	--	--	--	590	210	99
25...	0530	59	--	--	--	--	--	405	65	98
26...	1000	28	--	--	--	--	--	465	35	97
27-28	--	--	--	--	--	--	--	306	--	98
29...	0900	321	--	--	--	--	--	933	809	100
29...	1640	165	--	--	--	--	--	756	337	100
30...	1800	53	--	--	--	--	--	504	72	99
31...	0900	36	--	--	--	--	--	515	50	99
SEP										
01...	0800	161	--	--	--	--	--	435	189	99
02...	0900	31	--	--	--	--	--	511	43	99
03...	0800	42	--	--	--	--	--	392	44	99
04...	2000	28	--	--	--	--	--	360	27	99
05...	0900	19	--	--	--	--	--	403	21	96
06...	0900	16	--	--	--	--	--	327	14	99
06...	1800	15	405	7.3	29.0	5.7	75	256	11	99
07...	0900	15	--	--	--	--	--	256	10	98
08...	0900	11	--	--	--	--	--	215	6.4	100
09...	0900	8.4	--	--	--	--	--	223	5.1	99
10...	0900	7.2	--	--	--	--	--	364	7.1	90
11...	0900	5.1	--	--	--	--	--	199	2.7	94
12...	1000	5.1	--	--	--	--	--	237	3.3	96
13...	0900	3.6	--	--	--	--	--	167	1.6	96
13...	1615	3.1	225	7.4	27.0	6.9	87	162	1.4	97
14...	1000	3.0	--	--	--	--	--	158	1.3	97
15...	0900	3.0	--	--	--	--	--	157	1.3	98
16...	1000	3.0	--	--	--	--	--	277	2.2	94
17...	0900	3.0	--	--	--	--	--	156	1.3	96
18...	0800	2.6	--	--	--	--	--	755	5.3	88
19...	0900	2.6	--	--	--	--	--	838	5.9	81
20...	0800	2.1	--	--	--	--	--	860	4.9	87
20...	1555	2.8	284	7.3	21.0	7.4	84	166	1.3	86
21...	0800	1.8	--	--	--	--	--	352	1.7	91
22...	0900	2.9	--	--	--	--	--	469	3.7	92
23...	0900	4.2	--	--	--	--	--	289	3.3	82
24...	0800	4.2	--	--	--	--	--	138	1.6	95
25...	0900	4.2	--	--	--	--	--	122	1.4	95
26...	0800	3.6	--	--	--	--	--	125	1.2	98
26...	1755	3.4	225	7.3	22.0	6.7	80	192	1.8	84
27...	0900	4.2	--	--	--	--	--	116	1.3	96
28...	0800	--	--	--	--	--	--	135	--	97
29...	0900	2.7	--	--	--	--	--	114	.83	96
30...	0900	2.3	--	--	--	--	--	102	.63	98

07333910 MCGEE CREEK NEAR FARRIS, OK

LOCATION.--Lat 34°18'54", long 95°52'30", NW¼NE¼ sec.7, T.3 S., R.14 E., Atoka County, Hydrologic Unit 11140103, on left bank 0.1 mi (0.2 km) downstream from Crooked Creek, 1.1 mi (1.8 km) downstream from Potapo Creek, 3.7 mi (6.0 km) northwest of Farris and at mile 3.5 (5.6 km).

DRAINAGE AREA.--176 mi^2 (456 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 463 ft (141 m) from topographic map.

REMARKS.--Records poor.

EXTREMES FOR CURRENT PERIOD.--Water year 1978: Maximum discharge, 7,640 ft^3/s (216 m^3/s) Mar. 24, gage height, 26.24 ft (7.998 m); no flow at times.

Water year 1979: Maximum discharge, 15,200 ft^3/s (430 m^3/s) May 21, gage height, 33.08 ft (10.083 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	1000	2.4	1.9	44	193	54	432	52	.86	.42	.00
2	.08	500	3.2	1.7	41	203	44	292	47	.72	.79	.00
3	.06	100	7.5	1.6	39	248	37	2510	34	.60	.79	.00
4	.05	50	16	1.5	37	139	895	319	24	.47	.94	.00
5	.04	20	11	1.4	36	98	496	351	18	.36	.94	.00
6	.02	10	9.0	1.3	37	78	251	330	26	.28	.94	.00
7	.00	6.0	8.0	1.3	37	899	164	242	47	.21	.86	.00
8	.00	5.0	7.5	1.2	36	2070	109	209	107	.18	.72	.00
9	.00	50	7.3	1.2	33	640	81	125	120	.13	.60	.00
10	.00	125	7.0	1.2	29	306	302	81	58	.12	.53	.00
11	.00	72	9.0	2.0	27	193	591	56	33	.10	.47	.00
12	.00	44	7.0	4.0	1090	135	180	43	22	.10	.36	.00
13	.00	29	6.0	2.6	5150	104	138	33	15	.08	.28	.00
14	.00	21	5.0	2.6	688	87	101	25	11	.07	.24	.00
15	.00	15	4.0	2.4	292	72	72	20	8.4	.06	.21	.00
16	.00	12	3.5	15	211	57	53	16	6.6	.05	.15	.00
17	.00	9.5	3.0	70	188	46	40	14	5.8	.04	.12	.00
18	.00	7.2	2.7	93	156	37	35	13	5.0	.02	.10	.00
19	.00	6.3	2.4	62	131	31	28	11	4.0	.00	.08	.00
20	.00	5.5	2.2	43	154	26	21	9.8	3.0	.00	.07	.00
21	.00	4.8	1.9	32	156	1940	17	9.1	20	.00	.06	.00
22	.00	4.0	1.8	26	125	523	15	17	150	.00	.05	.00
23	.00	3.4	1.7	23	181	738	91	36	50	.00	.03	.00
24	.00	3.0	1.6	33	245	2740	107	141	20	.00	.01	.00
25	.00	3.0	1.5	231	188	222	282	85	5.0	.00	.00	.00
26	.00	2.9	1.4	251	129	172	102	15	2.0	.00	.00	.00
27	.00	2.6	1.4	147	96	204	57	11	1.4	.00	.00	.00
28	.00	2.1	1.3	94	214	151	37	475	1.3	.00	.00	.00
29	.00	1.8	3.0	69	---	112	32	695	1.1	.00	.00	.00
30	.00	1.8	2.5	55	---	88	3920	183	.94	.00	.00	.00
31	10	---	2.2	48	---	69	---	85	---	.00	.00	---
TOTAL	10.34	2116.9	144.0	1319.9	9790	12621	8352	6883.9	898.54	4.45	9.76	.00
MEAN	.33	70.6	4.65	42.6	350	407	278	222	30.0	.14	.31	.000
MAX	10	1000	16	251	5150	2740	3920	2510	150	.86	.94	.00
MIN	.00	1.8	1.3	1.2	27	26	15	9.1	.94	.00	.00	.00
AC-FT	21	4200	286	2620	19420	25030	16570	13650	1780	8.8	19	.00

WTR YR 1978 TOTAL 42150.79 MEAN 115 MAX 5150 MIN .00 AC-FT 83610

07333910 MCGEE CREEK NEAR FARRIS, OK--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	25	8.9	51	671	2760	17	90	1.4	1.8	.42
2	.00	.00	20	7.3	43	361	702	15	30	1.2	1.8	.28
3	.00	.00	50	6.2	39	1070	376	14	20	1.1	9.0	.24
4	.00	.00	35	6.5	37	638	307	14	30	1.0	3.5	.18
5	.00	.00	25	12	35	299	208	13	50	.80	2.2	.13
6	.00	.00	20	16	37	190	150	13	206	1.2	1.4	.12
7	.00	.00	18	13	74	141	111	14	250	5.0	.72	.11
8	.00	.00	16	10	127	109	88	14	1000	2.0	.53	.10
9	.00	.00	13	8.1	109	85	70	11	2000	1.5	.42	.08
10	.00	.00	11	8.2	92	67	62	9.6	1000	4.0	.32	.07
11	.00	.00	9.5	9.3	132	53	76	93	500	2.0	.28	.06
12	.00	.00	8.4	12	269	43	107	329	200	1.5	.18	.06
13	.00	.00	7.6	17	229	37	95	126	100	1.3	.13	.06
14	.00	.30	6.8	22	156	31	68	70	50	1.2	.12	.05
15	.00	.80	6.1	27	126	26	51	44	30	1.1	.11	.03
16	.00	10	5.5	21	96	24	40	29	20	1.0	.11	.02
17	.00	400	5.1	19	71	23	32	21	15	1.5	.10	.01
18	.00	150	4.5	122	54	23	173	15	10	15	.10	.01
19	.00	70	4.3	1510	44	998	356	12	8.0	30	.08	.01
20	.00	50	4.1	1690	39	2080	210	14	6.2	10	.08	.06
21	.00	35	4.0	535	39	239	134	5770	5.0	7.0	.08	.10
22	.00	25	3.8	257	404	341	105	1150	4.1	5.0	.12	.10
23	.00	15	3.5	163	466	420	83	345	3.6	4.0	.12	.10
24	.00	10	3.2	111	1150	341	63	254	3.1	3.5	.12	.08
25	.00	15	3.0	84	1780	206	49	245	2.7	3.1	.10	.08
26	.00	30	2.8	151	1360	142	38	133	2.2	2.7	.10	.07
27	.00	100	2.6	301	1110	117	28	90	2.1	2.4	.11	.07
28	.00	250	2.4	197	1570	113	23	912	2.0	2.2	.13	.07
29	.00	60	2.3	120	---	118	20	728	1.7	2.1	.79	.07
30	.00	30	2.2	88	---	2730	18	282	1.5	2.0	.66	.07
31	.00	---	3.8	67	---	912	---	156	---	1.9	.47	---
TOTAL	.00	1251.10	328.5	5619.5	9739	12648	6603	10952.6	5643.2	119.70	25.78	2.91
MEAN	.000	41.7	10.6	181	348	408	220	353	188	3.86	.83	.097
MAX	.00	400	50	1690	1780	2730	2760	5770	2000	30	9.0	.42
MIN	.00	.00	2.2	6.2	35	23	18	9.6	1.5	.80	.08	.01
AC-FT	.00	2480	652	11150	19320	25090	13100	21720	11190	237	51	5.8

CAL YR 1978 TOTAL 42366.08 MEAN 116 MAX 5150 MIN .00 AC-FT 84030
WTR YR 1979 TOTAL 52933.29 MEAN 145 MAX 5770 MIN .00 AC-FT 105000

07333910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: September 1976 to current year.
pH: September 1976 to current year.
WATER TEMPERATURE: September 1976 to current year.

INSTRUMENTATION.--Water-quality monitor since September 1976.

REMARKS.--In addition to water-quality monitor, samples were collected on a bi-weekly basis.

COOPERATION.--Samples were collected by the U.S. Geological Survey and analyses were furnished by the Oklahoma Water Resources Board.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
NOV												
29...	1630	--	80020	30	114	6.4	11.0	11.2	114	480	880	--
DEC												
07...	1230	--	80020	18	100	6.9	5.5	10.5	83	--	--	--
07...	1231	1028	9740	18	100	6.9	5.5	10.5	83	--	--	24
19...	1700	--	80020	4.3	126	7.8	9.5	--	--	K10	K10	--
19...	1701	1028	9470	4.3	126	7.8	9.5	--	--	--	--	41
JAN												
16...	1130	--	80020	21	160	6.7	2.0	--	--	--	--	--
16...	1301	1028	9740	21	160	6.7	2.0	--	--	--	--	42
25...	1200	--	80020	84	88	7.8	3.0	13.4	100	68	240	--
25...	1201	1028	9740	84	88	7.8	3.0	13.4	100	--	--	22
FEB												
13...	1200	--	80020	229	90	6.7	3.0	13.8	102	--	--	--
13...	1201	1028	9740	229	90	6.7	3.0	13.8	102	--	--	26
MAR												
09...	1130	--	80020	85	68	6.3	11.0	10.0	92	--	--	--
09...	1131	1028	9740	85	68	6.3	11.0	10.0	92	--	--	16
27...	1400	--	80020	117	79	6.9	15.0	--	--	90	34	--
27...	1401	1028	9740	117	79	6.9	15.0	--	--	--	--	19
APR												
03...	1300	--	80020	376	50	6.6	12.0	--	--	--	--	--
03...	1301	1028	9740	376	50	6.6	12.0	--	--	--	--	--
19...	1115	--	80020	356	82	6.6	19.0	9.5	102	590	K1400	--
19...	1116	1028	9740	356	82	6.6	19.0	9.5	102	--	--	19
MAY												
08...	1630	--	80020	14	110	6.9	25.0	8.2	99	--	--	--
08...	1631	1028	9740	14	110	6.9	25.0	8.2	99	--	--	26
15...	1500	--	80020	44	--	--	--	--	--	58	79	--
16...	1200	--	80020	29	105	7.3	22.5	8.2	93	--	--	--
16...	1201	1028	9740	29	105	7.3	22.5	8.2	93	--	--	26
JUN												
06...	1300	--	80020	206	140	6.2	23.0	8.0	93	--	--	--
06...	1301	1028	9740	206	140	6.2	23.0	8.0	93	--	--	20
25...	1600	--	80020	2.7	--	--	--	--	--	K4	170	--
26...	1245	--	80020	2.2	116	7.5	29.0	7.2	92	--	--	--
26...	1246	1028	9740	2.2	116	7.5	29.0	7.2	92	--	--	28
JUL												
18...	1450	--	80020	15	140	7.2	28.5	6.4	83	K72	770	--
18...	1451	1028	9740	15	140	7.2	28.5	6.4	83	--	--	31
AUG												
06...	1445	--	80020	1.4	119	7.8	33.0	--	--	K11	895	--
06...	1446	1028	9740	1.4	119	7.8	33.0	--	--	--	--	34
23...	1300	--	80020	.12	122	8.2	31.0	8.4	112	--	--	--
23...	1301	1028	9740	.12	122	8.2	31.0	8.4	112	--	--	34
SEP												
25...	1400	--	80020	.08	120	8.4	31.0	--	--	--	--	--
25...	1401	1028	9740	.08	120	8.4	31.0	--	--	--	--	40
25...	1500	--	80020	.08	120	8.4	31.0	--	--	--	--	--
29...	1400	--	--	.07	135	7.2	21.0	9.0	101	--	--	--

07333910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)
NOV												
29...	--	--	--	--	--	--	--	--	--	--	--	16
DEC												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	5.0	5.0	3.2	2.9	10	<10	--	--	2.0	2.0	27
19...	--	--	--	--	--	--	--	--	--	--	--	54
19...	--	7.0	10	3.9	3.9	12	12	37	.8	2.1	2.0	--
JAN												
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	9.1	9.1	5.0	4.7	<10	<10	--	--	2.0	1.9	--
25...	--	--	--	--	--	--	--	--	--	--	--	7
25...	--	4.8	4.6	3.0	2.6	<10	<10	--	--	1.6	1.8	--
FEB												
13...	--	--	--	--	--	--	--	--	--	--	--	6
13...	38	6.0	5.0	3.6	3.2	<10	<10	--	--	1.5	1.5	7
MAR												
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	4.0	3.0	2.5	2.0	<10	11	58	1.2	3.5	1.3	--
27...	--	--	--	--	--	--	--	--	--	--	--	11
27...	--	4.0	4.0	2.2	2.2	10	<10	--	--	1.3	1.4	--
APR												
03...	--	--	--	--	1.8	--	--	--	--	--	--	--
03...	--	4.0	3.0	2.1	--	<10	<10	--	--	1.4	1.6	--
19...	--	--	--	--	--	--	--	--	--	--	--	11
19...	--	3.0	4.0	2.4	2.3	<10	<10	--	--	1.5	1.6	--
MAY												
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	13	6.0	5.0	3.4	3.3	10	<10	--	--	5.4	1.6	21
15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	17
16...	16	5.0	5.0	3.0	3.3	<10	10	44	.9	2.0	1.6	13
JUN												
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	4.0	4.0	2.3	2.4	<10	10	50	1.0	1.5	1.5	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	6.0	6.0	3.1	3.1	<10	<10	--	--	2.4	3.6	--
JUL												
18...	--	--	--	--	--	--	--	--	--	--	--	30
18...	--	8.0	7.0	3.6	3.3	14	11	41	.9	2.3	2.2	--
AUG												
06...	--	--	--	--	--	--	--	--	--	--	--	25
06...	--	5.5	6.8	4.1	4.1	<10	<10	37	.7	2.6	2.5	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	8.0	8.0	3.7	3.5	10	10	37	.7	2.0	2.0	--
SEP												
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	9.0	9.0	4.2	4.2	<10	<10	--	--	2.4	2.4	--
25...	--	--	--	--	--	--	--	--	--	--	--	30
29...	--	--	--	--	--	--	--	--	--	--	--	--

07333910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
NOV												
29...	14	9.1	--	.1	7.4	65	.09	5.26	--	1.1	4.8	.01
DEC												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	21	74	.1	--	--	--	--	--	192	--	--	--
19...	16	16	--	.0	6.5	77	.10	.89	--	.67	3.0	.01
19...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
25...	8.8	7.4	--	.1	7.2	72	.10	16.3	--	.98	4.3	.02
25...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
13...	16	9.4	--	.1	6.8	55	.07	34.0	--	1.3	5.7	.01
13...	22	10	.1	--	--	--	--	--	106	--	--	--
MAR												
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
27...	8.8	5.2	--	.1	7.3	54	.07	17.1	--	.26	1.2	.02
27...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
19...	13	5.3	--	.1	6.8	59	.08	56.7	--	.10	.44	.01
19...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	18	12	--	.1	--	--	--	--	71	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	15	7.3	--	.1	5.8	64	.09	5.01	--	.39	1.7	.01
16...	25	17	.4	--	--	--	--	--	120	--	--	--
JUN												
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
18...	12	10	--	.1	5.5	71	.10	2.88	--	.01	.04	.01
18...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
06...	7.8	9.6	--	.1	4.0	64	.09	.24	--	.05	.22	.01
06...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	8.8	14	--	.1	1.8	82	.11	.02	--	.01	.04	.01
29...	--	--	--	--	--	--	--	--	--	--	--	--

07333910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)
NOV												
29...	.03	--	1.1	--	.01	.01	.34	.35	1.5	--	--	1600
DEC												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	1.0	--	.10	--	--	--	--	--	.050	--	--
19...	.03	--	.68	--	.02	.03	.39	.41	1.1	--	.040	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
16...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
25...	.07	--	1.0	--	.00	.00	.46	.46	1.5	--	.020	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
13...	.03	--	1.3	--	.31	.40	.89	1.2	2.5	--	.110	1700
13...	--	1.5	--	.10	--	--	--	--	--	.050	--	--
MAR												
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
27...	.07	--	.28	--	.00	.00	.41	.41	.69	--	.020	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
19...	.03	--	.11	--	.01	.01	.38	.39	.50	--	.010	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
08...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	.10	--	--	--	--	--	--	--	.040	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
16...	.03	--	.40	--	.00	.00	.27	.27	.67	--	.020	400
16...	--	.20	--	--	--	--	--	--	--	.040	--	--
JUN												
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	.92	1.2	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
18...	.03	--	.02	--	.27	.35	.39	.66	.68	--	.050	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
06...	.03	--	.06	--	.03	.04	.40	.43	.49	--	.010	700
06...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	.03	--	.02	--	.03	.04	.63	.66	.68	--	.000	--
29...	--	--	--	--	--	--	--	--	--	--	--	--

07333910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
NOV											
29...	0	--	--	--	--	--	--	--	--	--	--
DEC											
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	<2	<2	<2	<2	22	21	<4	<4	1750	530
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	<1	<1	<1	<1	7	6	3	<2	1150	430
JAN											
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	<1	<1	<1	<1	9	8	<2	3	740	265
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	<1	<1	<1	<1	9	9	<5	4	520	375
FEB											
13...	1400	--	--	--	--	--	--	--	--	--	--
13...	--	<2	<2	<1	<2	24	16	2	9	3200	860
MAR											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	<2	<2	<2	6	13	10	<40	<40	2500	800
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	<2	<2	<2	<2	19	30	<4	4	1090	800
APR											
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	<2	<2	<2	<8	15	10	<40	<40	3900	750
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	<2	<2	4	4	<10	<10	<40	<40	1200	350
MAY											
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	<2	<2	2	6	10	<10	5	5	760	370
15...	--	--	--	--	--	--	--	--	--	--	--
16...	200	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	4	<2	15	11	<4	9	2300	960
JUN											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	<2	<2	<2	2	21	21	<4	5	2800	380
25...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	6	6	<2	<2	<10	<10	4	4	1100	440
JUL											
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	68	11	5	4	<10	<10	5	6	1050	190
AUG											
06...	0	--	--	--	--	--	--	--	--	--	--
06...	--	<5	<5	<2	4	<10	<10	<4	<4	420	200
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	<10	<10	4	--	11	<10	6	7	10400	500
SEP											
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	<10	<10	3	4	<10	<10	<4	<4	650	100
25...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

07333910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, SUS-PENDED TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)
NOV											
29...	--	--	--	--	--	--	--	--	0	--	0
DEC											
07...	--	--	--	--	--	--	--	--	--	--	--
07...	10	<10	60	30	<.5	<.5	<10	<10	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	<5	<5	27	24	<.5	<.5	6	6	--	--	--
JAN											
16...	--	--	--	--	--	--	--	--	--	--	--
16...	7	8	21	14	<.5	5.0	5	<5	--	--	--
25...	--	--	--	--	--	--	--	--	0	--	0
25...	8	6	17	10	1.0	.5	<5	6	--	--	--
FEB											
13...	--	--	--	--	--	--	--	--	0	0	0
13...	<5	<5	40	14	<.5	<.5	<5	<5	--	--	--
MAR											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	<10	<10	50	50	2.0	<.5	<10	<10	--	--	--
27...	--	--	--	--	--	--	--	--	0	0	0
27...	<10	<10	40	50	<.5	<.5	<10	13	--	--	--
APR											
03...	--	--	--	--	--	--	--	--	--	--	--
03...	<10	<10	80	40	<.5	<.5	15	<10	--	--	--
19...	--	--	--	--	--	--	--	--	0	0	0
19...	14	10	29	8	<.5	<.5	21	22	--	--	--
MAY											
08...	--	--	--	--	--	--	--	--	--	--	--
08...	18	<10	70	80	<.5	<.5	22	10	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	0	0	0
16...	18	<10	80	40	<.5	<.5	25	<10	--	--	--
JUN											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	11	11	70	30	1.2	.8	13	10	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	0	0	0
26...	21	<10	103	43	<.5	.8	<10	<10	--	--	--
JUL											
18...	--	--	--	--	--	--	--	--	0	0	0
18...	53	17	190	50	<.5	<.5	14	16	--	--	--
AUG											
06...	--	--	--	--	--	--	--	--	0	0	0
06...	<20	20	70	40	<.5	<.5	<10	<10	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	45	<20	330	70	<.5	<.5	<10	<10	--	--	--
SEP											
25...	--	--	--	--	--	--	--	--	--	--	--
25...	<20	<20	80	30	<.5	<.5	<10	<10	--	--	--
25...	--	--	--	--	--	--	--	--	0	0	0
29...	--	--	--	--	--	--	--	--	--	--	--

07333910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, SUS-PENDED RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV											
29...	1	--	0	--	--	--	7.3	--	--	--	--
DEC											
07...	--	--	--	--	--	--	--	--	34	1.7	89
07...	--	--	--	6	13	4.0	--	--	--	--	--
19...	--	--	--	--	--	--	5.6	.1	22	.26	85
19...	--	--	--	8	6	--	--	--	--	--	--
JAN											
16...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	5	8	--	--	--	--	--	--
25...	--	--	--	--	--	--	8.1	.5	37	8.4	98
25...	--	--	--	4	8	--	--	--	--	--	--
FEB											
13...	0	0	0	--	--	--	24	.6	31	19	92
13...	--	--	--	12	15	3.0	--	--	--	--	--
MAR											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	<40	<40	--	--	--	--	--	--
27...	--	--	--	--	--	--	19	--	25	7.9	88
27...	--	--	--	8	16	--	--	--	--	--	--
APR											
03...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	<40	40	--	--	--	--	--	--
19...	--	--	--	--	--	--	7.5	.8	18	17	84
19...	--	--	--	<40	<40	--	--	--	--	--	--
MAY											
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	9	24	3.0	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
16...	0	0	0	--	--	--	6.5	--	73	5.7	90
16...	--	--	--	20	10	4.0	--	--	--	--	--
JUN											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	13	12	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	34	.20	86
26...	--	--	--	7	8	--	--	--	--	--	--
JUL											
18...	--	--	--	--	--	--	5.6	.7	109	4.4	55
18...	--	--	--	15	18	--	--	--	--	--	--
AUG											
06...	0	0	0	--	--	--	19	1.0	--	--	--
06...	--	--	--	11	8	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	<4	<4	--	--	--	--	--	--
SEP											
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	192	<4	--	--	--	--	--	--
25...	--	--	--	--	--	--	6.8	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--

07334000 MUDDY BOGGY CREEK NEAR FARRIS, OK

LOCATION.--Lat 34°16'17", long 95°54'43", in NE¼NW¼ sec.26, T.3 S., R.13 E., Atoka County, Hydrologic Unit 11140103, on downstream side of left bank pier of main span of bridge on State Highway 3, 1.3 miles (2.1 km) downstream from McGee Creek, 2.8 miles (4.5 km) northwest of Farris, and at mile 57.7 (92.8 km).

DRAINAGE AREA.--1,087 mi^2 (2,815 km^2).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.-Water-stage recorder. Datum of gage is 444.58 ft (135.508 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 13, 1945, nonrecording gage, and Mar. 13, 1945, to Sept. 30, 1961, water-stage recorder at same site at datum 2.00 ft (0.610 m) higher.

REMARKS.-Records fair. Some regulation since June 1959 by Atoka Reservoir, capacity, 125,000 acre-ft (154 hm^3), on North Boggy Creek, drainage area, 176 mi^2 (456 km^2); pipeline diversions to Oklahoma City since November 1963, normal capacity, 60 mgd (227,100 m^3/d).

COOPERATION.-Gage-height records and 15 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--42 years, 895 ft^3/s (25.35 m^3/s), 648,400 acre-ft/yr (799 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,900 ft^3/s (1,750 m^3/s) June 17, 1945, gage height, 44.94 ft (13.698 m), datum then in use, from rating curve extended above 37,000 ft^3/s (1,050 m^3/s); no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft^3/s (283 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 20	1530	15,100	428	35.20	10.729	June 10	Unknown	11,100	314	29.8	9.08
May 21	2115	*19,700	558	*38.85	11.841						

No flow Oct. 3-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.15	91	14	113	2110	6610	67	950	61	13	46
2	.06	.15	68	15	91	1120	5870	59	700	47	11	63
3	.00	.15	96	13	81	2190	4100	59	550	40	51	44
4	.00	.15	74	13	75	2050	1650	258	450	30	22	31
5	.00	.15	53	19	68	1130	1040	670	563	23	8.6	33
6	.00	.54	40	26	70	580	741	290	1880	21	6.6	24
7	.00	.90	33	24	114	379	531	168	2330	161	7.3	17
8	.00	.90	28	18	213	266	407	117	6820	182	7.8	14
9	.00	.90	23	15	208	198	347	83	9500	287	7.4	11
10	.00	.90	18	15	161	156	280	65	11000	230	6.7	10
11	.00	.90	15	15	212	128	306	497	10000	102	6.0	8.6
12	.00	.90	14	18	504	107	2110	652	4000	62	5.6	7.6
13	.00	.97	13	24	559	91	2260	622	1100	105	5.1	6.6
14	.00	1.0	11	27	515	77	744	277	474	97	4.8	5.7
15	.00	12	11	39	348	66	421	159	282	59	8.0	4.9
16	.00	236	10	35	241	58	316	103	207	40	15	4.3
17	.00	486	9.9	32	176	55	252	72	150	35	12	3.6
18	.00	265	9.7	156	134	59	488	53	110	86	36	3.3
19	.00	156	9.3	2560	108	612	966	41	93	356	53	3.0
20	.00	121	9.3	3490	91	13100	1260	40	76	237	30	3.7
21	.00	80	8.8	1450	87	12000	817	12900	63	132	20	4.3
22	.00	55	8.2	636	428	9100	649	14600	54	88	45	4.2
23	.00	41	7.9	374	650	6760	418	11200	47	60	96	3.5
24	.00	30	7.4	234	2270	4230	297	7490	42	43	140	3.2
25	.00	30	7.1	164	4050	1640	215	3300	38	34	119	2.9
26	.00	243	6.8	258	4110	911	175	1000	38	27	62	2.6
27	.00	550	6.5	526	3400	667	154	496	40	27	47	2.4
28	.00	595	6.5	402	3290	552	108	1910	142	24	30	2.4
29	.00	285	6.5	243	---	466	87	4450	122	21	136	2.4
30	.00	143	6.5	182	---	6080	75	4440	88	18	189	2.5
31	.07	---	9.0	147	---	2940	---	2200	---	15	77	---
TOTAL	.23	3336.66	717.4	11184	22367	69878	33694	68338	51909	2750	1277.9	374.7
MEAN	.007	111	23.1	361	799	2254	1123	2204	1730	88.7	41.2	12.5
MAX	.10	595	96	3490	4110	13100	6610	14600	11000	356	189	63
MIN	.00	.15	6.5	13	68	55	75	40	38	15	4.8	2.4
AC-FT	.5	6620	1420	22180	44360	138600	66830	135500	103000	5450	2530	743

CAL YR 1978 TOTAL 191351.59 MEAN 524 MAX 13500 MIN .00 AC-FT 379500
WTR YR 1979 TOTAL 265826.89 MEAN 728 MAX 14600 MIN .00 AC-FT 527300

07334000 MUDDY BOGGY CREEK NEAR FARRIS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1950-58, 1962-64, 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1947 to September 1948.
WATER TEMPERATURE: October 1947 to September 1948.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT										
19...	1800	.00	520	7.8	20.0	23	8.4	91	35	148
NOV										
30...	1430	133	340	7.4	13.5	94	10.0	98	34	--
DEC										
20...	1015	9.3	184	7.4	13.0	98	--	--	27	82
JAN										
26...	1030	237	76	6.7	3.0	61	12.1	90	28	--
FEB										
12...	1700	615	130	6.8	4.0	50	13.9	106	11	50
MAR										
19...	1615	104	162	7.7	15.0	61	9.6	96	23	--
APR										
18...	1430	441	136	7.2	19.0	88	8.2	88	33	43
MAY										
17...	1130	72	162	7.3	23.5	78	7.8	88	26	--
JUN										
26...	1630	38	259	7.4	28.5	--	4.0	51	24	98
JUL										
18...	1300	49	240	7.6	28.0	100	6.7	85	--	--
AUG										
07...	0830	7.2	114	7.0	28.0	90	--	--	24	33

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT									
19...	36	90	14	35	4.2	12	36	.2	34
NOV									
30...	--	--	--	--	--	--	29	.1	166
DEC									
20...	15	38	7.0	12	3.1	18	10	.1	86
JAN									
26...	--	--	--	--	--	19	17	.1	61
FEB									
12...	11	27	5.5	<10	1.7	17	13	.0	60
MAR									
19...	--	--	--	--	--	27	12	.4	97
APR									
18...	9.0	22	5.0	10	2.2	16	15	.1	338
MAY									
17...	--	--	--	--	--	24	--	.2	112
JUN									
26...	24	60	9.1	18	3.4	27	17	.1	56
JUL									
18...	--	--	--	--	--	22	15	.1	303
AUG									
07...	10	25	3.1	<10	3.6	12	--	.1	108

07334000 MUDDY BOGGY CREEK NEAR FARRIS, OK--Continued

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 19...	--	2.5	--	--	.101	--	--	--	--
NOV 30...	.70	1.5	2.2	9.7	--	--	--	--	--
DEC 20...	.40	--	2.0	--	.020	--	--	--	--
JAN 26...	1.4	1.7	3.1	14	.200	--	--	--	--
FEB 12...	1.4	2.2	3.6	16	.100	--	<1	18	5
MAR 19...	.80	1.5	2.1	10	.120	--	--	--	--
APR 18...	.40	--	2.1	--	.250	--	--	--	--
MAY 17...	.30	1.1	1.4	6.2	.110	--	--	--	--
JUN 26...	.10	1.4	1.5	6.6	.095	--	--	--	--
JUL 18...	<.50	2.1	2.1	--	.220	--	--	--	--
AUG 07...	<.50	1.4	1.4	--	.160	<5	2	<10	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 19...	1060	--	630	--	--	--	--	--	9.0
NOV 30...	--	--	--	--	--	--	--	--	--
DEC 20...	8200	--	340	--	--	--	--	--	--
JAN 26...	--	--	--	--	--	--	--	--	--
FEB 12...	370	8	110	<.5	7	<1	<2	20	--
MAR 19...	--	--	--	--	--	--	--	--	--
APR 18...	11500	--	450	--	--	--	--	--	--
MAY 17...	--	--	--	--	--	--	--	--	--
JUN 26...	440	--	310	--	--	--	--	--	--
JUL 18...	--	--	--	--	--	--	--	--	--
AUG 07...	2150	<10	460	<.5	20	<5	<3	8	--

07334200 BYRD'S MILL SPRING NEAR FITTSTOWN, OK

LOCATION.--Lat 34°35'45", long 96°39'55", in SW¼SW¼ sec.34, T.2 N., R.6 E., Pontotoc County, Hydrologic Unit 11140104, upstream from weir outlet of spring, 0.5 mile (0.8 km) upstream from Big Spring Creek, 2.0 miles (3.2 km) west of Fittstown, and 12.0 miles (19.3 km) south of Ada.

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

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 1,021.17 ft (311.253 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Records do not include diversion of about 6 to 10 ft^3/s (0.17 to 0.28 m^3/s) by city of Ada for municipal water supply, a part of which is discharge as effluent to Sandy Creek, tributary to Canadian River.

AVERAGE DISCHARGE.--20 years, 7.53 ft^3/s (0.213 m^3/s), 5,460 acre-ft/yr (6.73 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30 ft^3/s (0.85 m^3/s) May 30, 1960, gage height, 3.22 ft (0.981 m); no flow at times in 1959, 1964-67, 1977, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft^3/s (0.396 m^3/s) June 21-30, maximum gage height, 3.06 ft (0.933 m) June 21-25; minimum daily discharge, 0.01 ft^3/s (0.0003 m^3/s) Feb. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	.79	2.2	1.5	.70	.33	5.8	7.7	8.6	13	10	8.1
2	2.2	.79	2.2	1.5	.70	.33	5.8	7.7	8.6	13	10	8.1
3	2.2	.79	2.0	1.5	.61	.46	6.2	8.6	8.6	13	10	8.0
4	2.2	.89	2.2	1.5	.61	.53	6.2	8.1	8.6	13	10	7.9
5	2.2	1.1	2.2	1.5	.53	.61	6.2	8.1	8.6	13	10	7.8
6	2.2	1.4	2.0	1.5	.53	.70	6.2	8.6	8.6	13	9.5	7.7
7	2.2	1.1	2.0	1.4	.53	.70	6.2	8.6	9.0	13	9.5	7.7
8	2.2	1.1	1.8	1.2	.46	.79	6.9	8.6	9.5	13	9.4	7.7
9	2.2	1.1	1.8	1.2	.39	.79	6.9	8.6	10	12	8.9	7.5
10	2.2	1.1	1.7	1.2	.39	.79	6.9	8.1	10	12	8.5	7.3
11	2.0	1.0	1.7	1.2	.46	.89	7.3	8.1	10	12	7.8	7.3
12	2.0	1.0	2.0	1.2	.46	.89	7.3	8.1	11	12	8.5	6.9
13	1.8	1.0	2.6	1.0	.46	.89	7.7	8.1	12	12	8.1	6.9
14	1.8	.89	2.6	1.0	.53	.79	7.7	8.1	13	12	7.9	6.6
15	1.8	.89	2.4	1.0	.46	.89	7.7	7.7	13	11	7.9	6.5
16	1.8	.89	2.0	.79	.39	.89	7.7	7.7	13	11	7.8	6.5
17	1.8	.79	2.0	.70	.46	.89	7.7	7.7	13	11	7.7	6.4
18	1.7	.79	2.2	.79	.46	1.0	7.7	7.7	13	11	7.6	6.3
19	1.7	.70	2.2	.79	.46	1.7	7.7	7.7	13	12	7.5	6.2
20	1.7	.70	2.2	.79	.46	2.4	7.7	7.7	13	11	7.7	6.3
21	1.5	.79	2.0	.70	.39	2.6	7.7	7.7	13	11	7.4	6.2
22	1.5	1.7	2.0	.79	.15	2.8	7.7	8.1	14	11	4.3	6.2
23	1.7	2.2	1.8	.79	.01	3.2	7.7	8.1	13	11	1.9	5.9
24	1.7	2.2	1.8	.79	.03	3.7	7.7	8.1	13	11	3.6	5.5
25	1.7	2.2	1.8	.79	.03	4.0	7.7	8.1	14	11	5.4	5.5
26	1.5	2.2	1.7	.79	.09	4.6	7.7	8.1	14	11	6.3	5.5
27	1.5	2.2	1.7	.70	.19	4.6	7.7	8.6	14	11	4.5	5.5
28	1.5	2.2	1.7	.70	.33	4.9	7.7	8.6	14	11	5.8	5.5
29	1.2	2.2	1.8	.70	---	5.2	7.7	8.6	14	10	7.5	5.3
30	1.0	2.2	1.7	.70	---	5.2	7.7	8.6	13	10	7.8	5.1
31	.89	---	1.7	.70	---	5.2	---	8.6	---	10	8.2	---
TOTAL	55.79	38.90	61.7	31.41	11.27	63.26	216.5	252.5	350.1	361	237.0	199.9
MEAN	1.80	1.30	1.99	1.01	.40	2.04	7.22	8.15	11.7	11.6	7.65	6.66
MAX	2.2	2.2	2.6	1.5	.70	5.2	7.7	8.6	14	13	10	8.1
MIN	.89	.70	1.7	.70	.01	.33	5.8	7.7	8.6	10	1.9	5.1
AC-FT	111	77	122	62	22	125	429	501	694	716	470	397

CAL YR 1978 TOTAL 1295.02 MEAN 3.55 MAX 12 MIN .00 AC-FT 2570
WTR YR 1979 TOTAL 1879.33 MEAN 5.15 MAX 14 MIN .01 AC-FT 3730

07335000 CLEAR BOGGY CREEK NEAR CANEY, OK

LOCATION.--Lat 34°15'09", long 96°12'19", in NW¼SE¼ sec.36, T.3 S., R.10 E., Atoka County, Hydrologic Unit 11140104, on downstream side of left pier of bridge on old U.S. Highways 69 and 75, 0.5 mi (0.8 km) downstream from Caney Creek, 1.5 mi (2.4 km) north of Caney, and at mile 24.1 (38.8 km).

DRAINAGE AREA.--720 mi^2 (1,865 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 485.05 ft (147.843 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 13, 1945, nonrecording gage at same site and datum.

REMARKS.--Records fair.

COOPERATION.--Gage-height record and 22 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--37 years, 486 ft^3/s (13.76 m^3/s), 9.17 in/yr (233 mm/yr), 352,100 acre-ft/yr (434 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,800 ft^3/s (1,500 m^3/s) Dec. 11, 1946, gage height, 26.77 ft (8.159 m); no flow at times in 1954, 1956, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 26.9 ft (8.20 m) occurred in February 1938, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft^3/s (127 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Mar. 21	0100	*10,700	303	*22.46	6.846	June 10	1815	4,780	135	19.06	5.809
May 23	0200	6,710	190	21.23	6.471						

Minimum, 1.1 ft^3/s (0.031 m^3/s) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	6.2	32	22	38	507	2520	95	467	190	25	107
2	4.1	4.4	25	22	38	346	2540	90	795	169	24	70
3	4.0	3.6	21	26	33	982	1250	85	476	156	24	85
4	3.8	5.3	19	20	29	730	832	133	339	137	23	64
5	3.7	5.2	17	22	28	474	684	177	578	122	20	40
6	3.5	4.7	16	21	26	298	563	149	2560	166	20	31
7	3.5	5.5	15	21	30	226	486	126	1840	132	19	27
8	2.7	7.6	15	23	42	181	427	108	3760	142	18	24
9	1.6	7.7	15	22	30	154	373	93	4380	108	17	22
10	1.3	7.7	16	19	30	132	346	84	4720	245	16	20
11	1.6	7.7	16	19	51	115	1220	141	4660	159	17	19
12	2.2	9.9	17	19	149	129	2490	145	3190	105	16	19
13	3.7	9.3	15	18	110	127	1100	187	1500	89	16	18
14	4.0	9.7	14	19	83	115	670	136	1270	76	14	17
15	2.0	16	14	21	75	103	540	107	1170	66	14	16
16	2.4	36	14	19	56	104	452	90	1050	58	16	16
17	2.4	61	13	21	44	77	381	77	935	59	42	15
18	1.8	36	13	35	41	76	338	69	801	213	27	14
19	6.3	43	13	222	34	1170	370	62	632	306	19	14
20	5.6	28	13	566	34	7970	370	65	542	140	17	17
21	5.3	21	13	264	34	8560	330	2250	459	92	17	20
22	3.5	17	13	117	38	4680	266	4420	407	69	31	18
23	2.0	15	12	80	107	4050	224	5720	366	57	26	16
24	1.1	14	11	58	465	2400	195	3190	338	47	26	17
25	1.8	14	11	48	735	1620	172	1370	315	41	26	16
26	2.0	46	11	95	1290	1200	152	851	347	37	24	14
27	2.4	109	11	109	693	965	134	604	391	36	59	12
28	4.0	72	11	70	717	771	121	695	301	34	60	11
29	7.7	61	17	54	---	598	109	2220	251	31	209	10
30	7.7	46	18	46	---	1950	101	1020	217	29	106	9.9
31	7.6	---	21	38	---	791	---	632	---	27	63	---
TOTAL	110.2	729.5	482	2156	5080	41601	19756	25191	39057	3338	1051	798.9
MEAN	3.55	24.3	15.5	69.5	181	1342	659	813	1302	108	33.9	26.6
MAX	7.7	109	32	566	1290	8560	2540	5720	4720	306	209	107
MIN	1.1	3.6	11	18	26	76	101	62	217	27	14	9.9
CFSM	.005	.03	.02	.10	.25	1.86	.92	1.13	1.81	.15	.05	.04
IN.	.01	.04	.02	.11	.26	2.15	1.02	1.30	2.02	.17	.05	.04
AC-FT	219	1450	956	4280	10080	82520	39190	49970	77470	6620	2080	1580

CAL YR 1978 TOTAL 107186.2 MEAN 294 MAX 6620 MIN 1.1 CFSM .41 IN 5.54 AC-FT 212600
WTR YR 1979 TOTAL 139350.6 MEAN 382 MAX 8560 MIN 1.1 CFSM .53 IN 7.20 AC-FT 276400

07335000 CLEAR BOGGY CREEK NEAR CANEY, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to 1975, 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1955 to September 1959.
WATER TEMPERATURE: October 1955 to September 1959.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT 19...	1430	6.6	900	8.0	18.0	8.0	8.9	94	14	280
NOV 30...	1145	46	820	8.0	11.5	31	11.2	104	19	--
DEC 20...	1415	13	800	8.7	13.5	2.0	--	--	13	430
JAN 26...	1130	89	--	7.7	2.5	51	12.5	92	26	--
FEB 12...	1545	155	300	7.8	4.0	92	12.9	98	27	173
MAR 19...	1500	512	300	7.8	16.5	51	9.3	96	75	--
APR 18...	1130	327	420	7.7	19.5	48	8.7	94	21	175
MAY 16...	1600	87	600	8.3	28.0	15	9.3	118	16	--
JUN 26...	1445	336	330	7.6	26.0	--	6.1	74	28	216
JUL 19...	1335	304	300	7.8	26.0	>1000	7.2	88	--	--
AUG 07...	1100	19	1000	8.2	29.0	7.0	--	--	11	304
SEP 26...	1700	14	620	8.3	24.5	9.0	--	--	6	--

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 19...	62	156	31	50	3.7	23	96	.2	12
NOV 30...	--	--	--	--	--	22	144	.1	55
DEC 20...	100	250	43	50	4.2	19	105	.1	29
JAN 26...	--	--	--	--	--	19	56	.1	88
FEB 12...	46	115	14	--	2.5	23	25	.1	305
MAR 19...	--	--	--	--	--	29	21	.5	943
APR 18...	--	125	12	18	3.4	29	27	.1	106
MAY 16...	--	--	--	--	--	30	--	.2	46
JUN 26...	38	95	8.6	18	3.9	12	28	.1	179
JUL 19...	--	--	--	--	--	14	26	.1	363
AUG 07...	81	204	24	82	4.3	17	148	.2	27
SEP 26...	--	--	--	--	--	24	--	--	24

07335000 CLEAR BOGGY CREEK NEAR CANEY, OK--Continued

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 19...	--	1.8	--	--	.120	--	--	--	--
NOV 30...	.50	.80	1.3	5.8	.130	--	--	--	--
DEC 20...	<.10	1.1	1.1	--	<.000	--	--	--	--
JAN 26...	.60	1.6	2.2	9.7	.270	--	--	--	--
FEB 12...	.70	1.5	2.2	10	.200	<2	<1	41	10
MAR 19...	.30	3.8	4.1	18	1.000	--	--	--	--
APR 18...	.20	1.2	1.4	6.6	.150	--	--	--	--
MAY 16...	.10	1.0	1.1	4.9	.100	--	--	--	--
JUN 26...	.40	1.7	2.1	9.7	.180	--	--	--	--
JUL 19...	<.50	2.6	2.6	--	.380	--	--	--	--
AUG 07...	<.50	1.3	1.3	--	.110	<5	3	<10	4
SEP 26...	<.50	2.7	2.6	--	.270	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 19...	400	--	100	--	--	--	--	--	6.0
NOV 30...	--	--	--	--	--	--	--	--	--
DEC 20...	1430	--	--	--	--	--	--	--	--
JAN 26...	--	--	--	--	--	--	--	--	--
FEB 12...	11400	17	210	<.5	21	<1	<2	48	--
MAR 19...	--	--	--	--	--	--	--	--	--
APR 18...	6200	--	200	--	--	--	--	--	--
MAY 16...	--	--	--	--	--	--	--	--	--
JUN 26...	5800	--	--	--	--	--	--	--	--
JUL 19...	--	--	--	--	--	--	--	--	--
AUG 07...	1900	15	430	<.5	33	<5	<3	9	--
SEP 26...	--	--	--	--	--	--	--	--	--

07335500 RED RIVER AT ARTHUR CITY, TX

LOCATION.--Lat 33°52'32", long 95°30'08", in NW¼ sec.11, T.8 S., R.17 E., Choctaw County, Okla., Hydrologic Unit 11140101, near right bank on downstream side of pier of bridge on U.S Highway 271 at Arthur City, 10.6 mi (17.1 km) downstream from Muddy Boggy River, 26.0 mi (41.8 km) upstream from Kiamichi River, and at mile 633.1 (1,018.7 km).

DRAINAGE AREA.--44,531 mi^2 (115,335 km^2), of which 5,936 mi^2 (15,374 km^2) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January to September 1905 (gage heights and discharge measurements only), October 1905 to December 1911, July 1936 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at same site since 1891 are contained in reports of the U.S. Weather Service.

REVISED RECORDS.--WSP 1241: Drainage area. WSP 1311: 1906-11.

GAGE.--Water-stage recorder. Datum of gage is 380.07 ft (115.845 m) National Geodetic Vertical Datum of 1929. 1905-11, nonrecording gage at St. Louis-San Francisco Railway Co. bridge 200 ft (61.0 m) upstream at same datum. July 1, 1936, to Mar. 24, 1940, nonrecording gage at present site and datum.

REMARKS.--Records fair. Flow regulated since October 1943 by Lake Texoma (station 07331500), 92.8 miles (149.3 km) above station.

COOPERATION.--Gage-height record and 16 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(prior to regulation by Dension Dam) 13 years, (water years 1906-11, 1937-43), 9,266 ft^3/s (262.4 m^3/s) 6,713,000 acre-ft/yr (8.28 km^3/yr); (since regulation of Dension Dam) 35 years, (water years 1945-79), 7,806 ft^3/s (221.1 m^3/s), 5,655,000 acre-ft/yr (6.97 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 400,000 ft^3/s (11,300 m^3/s) May 28, 1908, gage height, 43.2 ft (13.17 m), from rating curve extended about 41,000 ft^3/s (1,160 m^3/s) on basis of records for later years; minimum, 130 ft^3/s Dec. 11, 12, 1956, gage height, 4.49 ft (1.369 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 54,900 ft^3/s (1,550 m^3/s) May 23, gage height, 18.58 ft (5.663 m); minimum daily, 383 ft^3/s (10.8 m^3/s) Nov. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2330	674	2910	1740	1000	12800	28600	3830	22000	7750	1410	2800
2	1620	2060	2660	1360	2010	10600	24200	3290	17800	4810	3470	2960
3	1480	2380	3120	1340	2240	8300	19000	3080	16100	3530	3330	2780
4	1650	1360	2390	4480	2410	7770	14500	4960	13000	4520	3710	1870
5	1520	1200	1260	3350	2510	9390	12900	7310	12200	5390	2710	1300
6	808	1160	1730	2030	1140	6490	8540	6630	22800	3730	1600	1730
7	581	723	1670	1720	870	4880	5390	4280	27600	5350	1660	3000
8	533	726	1550	1510	1220	4320	4260	2070	24700	6430	1360	2930
9	1230	1660	3130	930	1470	3380	5050	1550	22500	3870	2590	2820
10	1140	1710	3790	1370	1510	2810	3370	1300	23600	2830	2420	2340
11	1190	974	2550	2290	2990	1780	3960	1540	24300	3340	1890	906
12	1160	632	1340	1330	2900	1470	8430	4150	26200	4880	2450	730
13	1670	445	818	1130	3570	1280	7830	9540	32100	4710	2000	1740
14	1930	383	978	946	3540	1570	7630	10200	45600	5470	844	1770
15	1470	998	1240	1500	3690	2640	5110	7390	50800	5010	686	2030
16	1310	4360	1420	4030	3230	2610	3140	6030	46700	2840	1400	3290
17	691	8060	1660	2010	2050	2290	2450	5230	39900	2020	1190	2810
18	494	7630	1070	1480	1600	3160	2640	2830	38200	2730	1150	957
19	907	4140	755	1710	1380	1970	3960	1440	34700	5140	1220	738
20	1030	2090	672	3530	994	2540	5260	1650	24500	4130	678	3200
21	1090	1320	1160	7120	779	14200	10100	7730	15800	3510	483	5360
22	1120	1010	1110	8400	1980	20200	9070	27600	12900	3260	849	5540
23	1070	2020	1410	5140	7650	22700	7550	52900	12400	2340	1590	5710
24	664	2970	1420	2380	9290	22500	7080	49700	12200	1340	3140	3660
25	449	2510	975	1530	13100	19500	6780	42200	12100	1440	4040	2440
26	1040	1420	616	2140	18400	16200	7660	35600	12100	2770	3040	2390
27	2080	2380	482	1710	16800	12700	7480	31500	10700	3270	2030	3570
28	2420	1680	427	2170	14700	8210	7810	29200	7420	2660	1130	4310
29	2110	2810	608	2360	---	4000	6220	27400	8200	2790	1070	4340
30	1880	3730	801	1560	---	7260	4300	22400	8180	2370	1700	4740
31	901	---	1820	1040	---	19600	---	23400	---	1830	2020	---
TOTAL	39568	65215	47542	75336	125023	259120	250270	437930	677300	116060	58860	84761
MEAN	1276	2174	1534	2430	4465	8359	8342	14130	22580	3744	1899	2825
MAX	2420	8060	3790	8400	18400	22700	28600	52900	50800	7750	4040	5710
MIN	449	383	427	930	779	1280	2450	1300	7420	1340	483	730
AC-FT	78480	129400	94300	149400	248000	514000	496400	868600	1343000	230200	116700	168100

CAL YR 1978 TOTAL 1546850 MEAN 4238 MAX 37300 MIN 383 AC-FT 3068000
WTR YR 1979 TOTAL 2236985 MEAN 6129 MAX 52900 MIN 383 AC-FT 4437000

07335500 RED RIVER AT ARTHUR CITY, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1976 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT										
23...	1045	1180	2100	8.2	19.0	6.0	9.3	102	20	548
DEC										
14...	1435	1070	--	7.8	7.0	--	--	--	7	449
JAN										
24...	1345	2200	750	8.8	9.5	77	10.9	96	30	--
FEB										
12...	1205	2850	1300	6.6	6.0	43	12.7	101	18	310
MAR										
07...	1155	5040	510	7.4	12.0	85	10.5	95	31	--
APR										
10...	1120	3320	930	7.9	16.5	44	9.2	95	19	228
MAY										
14...	1330	10200	1000	8.0	22.0	--	9.3	108	24	--
25...	0001	22800	--	--	--	--	--	--	--	--
JUN										
21...	1200	15300	1500	7.7	27.0	32	11.3	143	13	399
JUL										
17...	1245	2200	2100	7.6	32.0	5.0	7.4	100	17	--
AUG										
02...	1000	3470	1800	--	28.5	3.0	8.3	115	19	380
SEP										
12...	1045	605	1500	8.1	25.5	8.0	6.1	74	18	--

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT										
23...	145	363	45	260	7.8	285	380	.4	30	--
DEC										
14...	170	425	49	220	7.9	234	332	.3	13	.20
JAN										
24...	--	--	--	--	--	92	116	.2	170	1.1
FEB										
12...	84	210	24	--	5.1	147	196	.1	70	1.2
MAR										
07...	--	--	--	--	--	123	99	.2	166	.70
APR										
10...	61	153	17	105	4.7	125	148	.2	83	.50
MAY										
14...	--	--	--	--	--	148	195	.2	194	.70
25...	--	--	--	--	--	--	--	--	--	--
JUN										
21...	95	238	30	210	6.9	254	345	.3	96	.20
JUL										
17...	--	--	--	--	--	210	292	.2	30	--
AUG										
02...	98	245	7.4	228	7.4	253	371	.4	41	<.50
SEP										
12...	--	--	--	--	--	179	312	.3	22	<.50

07335500 RED RIVER AT ARTHUR CITY, TX--Continued

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT 23...	1.2	--	--	.130	--	--	--	--	350
DEC 14...	.68	.88	3.9	.195	--	--	--	--	730
JAN 24...	2.0	3.1	14	.300	--	--	--	--	--
FEB 12...	1.0	2.2	9.8	.150	3	2	19	6	3200
MAR 07...	1.8	2.5	11	.310	--	--	--	--	--
APR 10...	1.2	1.7	7.5	.100	--	--	--	--	3000
MAY 14...	1.3	2.0	9.0	.210	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
JUN 21...	1.2	1.4	6.3	.080	--	--	--	--	--
JUL 17...	1.5	1.5	--	.100	--	--	--	--	--
AUG 02...	1.6	1.6	--	.085	<5	6	37	6	1500
SEP 12...	--	1.3	--	.105	--	--	--	--	--

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
OCT 23...	--	80	--	--	--	--	--	--	--
DEC 14...	--	60	--	--	--	--	--	--	--
JAN 24...	--	--	--	--	--	--	--	--	--
FEB 12...	12	90	<.5	12	<1	2	16	--	--
MAR 07...	--	--	--	--	--	--	--	--	--
APR 10...	--	130	--	--	--	--	--	--	--
MAY 14...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	1900	117000
JUN 21...	--	200	--	--	--	--	--	--	--
JUL 17...	--	--	--	--	--	--	--	--	--
AUG 02...	35	140	<.5	29	<5	<2	27	--	--
SEP 12...	--	--	--	--	--	--	--	--	--

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK
(Hydrologic bench mark station)

LOCATION.--Lat 34°38'18", long 94°36'45", in SW¼SE¼ sec.18, T.2 N., R.26 E., LeFlore County, Hydrologic Unit 11140105, in Ouachita National Forest, on downstream side of right bank pier of bridge on State Highway 63, 0.2 mile (0.3 km) upstream from Rattlesnake Creek, 1.1 miles (1.8 km) upstream from Big Branch, 2.1 miles (3.4 km) east of Big Cedar, and at mile 157.6 (253.6 km).

DRAINAGE AREA.--40.1 mi^2 (103.9 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 886.97 ft (270.348 m) Oklahoma State Highway Department datum.

REMARKS.--Records good except for discharges below 5.0 ft^3/s (0.142 m^3/s) which are poor.

AVERAGE DISCHARGE.--14 years, 76.5 ft^3/s (2.166 m^3/s), 25.91 in/yr (658 mm/yr), 55,420 acre-ft/yr (68.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft^3/s (609 m^3/s) Dec. 10, 1971, gage height, 17.08 ft (5.206 m), from rating curve extended above 9,000 ft^3/s (255 m^3/s); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s (56.6 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Dec. 31	0845	4,330	123	11.51	3.508	Apr. 1	0600	2,580	73.1	9.91	3.021
Feb. 22	0830	2,590	73.3	9.93	3.027	May 21	2045	*9,240	262	*14.14	4.310
Feb. 23	0045	2,480	70.2	9.79	2.984	May 28	1630	2,710	76.7	10.06	3.066
Mar. 20	0245	4,300	122	11.39	3.472	June 2	1715	3,440	97.4	10.72	3.267
Mar. 30	0630	6,390	181	12.72	3.877	July 27	1300	2,030	57.5	9.19	2.801

No flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.00	38	388	44	400	1220	46	114	3.1	34	9.9
2	.09	.00	33	195	41	290	460	43	903	2.6	23	5.8
3	.04	.00	31	135	39	500	276	66	508	2.0	18	4.6
4	.00	.00	27	97	36	260	218	215	236	1.6	15	4.3
5	.00	.00	24	82	34	181	167	196	157	1.4	10	4.0
6	.00	.00	32	69	35	142	136	147	137	6.6	7.1	3.3
7	.00	.00	397	58	38	117	113	111	375	7.4	5.4	2.8
8	.00	.00	194	51	34	97	102	86	223	4.9	4.3	2.3
9	.00	.00	122	45	33	83	87	67	144	3.8	3.4	1.8
10	.00	.00	90	39	32	70	87	54	114	3.4	2.8	1.5
11	.00	.00	72	35	37	60	272	673	84	3.8	15	1.4
12	.00	.00	58	34	64	53	274	460	65	3.6	7.8	1.3
13	.00	.00	49	34	82	47	183	218	50	3.5	5.0	1.2
14	.00	.00	41	30	88	41	139	140	38	2.7	62	1.1
15	.00	25	37	29	84	37	112	102	29	2.4	132	.93
16	.00	480	32	24	70	33	93	77	22	7.8	52	.82
17	.00	253	27	25	64	31	78	59	17	5.8	34	.80
18	.00	85	24	29	58	40	68	47	13	4.3	25	.84
19	.00	53	22	85	53	294	61	37	11	3.2	17	.90
20	.00	40	20	202	52	1590	52	31	8.6	2.6	12	1.4
21	.00	31	16	171	54	327	46	2790	7.2	2.0	9.2	4.5
22	.00	28	15	130	1070	372	41	1390	6.6	1.6	7.8	7.5
23	.00	24	13	113	975	338	163	397	5.6	1.3	6.2	4.5
24	.00	18	11	90	477	205	230	213	6.6	1.2	4.8	3.3
25	.00	14	9.9	76	450	150	160	140	11	1.1	3.8	2.8
26	.00	57	8.8	75	293	121	118	109	8.1	1.1	3.3	2.6
27	.00	78	7.8	73	318	152	92	385	5.9	675	3.4	2.2
28	.00	63	7.5	62	552	123	76	858	4.7	334	3.6	1.9
29	.00	54	8.3	54	---	202	67	471	3.9	117	2.5	1.7
30	.00	45	12	52	---	2370	54	227	3.2	69	2.1	1.4
31	.00	---	1260	48	---	469	---	157	---	46	10	---
TOTAL	.25	1348.00	2739.3	2630	5207	9195	5245	10012	3311.4	1325.8	541.5	83.39
MEAN	.008	44.9	88.4	84.8	186	297	175	323	110	42.8	17.5	2.78
MAX	.12	480	1260	388	1070	2370	1220	2790	903	675	132	9.9
MIN	.00	.00	7.5	24	32	31	41	31	3.2	1.1	2.1	.80
CFSM	.000	1.12	2.20	2.12	4.64	7.41	4.36	8.06	2.74	1.07	.44	.07
IN.	.00	1.25	2.54	2.44	4.83	8.53	4.87	9.29	3.07	1.23	.50	.08
AC-FT	.5	2670	5430	5220	10330	18240	10400	19860	6570	2630	1070	165

CAL YR 1978	TOTAL	15455.34	MEAN	42.3	MAX 1590	MIN .00	CFSM 1.06	IN 14.34	AC-FT	30660	
WTR YR 1979	TOTAL	41638.64	MEAN	114	MAX 2790	MIN .00	CFSM 2.84	IN 38.63	AC-FT	82590	

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK--Continued
(Hydrologic bench-mark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)
DEC											
06...	1600	1028	9740	19	22	9.0	8.0	7.0	12.0	104	2
06...	1630	--	80020	20	22	9.0	8.0	--	12.0	104	--
JAN											
23...	1045	--	80020	116	26	5.6	5.0	--	--	--	--
23...	1100	1028	9740	116	26	5.6	5.0	8.0	--	--	0
FEB											
14...	1500	--	80020	88	18	7.1	10.5	--	11.3	104	--
14...	1530	1028	9740	88	18	7.1	10.5	5.0	11.3	104	3
MAR											
06...	1525	--	80020	138	18	7.8	10.0	--	10.2	93	--
06...	1600	1028	9740	138	18	7.8	10.0	4.0	10.2	93	2
APR											
03...	1620	--	80020	274	32	7.6	11.5	--	--	--	--
03...	1630	1028	9740	274	32	7.6	11.5	5.0	--	--	3
MAY											
09...	1330	--	80020	69	20	7.3	19.5	--	--	--	--
09...	1340	1028	9740	68	20	7.3	19.5	4.0	--	--	1
JUN											
19...	1645	--	80020	10	40	6.6	27.0	--	7.5	96	--
19...	1700	1028	9740	10	40	6.6	27.0	6.0	7.5	96	3
JUL											
24...	1100	1028	9740	1.2	27	7.2	28.5	2.0	6.1	81	4
24...	1600	--	80020	1.2	27	7.2	28.5	--	6.1	80	--
AUG											
29...	0900	--	80020	2.6	28	6.7	25.5	--	7.0	88	--
29...	1000	1028	9740	2.6	28	6.7	25.5	2.0	7.0	88	5
SEP											
25...	1530	--	80020	2.7	20	8.2	23.0	--	--	--	--
25...	1600	1028	9740	2.7	20	8.2	23.0	4.0	--	--	1

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)
DEC											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	45	38	72	--	--	--	--	--	--	--	--
JAN											
23...	30	660	143	5	4	--	1.0	--	--	.7	--
23...	--	--	--	--	--	--	--	--	--	--	--
FEB											
14...	--	--	--	3	0	--	.6	--	--	.4	--
14...	--	--	--	--	--	--	--	--	--	--	--
MAR											
06...	5	166	6	7	5	--	1.5	--	--	.8	--
06...	--	--	--	--	--	1.0	--	4	.6	--	--
APR											
03...	K15	154	56	5	2	--	1.2	--	--	.6	--
03...	--	--	--	--	--	--	--	--	--	--	--
MAY											
09...	27	63	208	7	4	--	1.5	--	--	.7	--
09...	--	--	--	--	--	1.0	--	2	--	--	.6
JUN											
19...	K525	--	K520	7	6	--	1.5	--	--	.7	--
19...	--	--	--	--	--	--	--	--	--	--	--
JUL											
24...	--	--	--	--	--	<1.0	--	0	--	--	<10
24...	K7	--	150	7	2	--	1.3	--	--	1.0	--
AUG											
29...	134	343	131	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
SEP											
25...	56	230	73	7	5	--	1.3	--	--	.9	--
25...	--	--	--	--	--	1.0	--	10	.8	--	--

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
DEC											
06...	--	--	--	--	--	--	--	--	--	<.0	--
06...	--	--	--	--	--	--	5	4.2	2.3	--	.9
JAN											
23...	2.6	47	.5	--	--	.8	1	8.9	2.6	--	.0
23...	--	--	--	--	--	--	--	--	<1.0	<.0	--
FEB											
14...	1.6	48	.4	--	--	.5	4	2.9	2.0	--	.0
14...	--	--	--	--	--	--	--	--	--	.0	--
MAR											
06...	1.6	31	.3	--	--	.5	2	2.9	2.0	--	.0
06...	--	--	--	--	--	--	--	--	--	<.0	--
APR											
03...	1.5	34	.3	2.1	--	.6	3	3.7	2.1	--	.0
03...	--	--	--	--	--	--	--	--	--	1.0	--
MAY											
09...	1.9	35	.3	--	--	.7	3	2.7	1.9	--	.0
09...	--	--	--	--	--	--	--	--	--	.0	--
JUN											
19...	2.1	37	.4	3.1	--	1.0	1	4.1	2.1	--	.0
19...	--	--	--	--	--	--	--	--	--	--	--
JUL											
24...	--	--	--	--	.8	--	--	--	--	<.0	--
24...	2.1	50	.3	3.1	--	1.0	5	1.6	1.7	--	.0
AUG											
29...	3.0	--	--	3.9	--	.9	3	5.9	2.2	.0	.1
29...	--	--	--	--	--	--	--	--	--	.0	--
SEP											
25...	2.6	41	.4	3.6	--	1.0	2	3.3	4.8	--	.1
25...	--	--	--	--	--	--	--	--	--	.1	--

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
DEC											
06...	--	--	--	--	--	--	--	--	--	--	.20
06...	8.3	21	--	.03	1.13	--	.34	1.5	.01	.03	--
JAN											
23...	7.6	26	25	.04	8.14	--	--	--	--	--	.08
23...	--	--	--	--	--	0	--	--	--	--	.10
FEB											
14...	7.0	13	17	.02	3.09	--	--	--	--	--	.04
14...	--	--	--	--	--	2	--	--	--	--	.10
MAR											
06...	7.3	13	18	.02	4.84	--	--	--	--	--	.06
06...	--	--	--	--	--	6	--	--	--	--	.10
APR											
03...	7.3	16	19	.02	11.8	--	--	--	--	--	.02
03...	--	--	--	--	--	1	--	--	--	--	.10
MAY											
09...	7.2	26	18	.04	4.84	--	--	--	--	--	.04
09...	--	--	--	--	--	3	--	--	--	--	.10
JUN											
19...	9.0	26	21	.04	.70	--	--	--	--	--	.06
19...	--	--	--	--	--	3	--	--	--	--	<.10
JUL											
24...	--	--	--	--	--	3	--	--	--	--	<.50
24...	7.9	21	20	.03	.07	--	--	--	--	--	.01
AUG											
29...	8.5	26	--	--	.18	--	--	--	--	--	.01
29...	--	--	--	--	--	1	--	--	--	--	--
SEP											
25...	7.8	33	23	.04	.24	--	--	--	--	--	.04
25...	--	--	--	--	--	6	--	--	--	--	<.50

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
DEC										
06...	--	--	--	--	--	--	--	--	--	<.001
06...	.35	.14	.18	.64	--	.78	--	1.1	--	--
JAN										
23...	--	--	--	--	--	--	--	--	--	.010
23...	--	--	--	--	1.1	--	1.2	--	5.3	--
FEB										
14...	--	--	--	--	--	--	--	--	--	.010
14...	--	--	--	--	1.3	--	1.4	--	6.2	.050
MAR										
06...	--	--	--	--	--	--	--	--	--	.000
06...	--	--	--	--	.70	--	.80	--	3.5	--
APR										
03...	--	--	--	--	--	--	--	--	--	.010
03...	--	--	--	--	1.2	--	1.3	--	5.8	.030
MAY										
09...	--	--	--	--	--	--	--	--	--	.010
09...	--	--	--	--	6.0	--	6.1	--	27	.020
JUN										
19...	--	--	--	--	--	--	--	--	--	.260
19...	--	--	--	--	.61	--	.61	--	3.0	--
JUL										
24...	--	--	--	--	1.2	--	1.2	--	--	.025
24...	--	--	--	--	--	--	--	--	--	.020
AUG										
29...	--	--	--	--	--	--	--	--	--	.020
29...	--	--	--	--	1.1	--	--	--	--	.200
SEP										
25...	--	--	--	--	--	--	--	--	--	.010
25...	--	--	--	--	2.4	--	2.4	--	11	.035

DATE	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS PO4)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
DEC										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	.110	--	--	--	--	--	--	--
JAN										
23...	--	--	--	0	0	0	10	4	120	24
23...	--	--	--	--	--	--	--	--	--	--
FEB										
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
MAR										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	140	--
APR										
03...	.03	.03	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
MAY										
09...	.03	.03	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	1100	--
JUN										
19...	.80	.80	--	0	0	8	10	9	220	14
19...	--	--	--	--	--	--	--	--	--	--
JUL										
24...	--	--	--	33	--	<2	<10	4	690	10
24...	--	.06	--	--	--	--	--	--	--	--
AUG										
29...	--	.06	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
SEP										
25...	--	.03	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	890	--

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	7	.38	78
JAN										
23...	0	.1	--	0	1	10	.00	12	3.8	81
23...	--	--	--	--	--	--	--	--	--	--
FEB										
14...	--	--	--	--	--	--	--	9	2.1	81
14...	--	--	--	--	--	--	--	--	--	--
MAR										
06...	--	--	--	--	--	--	--	11	4.1	59
06...	<20	--	--	--	--	--	--	--	--	--
APR										
03...	--	--	--	--	--	--	--	5	3.7	98
03...	--	--	--	--	--	--	--	--	--	--
MAY										
09...	--	--	--	--	--	--	--	35	6.5	21
09...	50	--	--	--	--	--	--	--	--	--
JUN										
19...	10	.1	--	0	0	40	.00	39	1.1	43
19...	--	--	--	--	--	--	--	--	--	--
JUL										
24...	50	<.5	10	<5	<2	16	--	--	--	--
24...	--	--	--	--	--	--	--	24	.08	52
AUG										
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
SEP										
25...	--	--	--	--	--	--	--	8	.06	78
25...	40	--	--	--	--	--	--	--	--	--

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JUN									
19...	1645	.0	.00	.0	.00	.00	.00	.00	.00

DATE	ETHION, TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
JUN									
19...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, SUSPENDED TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	MIREX, TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN									
19...	.00	.00	0	.00	.00	.04	.00	.00	.00

07336200 KIAMICHI RIVER NEAR ANTLERS, OK

LOCATION.--Lat 34°14'55", long 95°36'18", in SW¼ sec.35, T.3 S., R.16 E., Pushmataha County, Hydrologic Unit 11140105, on right bank, 50 ft (15.240 m) downstream from bridge on U.S. Highway 271 and State Highway 2, 2.0 mi (3.2 km) northeast of Antlers, 7.7 mi (12.4 km) downstream from Tenmile Creek, 5.4 mi (8.7 km) upstream from Cedar Creek and at mile 59.6 (95.9 km).

DRAINAGE AREA.--1,138 mi^2 (2,947 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.-Water-stage recorder. Datum of gage is 419.82 ft (127.961 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Small diversion above station for municipal water supply of city of Antlers.

COOPERATION.-Gage height record, 23 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--7 years, 1,636 ft^3/s (46.33 m^3/s), 19.52 in/yr (496 mm/yr), 1,185,000 acre-ft/yr (1.46 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft^3/s (1,420 m^3/s) Mar. 28, 1977, gage height, 38.33 ft (11.683 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 18,000 ft^3/s (510 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHE (ft)	GAGE HEIGHE (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Apr. 1	1645	24,100	683	25.11	7.654	May 29	0730	18,500	524	21.69	6.611
May 23	1400	*39,700	1,120	*33.70	10.270	June 8	2315	19,100	541	22.10	6.736

Minimum daily discharge, 1.0 ft^3/s (0.028 m^3/s) Nov. 11-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	2.2	545	3570	690	11500	21700	467	2510	123	485	22
2	28	1.7	439	3540	594	6380	21300	418	3440	108	415	20
3	24	1.7	365	1380	553	6430	20500	390	6970	95	263	19
4	21	1.7	331	923	517	8450	7300	1250	5990	85	206	24
5	22	1.7	347	787	487	4370	3660	2240	2830	76	292	27
6	22	1.7	306	763	462	2790	2620	1520	2140	71	350	24
7	22	1.4	303	718	525	2070	2000	1090	4160	68	232	39
8	19	1.3	1700	570	653	1630	1600	810	16600	62	176	58
9	17	1.3	1520	482	685	1310	1310	625	11200	71	139	56
10	13	1.2	918	409	611	1080	1110	500	2460	90	111	48
11	12	1.0	654	380	621	910	5200	1620	1710	88	95	38
12	10	1.0	514	378	1080	789	12400	10500	1240	80	81	30
13	9.1	1.0	433	391	1670	687	5800	6990	928	58	83	25
14	8.1	1.0	370	444	1500	601	2860	2770	739	50	83	21
15	7.6	14	319	467	1270	534	1980	1640	568	46	62	18
16	6.6	1560	283	414	1070	477	1490	1090	451	53	53	15
17	5.9	6990	251	366	873	445	1170	792	373	78	46	13
18	5.9	3840	226	442	726	434	1080	608	317	85	40	12
19	5.7	1350	205	4270	644	468	1390	490	273	230	37	11
20	5.3	753	189	8790	603	9870	1170	411	241	367	66	12
21	4.6	516	178	6460	585	14700	952	15600	215	226	89	24
22	4.0	397	166	3300	4120	7160	904	34600	193	161	89	26
23	3.6	323	157	2100	12600	6450	799	39100	587	118	75	25
24	3.2	273	145	1550	9250	4560	720	32500	328	91	63	23
25	3.2	248	135	1210	11200	2850	1310	7770	221	72	54	23
26	2.8	893	124	1300	11300	1980	1080	2440	201	61	46	24
27	2.6	3200	116	2020	8060	2000	907	1930	219	74	41	21
28	2.6	1740	107	1850	9700	2140	696	8160	226	122	38	18
29	2.6	990	104	1270	---	1700	579	17600	180	2570	37	16
30	2.6	708	100	970	---	10900	512	11400	147	932	31	24
31	2.6	---	257	810	---	18500	---	3960	---	504	26	---
TOTAL	331.6	23814.9	11807	52324	82649	134165	126099	211281	67657	6915	3904	756
MEAN	10.7	794	381	1688	2952	4328	4203	6816	2255	223	126	25.2
MAX	33	6990	1700	8790	12600	18500	21700	39100	16600	2570	485	58
MIN	2.6	1.0	100	366	462	434	512	390	147	46	26	11
CFSM	.009	.70	.34	1.48	2.59	3.80	3.69	5.99	1.98	.20	.11	.02
IN.	.01	.78	.39	1.71	2.70	4.39	4.12	6.91	2.21	.23	.13	.02
AC-FT	658	47240	23420	103800	163900	266100	250100	419100	134200	13720	7740	1500

CAL YR 1978 TOTAL 249124.59 MEAN 683 MAX 18000 MIN .00 CFSM .60 IN 8.14 AC-FT 494100
WTR YR 1979 TOTAL 721703.50 MEAN 1977 MAX 39100 MIN 1.0 CFSM 1.74 IN 23.59 AC-FT 1431000

07336200 KIAMICHI RIVER NEAR ANTLERS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--1976 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT										
02...	1155	27	--	--	23.3	--	--	--	--	--
16...	1130	6.8	--	--	18.8	--	--	--	--	--
20...	1030	5.5	125	7.0	16.0	6.0	9.2	93	15	24
31...	1130	2.6	--	--	15.5	--	--	--	--	--
NOV										
17...	1235	7274	--	--	11.1	--	--	--	--	--
30...	1352	692	--	--	12.2	--	--	--	--	--
30...	1730	669	90	6.6	12.0	42	10.0	95	25	--
DEC										
18...	1353	223	--	--	11.1	--	--	--	--	--
20...	0900	191	56	7.5	11.0	32	--	--	12	13
JAN										
26...	0930	1241	40	6.0	3.5	21	13.3	100	13	--
FEB										
13...	0915	1724	58	6.5	4.0	24	13.1	99	5	20
MAR										
19...	1700	446	68	8.6	15.5	18	9.4	95	5	--
APR										
18...	1600	1065	58	7.3	20.0	20	8.3	90	7	14
MAY										
17...	1015	803	72	6.9	23.5	20	8.3	98	11	--
JUN										
27...	0655	208	63	7.0	26.5	9.0	6.4	79	9	20
JUL										
19...	0855	70	100	7.2	27.0	8.0	7.3	91	--	--
AUG										
07...	0730	245	43	6.8	28.0	38	--	--	15	18
SEP										
26...	1400	24	48	7.7	26.0	9.0	8.8	107	6	--

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT										
02...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
20...	5.0	12	2.8	<20	2.0	12	4.0	.1	6	--
31...	--	--	--	--	--	--	--	--	--	--
NOV										
17...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	15	7.0	.0	49	.50
DEC										
18...	--	--	--	--	--	--	--	--	--	--
20...	3.0	8	2.0	<10	1.0	8.0	--	.0	2	.30
JAN										
26...	--	--	--	--	--	5.0	10	.0	8	.70
FEB										
13...	4.0	10	2.5	--	1.4	11	12	.0	9	.70
MAR										
19...	--	--	--	--	--	18	6.0	.2	24	.40
APR										
18...	--	7	1.5	<10	.9	8.0	7.0	.0	17	.50
MAY										
17...	--	--	--	--	--	18	--	.1	26	.20
JUN										
27...	4.0	10	2.0	<10	1.3	14	4.0	--	8	.20
JUL										
19...	--	--	--	--	--	14	8.0	.0	39	<.50
AUG										
07...	3.3	8	1.3	<10	1.3	--	1.0	.1	24	<.50
SEP										
26...	--	--	--	--	--	--	14	--	7	<.50

07336200 KIAMICHI RIVER NEAR ANTLERS, OK--Continued

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
OCT										
02...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
20...	2.0	--	--	.126	--	--	--	--	400	--
31...	--	--	--	--	--	--	--	--	--	--
NOV										
17...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
30...	1.2	1.7	7.7	--	--	--	--	--	--	--
DEC										
18...	--	--	--	--	--	--	--	--	--	--
20...	.57	.87	3.9	--	--	--	--	--	2140	--
JAN										
26...	1.4	2.1	9.5	.180	--	--	--	--	--	--
FEB										
13...	1.2	1.9	8.6	.050	--	<1	13	3	1800	6
MAR										
19...	1.0	1.4	6.2	.080	--	--	--	--	--	--
APR										
18...	.69	1.1	5.3	.050	--	--	--	--	1700	--
MAY										
17...	.78	.98	4.3	.030	--	--	--	--	--	--
JUN										
27...	1.0	1.2	5.6	.030	--	--	--	--	1100	--
JUL										
19...	1.3	1.3	--	.070	--	--	--	--	--	--
AUG										
07...	1.4	1.4	--	.090	<5	2	<10	<3	1480	<10
SEP										
26...	2.5	2.5	--	.065	--	--	--	--	--	--

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
OCT									
02...	--	--	--	--	--	--	--	50	3.6
16...	--	--	--	--	--	--	--	20	.37
20...	80	--	--	--	--	--	5.0	--	--
31...	--	--	--	--	--	--	--	30	.21
NOV									
17...	--	--	--	--	--	--	--	100	1960
30...	--	--	--	--	--	--	--	120	224
30...	--	--	--	--	--	--	--	--	--
DEC									
18...	--	--	--	--	--	--	--	50	30
20...	50	--	--	--	--	--	--	--	--
JAN									
26...	--	--	--	--	--	--	--	--	--
FEB									
13...	40	<.5	<5	--	<2	13	--	--	--
MAR									
19...	--	--	--	--	--	--	--	--	--
APR									
18...	80	--	--	--	--	--	--	--	--
MAY									
17...	--	--	--	--	--	--	--	--	--
JUN									
27...	100	--	--	--	--	--	--	--	--
JUL									
19...	--	--	--	--	--	--	--	--	--
AUG									
07...	60	<.5	21	<5	<3	9	--	--	--
SEP									
26...	--	--	--	--	--	--	--	--	--

07336600 HUGO LAKE NEAR HUGO, OK

LOCATION.--Lat 34°00'42", long 95°22'49", in NW¼NW¼ sec.25, T.6 S., R.18 E., Choctaw County, Hydrologic Unit 11140105, on upstream face of Hugo Dam on Kiamichi River, 700 ft (213 m) to left of spillway, 7.0 mi (11.3 km) east of Hugo, and at mile 17.6 (28.3 km).

DRAINAGE AREA.--1,709 mi^2 (4,426 km^2).

PERIOD OF RECORD.--January 1974 to current year.

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

REMARKS.-Reservoir is formed by rolled earth dam. The outlet works consists of a gate-controlled concrete gravity Ogee weir with six 40-ft (12.2 m) by 50-ft (15.2 m) gates. Regulated storage began Jan. 18, 1974; conservation pool was first filled Mar. 12, 1974. Total capacity, 1,561,500 acre-ft (1.93 km^3) at elevation 452.5 ft (137.92 m), top of dam, 966,700 acre-ft (1.19 km^3) at elevation 437.5 ft (133.35 m), top of flood control pool. Dead storage 21,080 acre-ft (26.0 hm^3) at elevation 387.5 ft (118.11 m), crest of gated spillway. Figures given herein represent total contents. Reservoir is used for flood control, water supply, recreation and conservation.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 539,700 acre-ft (665 hm^3) Mar. 31, 1977, elevation, 423.60 ft (129.113 m); minimum since conservation pool was first filled, 88,860 acre-ft (110 hm^3) Nov. 15, 1978, elevation, 398.47 ft (121.454 m).

EXTREMES FOR CURRENT YEAR.-Maximum contents, 464,500 acre-ft (573 hm^3) May 25, elevation, 420.69 ft (128.226 m); minimum, 88,860 acre-ft (110 hm^3) Nov. 15, elevation, 398.47 ft (121.454 m).

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

398	84,240	407	192,700	416	354,800
401	115,000	410	239,900	419	423,200
404	150,800	413	294,100	422	497,500

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99480	91020	157600	179400	161200	214100	242000	161000	377500	163500	163800	160700
2	98890	90730	159600	180100	160400	208400	268900	160400	355700	162900	164100	160100
3	98690	90630	159600	179800	161600	204500	288600	161600	340300	162600	165400	160100
4	98300	90530	159600	178000	161500	199700	284200	161500	324700	162200	165400	159700
5	98590	90140	160400	176500	161900	187100	265900	164300	305100	162000	165400	159700
6	98390	90730	162300	175700	163500	170400	245500	166100	283800	162000	165600	160300
7	98000	90140	163700	172500	164600	161000	224900	165800	263600	161800	165700	160300
8	97510	89740	166900	167600	166400	158000	204300	163900	264100	161500	165600	159700
9	97120	89250	168500	162300	165600	159600	182400	161400	267500	161600	165400	159500
10	97020	89250	170700	159200	165300	160000	170700	161400	244800	161100	165600	159200
11	96630	89350	171400	157400	165400	160000	179700	161100	222500	160800	165400	158800
12	96330	88960	171400	157700	166100	159600	199700	176500	199600	160100	164600	158700
13	96330	88960	171800	159900	165000	160000	199400	191000	180000	159500	164200	158400
14	95840	89060	171100	159600	163000	158800	187000	193800	168700	158800	164100	157700
15	95540	93970	170700	160000	162200	158300	172800	189000	164500	158400	163700	157300
16	95150	100400	170400	160600	159900	157800	163900	177000	164300	158700	163400	156900
17	94660	115800	169600	161100	160600	158000	160000	165400	163900	158400	163000	157000
18	94560	127800	169200	162700	160700	158800	161100	155900	163500	158100	162700	156800
19	94270	132300	168800	170000	160600	160400	163900	156200	163400	157600	162600	157000
20	94070	134300	168700	190100	161000	177900	165400	161200	163500	157600	161900	158700
21	93480	135500	167500	204500	161000	198400	166400	226300	163500	157600	163000	158300
22	93280	136600	166900	203100	174500	201200	167600	305800	163000	157300	163000	158000
23	93280	137200	167500	193000	194500	198800	168800	381300	163500	156900	163000	157700
24	92990	137800	166200	191000	205700	190400	168700	449100	164100	156500	162600	157400
25	93090	138600	165700	164300	216000	178200	169100	460700	164500	155400	162300	157200
26	92600	141400	165400	162600	220700	167500	168000	441100	164500	155700	162200	157000
27	92200	147500	164300	165800	216800	160800	167100	419900	164600	157700	161600	156900
28	91910	152000	163900	167200	213400	158400	165400	410800	164800	157400	161600	156500
29	91610	154900	164200	167200	---	159700	164200	424400	164600	161100	161500	156500
30	91510	156200	164500	166800	---	180300	162500	423200	164100	162600	161400	156500
31	91120	---	173200	163700	---	205100	---	401100	---	163500	160800	---
MAX	99480	156200	173200	204500	220700	214100	288600	460700	377500	163500	165700	160700
MIN	91120	88960	157600	157400	159900	157800	160000	155900	163000	155400	160800	156500
†	398.70	404.40	405.65	404.95	408.36	407.83	404.86	418.07	404.98	404.94	404.74	404.42
‡	-8,880	+65,080	+17,000	-9,500	+49,700	-8,300	-42,600	+238,600	-237,000	-600	-2,700	-4,300

CAL YR 1978 MAX 242900 MIN 88960 ‡+42200
WTR YR 1979 MAX 460700 MIN 88960 ‡+56500

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

07336700 KIAMICHI RIVER NEAR SAWYER, OK

LOCATION.--Lat 34°00'30", long 95°23'00", in SW¼NW¼ sec.25, T.6 S., R.18 E., Choctaw County, Hydrologic Unit 11140105, at bridge on U. S. Highway 71, 900 ft (274 m) downstream from Hugo Dam, 0.5 mi (0.8 km) southwest of Sawyer.

PERIOD OF RECORD.--Water years 1962, 1978 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
DEC												
14...	1330	--	7.2	7.5	11	--	--	14	35	12	30	3.2
JAN												
24...	1530	85	6.8	3.0	19	10.9	82	20	--	--	--	--
FEB												
12...	1350	110	7.2	4.0	27	14.1	104	15	25	6.0	15	2.4
MAR												
07...	1315	30	6.8	12.0	42	12.4	113	17	--	--	--	--
APR												
10...	1245	44	6.8	17.0	53	10.3	107	24	25	4.0	10	1.7
MAY												
14...	1445	80	6.7	21.0	22	9.1	104	16	--	--	--	--
JUN												
21...	1050	--	6.9	25.0	15	9.0	110	16	26	6.0	15	2.0
JUL												
17...	1530	--	7.4	27.5	10	7.1	90	20	--	--	--	--
AUG												
02...	0840	--	6.2	25.5	10	7.8	101	17	22	6.0	15	1.7
SEP												
12...	0945	--	7.4	25.0	5.0	9.2	107	16	--	--	--	--

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
DEC												
14...	--	1.9	12	13	.0	17	.30	1.0	1.3	5.9	.162	--
JAN												
24...	--	--	7.0	10	.1	30	.70	1.4	2.1	9.5	.170	--
FEB												
12...	--	1.9	8.0	6.0	.0	12	.70	1.8	2.5	11	.050	<2
MAR												
07...	--	--	18	8.0	.1	38	.50	1.4	1.9	8.4	.140	--
APR												
10...	<10	1.4	13	4.0	<.1	57	.20	1.3	1.5	6.6	.100	--
MAY												
14...	--	--	13	1.0	.0	16	--	1.2	--	--	.040	--
JUN												
21...	<10	1.6	9.0	3.0	.0	12	.10	1.2	1.3	5.9	.065	--
JUL												
17...	--	--	8.0	4.0	.0	37	--	1.6	1.6	--	.750	--
AUG												
02...	<10	1.4	9.0	<1.0	.0	15	<.50	1.3	1.3	--	.055	<5
SEP												
12...	--	--	8.0	--	.2	16	<.50	1.0	1.0	--	.100	--

07336700 KIAMICHI RIVER NEAR SAWYER, OK--Continued

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
DEC 14...	--	--	--	930	--	90	--	--	--	--	--
JAN 24...	--	--	--	--	--	--	--	--	--	--	--
FEB 12...	<1	16	4	1850	10	100	<.5	6	<1	<2	14
MAR 07...	--	--	--	--	--	--	--	--	--	--	--
APR 10...	--	--	--	4000	--	180	--	--	--	--	--
MAY 14...	--	--	--	--	--	--	--	--	--	--	--
JUN 21...	--	--	--	--	--	1300	--	--	--	--	--
JUL 17...	--	--	--	--	--	--	--	--	--	--	--
AUG 02...	3	<10	<4	1400	<10	740	<.5	<10	<5	<2	13
SEP 12...	--	--	--	--	--	--	--	--	--	--	--

07336820 RED RIVER NEAR DE KALB, TX

LOCATION.--Lat 33°41'15", long 94°41'39", Bowie County, Tex.-McCurtain County, Okla. State line, Hydrologic Unit 11140106, near left bank at downstream side of bridge on U.S. Highway 259, 4.8 mi (7.7 km) upstream from North Mill Creek, 13 mi (21 km) north of De Kalb, and at mile 556.9 (896.1 km).

DRAINAGE AREA.--47,348 mi² (122,631 km²), of which 5,936 mi² (15,374 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 302.92 ft (92.330 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair. At times, flood peaks may be affected by storage in Lake Texoma (station 07331500) located approximately 169 mi (272 km) upstream, and low flows may be affected by releases for generation of electric power. National Weather Service gage-height telemeter at station.

COOPERATION.--Records furnished by Corps of Engineers and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--11 years (water years 1969-79), 11,660 ft³/s (333.0 m³/s), 8,448,000 acre-ft/yr (10.4 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 189,000 ft³/s (5,350 m³/s) Dec. 11, 1971, gage height, 31.55 ft (9.616 m), from graph based on gage readings; minimum, 431 ft³/s (12.2 m³/s) Sept. 4, 5, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1957, 205,000 ft³/s (5,800 m³/s) June 1957, gage height, 32.2 ft (9.81 m), from rating curve extended above 186,500 ft³/s (5,280 m³/s). The greatest flood since 1936 occurred in February 1938, stage unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 77,400 ft³/s (2,190 m³/s) May 24, gage height, 22.85 ft (6.965 m); minimum, 1,260 ft³/s (35.7 m³/s) Oct. 28, gage height, 7.29 ft (2.222 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2000	2160	3180	10600	4720	30500	53900	7600	50500	8390	3320	1820
2	2130	1630	3710	9540	4200	28000	50600	6380	50700	8320	2540	2190
3	2730	1400	3300	7740	3810	33500	44500	6040	47300	6540	2470	2860
4	2260	1930	3140	6360	3640	31800	39300	13200	46100	5030	4290	3220
5	2070	2420	3400	6780	3460	27100	33500	16800	36100	4510	4480	3010
6	2050	1950	2900	8510	3840	26700	30500	18700	38800	5200	4500	2190
7	1930	1720	2850	7620	3860	22000	25200	14700	34400	5010	3170	1680
8	1540	1630	3580	6440	3330	15300	20600	11100	59100	4550	2280	2020
9	1350	1460	3080	5900	3220	10100	18800	7970	51300	4550	2090	2980
10	1310	1360	2800	5510	3700	6750	18300	6190	45100	4560	2150	3140
11	1550	1730	3830	4820	4130	5540	14500	6900	43200	4250	2020	3060
12	1660	2020	4170	4270	4620	4520	10300	11000	42400	3430	2820	2560
13	1700	1680	3540	3720	5800	3830	13700	12300	42900	3930	2420	1520
14	1690	1430	2710	2570	6650	3490	17400	14700	44800	4970	2630	1380
15	1950	1400	2240	2140	7830	3270	18700	16600	52600	5880	2350	1970
16	2190	7190	2210	2040	7400	3450	16600	16100	55000	6080	1580	2120
17	1940	12300	2340	2310	7040	4210	12100	17200	49600	5380	1430	2050
18	1800	10400	2500	3710	5070	3640	7550	16000	42100	3410	1450	1930
19	1490	11200	2620	4190	4110	3730	6180	12300	38600	2990	1680	1780
20	1330	7860	2280	5670	3750	5150	5570	6200	34600	3870	1780	1570
21	1380	5320	2110	7870	3690	6470	5970	4860	24400	5410	1560	1560
22	1490	3590	2100	10300	3470	15800	8940	9500	17700	4560	1530	2910
23	1550	2640	2150	13700	5730	30600	10900	57400	14100	3960	2060	4370
24	1580	2390	2110	14900	13900	34300	9940	76100	13100	3650	2060	5970
25	1560	2380	2150	13800	25700	33500	9190	67900	12600	2630	2050	5450
26	1450	3300	2210	11700	31900	30100	9120	59700	12600	2030	3310	3930
27	1290	3180	1740	8350	36300	23700	9030	57300	12300	2660	4250	2680
28	1360	2550	1420	5620	33600	13700	9640	57500	11700	4200	3380	2610
29	2070	2710	1430	5220	---	13700	9610	59300	8840	4200	2290	3550
30	2460	2420	1470	5350	---	16000	9350	57300	8140	3560	1600	4200
31	2400	---	3220	5400	---	35900	---	51500	---	3380	1480	---
TOTAL	55260	105350	82490	212650	248470	526350	549490	796340	1040680	141090	77020	82280
MEAN	1783	3512	2661	6860	8874	16980	18320	25690	34690	4551	2485	2743
MAX	2730	12300	4170	14900	36300	35900	53900	76100	59100	8390	4500	5970
MIN	1290	1360	1420	2040	3220	3270	5570	4860	8140	2030	1430	1380
AC-FT	109600	209000	163600	421800	492800	1044000	1090000	1580000	2064000	279900	152800	163200

CAL YR 1978	TOTAL	2059600	MEAN	5643	MAX	34200	MIN	1290	AC-FT	4085000
WTR YR 1979	TOTAL	3917470	MEAN	10730	MAX	76100	MIN	1290	AC-FT	7770000

07337100 LITTLE RIVER NEAR CLOUDY, OK

LOCATION.--Lat 34°19'32", long 95°11'58", near center NW¼ sec.3, T.3 S., R.20 E., Pushmataha County, Hydrologic Unit 11140107, at bridge on county road, 700 ft (213 m) downstream from Cloudy Creek, 5 mi (8.0 km) northwest of Cloudy, and at mile 164.9 (265.3 km).

DRAINAGE AREA.--324 mi^2 (839 km^2).

PERIOD OF RECORD.--Water years 1976 to current year. Prior to October 1977, published as "above Pine Creek Lake near Cloudy."

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
DEC												
06...	1040	44	8.5	9.0	18	11.7	103	5	18	2.0	5	2.5
JAN												
23...	0845	30	5.9	4.5	13	--	--	5	--	--	--	--
FEB												
14...	1100	34	6.6	8.0	8.0	12.7	107	2	9	2.0	5	1.2
MAR												
06...	1120	40	7.9	8.5	8.0	10.3	87	8	--	--	--	--
APR												
03...	1240	38	7.7	13.0	12	--	--	10	9	2.0	5	.9
MAY												
09...	1020	30	7.0	21.0	--	--	--	5	--	--	--	--
JUN												
19...	1410	60	8.3	28.5	5.0	7.3	95	6	12	2.0	5	1.2
JUL												
24...	1130	68	6.7	27.5	28	6.4	82	14	--	--	--	--
AUG												
28...	1330	40	7.4	30.5	39	6.6	89	11	13	2.0	5	1.5
SEP												
25...	1200	50	8.0	23.0	2.0	7.8	88	4	--	--	--	--

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
DEC												
06...	<10	1.0	6.0	1.0	<.0	5	--	1.5	--	--	<.001	--
JAN												
23...	--	--	13	<1.0	<.1	4	.20	2.1	2.3	10	.050	--
FEB												
14...	<10	.8	6.0	5.0	<.0	6	.20	1.1	1.3	6.0	.050	<2
MAR												
06...	--	--	<1.0	2.0	<.1	7	.20	.90	1.1	4.9	.140	--
APR												
03...	10	.9	--	1.0	<.1	10	.20	.90	1.1	4.9	.050	--
MAY												
09...	--	--	7.0	2.0	.0	8	.10	.66	.76	3.4	.025	--
JUN												
19...	<10	.7	3.0	3.0	<.0	6	<.10	.67	.67	--	.005	--
JUL												
24...	--	--	6.0	3.0	.0	13	<.50	1.2	1.2	--	.030	--
AUG												
28...	<10	1.4	7.0	<1.0	<.0	19	<.50	1.5	1.5	--	.050	<10
SEP												
25...	--	--	12	--	.0	--	<.50	2.4	2.4	--	.035	--

07337100 LITTLE RIVER NEAR CLOUDY, OK--Continued

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
DEC 06...	--	--	--	--	--	<20	--	--	--	--	--
JAN 23...	--	--	--	--	--	--	--	--	--	--	--
FEB 14...	<1	18	<2	730	<5	20	--	<5	<1	<2	<1
MAR 06...	--	--	--	--	--	--	--	--	--	--	--
APR 03...	--	--	--	880	--	--	--	--	--	--	--
MAY 09...	--	--	--	--	--	--	--	--	--	--	--
JUN 19...	--	--	--	480	--	--	--	--	--	--	--
JUL 24...	--	--	--	--	--	--	--	--	--	--	--
AUG 28...	<2	<10	4	748	21	30	<.5	11	<5	<2	13
SEP 25...	--	--	--	--	--	--	--	--	--	--	--

07337300 PINE CREEK LAKE NEAR WRIGHT CITY, OK

LOCATION.--Lat 34°06'43", long 95°04'46", in NE¼NW¼ sec.23, T.5 S., R.21 E., McCurtain County, Hydrologic Unit 11140107, at left of outlet works of dam on Little River, 4.7 mi (7.6 km) upstream from bridge on State Highway 98, 5.0 mi (8.0 km) northwest of Wright City, and at mile 145.3 (233.8 km).

DRAINAGE AREA.--635 mi^2 (1,645 km^2).

PERIOD OF RECORD.--June 1969 to current year. Prior to October 1970 published as Pine Creek Reservoir near Wright City.

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

REMARKS.--Reservoir is formed by rolled earth dam; regulated storage began June 1, 1969; conservation pool was first filled Jan. 7, 1970. Total capacity, 1,136,000 acre-ft (1.40 km^3) at elevation 509.0 ft (153.14 m), top of dam, 465,800 acre-ft (574 hm^3) at elevation 480.0 ft (146.30 m), crest of spillway, 53,800 acre-ft (66.3 hm^3) at elevation 438.0 ft (133.50 m) top of conservation pool, 7,140 acre-ft (8.80 hm^3) dead storage at elevation 414.0 ft (126.19 m). Figures given herein represent total contents. Reservoir is designed for flood control, municipal and industrial water supply, and recreation.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 348,410 acre-ft (430 hm^3) Dec. 16, 1971, elevation, 474.57 ft (144.039 m); minimum since conservation pool was first filled, 28,220 acre-ft (34.8 hm^3) Oct. 21, 1972, elevation, 429.34 ft (130.863 m).

EXTREMES FOR CURRENT YEAR.-Maximum contents, 206,800 acre-ft (255 hm^3) May 25, elevation, 460.96 ft (140.501 m); minimum, 31,720 acre-ft (39.1 hm^3) Nov. 15, elevation, 430.83 ft (131.317 m).

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

430	29,730	442	70,490	454	144,500
433	37,430	445	85,440	457	169,400
436	46,650	448	102,600	460	197,200
439	57,610	451	122,300	463	228,100

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38170	33530	59250	79400	56390	113900	146400	57250	154900	80620	81860	75330
2	38020	33400	58970	82950	56040	111300	157300	55960	147100	80570	78300	74940
3	37820	33300	58290	83430	55890	121400	161000	55230	140200	80420	76800	74700
4	37600	33120	57770	80620	55620	123900	156800	55380	131600	80470	76900	74460
5	37630	32990	57180	77250	55270	119500	148200	56240	123000	80620	77000	74220
6	37460	32810	56940	73740	55120	110800	138300	56740	118400	80520	77200	73980
7	37320	32610	57970	69660	55040	101300	128400	56660	114800	80570	77200	73830
8	37120	32460	59540	65620	54960	91480	118200	55650	111000	80520	77200	73600
9	36950	32290	61560	61560	54930	81500	107600	54430	106600	80370	77200	73360
10	36790	32160	61020	57290	55270	71420	97180	54280	101400	80220	77150	73310
11	36730	32010	58090	55230	55850	61470	94790	61560	96180	80220	76950	73120
12	36620	31840	57060	55080	56350	55850	100200	69750	91080	80110	76800	72930
13	36350	31840	55850	55040	56550	54200	94960	73640	85760	79960	76700	72690
14	36180	31740	54730	54930	56780	53980	86080	74170	81500	79860	76700	72450
15	35990	33940	54580	54890	56080	54200	76460	69750	80010	79810	76700	72270
16	35830	41410	54960	54890	55770	54540	67750	65530	79300	80160	76560	72120
17	35660	50350	55080	54890	56000	55150	60680	59620	78450	80880	76410	71980
18	35530	52890	55420	55420	56200	55650	56470	56240	77900	81400	76310	71890
19	35420	54130	55690	59900	56270	57020	55500	54850	77950	80980	76160	71790
20	35260	54890	55930	66640	56200	65140	54850	53530	77950	79760	75970	72080
21	35130	55420	55890	69890	55770	66190	54960	122300	78040	79500	76900	71650
22	34990	55850	56000	71890	68290	65100	55000	187600	78040	79450	76950	71230
23	34750	56240	56240	71510	78400	64840	55270	200200	78040	79250	76850	71050
24	34650	56510	56200	65970	85870	62950	56040	205300	78190	79200	76700	70810
25	34520	56740	56240	58290	93750	60070	56980	205200	78300	79100	76560	70670
26	34360	57490	56240	55230	107900	56740	57410	196500	79400	79200	76460	70490
27	34230	58930	56200	56510	111800	55650	58050	186300	79860	80370	76360	70300
28	34070	59740	56200	57610	115800	55420	58610	180000	80270	86730	76260	70120
29	33940	59700	56270	57970	---	55380	59090	182400	80520	88920	76160	69890
30	33790	59580	56160	57730	---	88700	58690	174800	80620	88150	75920	69710
31	33660	---	70260	57140	---	102500	---	164800	---	85010	75670	---
MAX	38170	59740	70260	83430	115800	123900	161000	205300	154900	88920	81860	75330
MIN	33660	31740	54580	54890	54930	53980	54850	53530	77900	79100	75670	69710
†	431.60	439.49	441.93	438.88	450.05	447.97	439.27	456.47	444.08	444.92	443.09	441.83
‡	-4,650	+25,920	+10,680	-13,120	+58,660	-13,300	-43,810	+106,110	-84,180	+4,390	-9,340	-5,960

CAL YR 1978 MAX 92670 MIN 31740 ‡+28940
WTR YR 1979 MAX 205300 MIN 31740 ‡+31400

† Elevation, in feet, at end of month.
‡ Change, in contents, in acre-feet.

07337500 LITTLE RIVER NEAR WRIGHT CITY, OK

LOCATION.--Lat 34°04'10", long 95°02'47", in NE¼NW¼ sec.6, T.6 S., R.22 E., McCurtain County, Hydrologic Unit 11140107, on left bank on downstream side of bridge on State Highway 98, 1.8 mi (2.9 km) upstream from White Oak Creek, 2.0 mi (3.2 km) west of Wright City, 4.7 mi (97.6 km) downstream from Pine Creek Lake, and at mile 140.6 (226.2 km).

DRAINAGE AREA.--645 mi^2 (1,671 km^2).

PERIOD OF RECORD.--October 1929 to September 1931, October 1944 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.-Water-stage recorder. Datum of gage is 346.76 ft (105.692 m) National Geodetic Vertical Datum of 1929. Oct. 12, 1929, to Sept. 30, 1931, nonrecording gage at railroad bridge 1.0 mi (1.6 km) downstream at datum 4.15 ft (1.265 m) higher. Dec. 6, 1944, to July 30, 1951, nonrecording gage at present site and datum.

REMARKS.-Records fair. Except for 10 mi^2 (25.9 km^2) intervening area, flow completely regulated since June 1969 by Pine Creek Lake (station 07337300).

COOPERATION.--Gage height record and 10 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(prior to regulation by Pine Creek Lake) 27 years (water years 1930-69, 917 ft^3/s (25.97 m^3/s), 664,400 acre-ft/yr (819 hm^3/yr); (since regulation by Pine Creek Lake) 9 years (water years 1971-79), 952 ft^3/s (26.96 m^3/s), 689,700 acre-ft/yr (850 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,200 ft^3/s (2,210 m^3/s) May 6, 1961, gage height, 45.60 ft (13.899 m); maximum gage height, 45.77 ft (13.951 m) Sept. 16, 1950; no flow at times in 1930, 1954, 1956, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,140 ft^3/s (231 m^3/s) June 3, gage height, 24.66 ft (7.516 m); minimum daily discharge, 11 ft^3/s (0.312 m^3/s) Dec. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	28	462	107	771	5440	80	813	6610	27	1740	25
2	25	29	462	107	651	5480	80	815	7010	28	1750	25
3	24	30	464	563	516	5300	765	734	7990	27	879	25
4	24	30	465	2140	518	3120	3820	519	7410	27	26	29
5	31	31	468	2740	522	3730	6310	474	6670	27	21	31
6	23	31	474	2740	527	6120	6410	468	5080	33	19	33
7	24	31	517	2680	535	6240	6340	555	3740	31	21	31
8	25	33	536	2610	536	6150	6260	812	3130	33	22	31
9	26	35	789	2560	446	6030	6170	810	2970	31	23	31
10	26	36	801	2520	338	5920	6070	593	2900	31	23	30
11	25	33	804	1870	350	5780	4800	85	2850	33	22	31
12	23	18	798	444	406	4560	769	75	2810	33	21	30
13	22	16	798	323	623	1560	3730	71	2780	33	22	32
14	21	16	733	319	771	513	5810	358	2400	33	21	30
15	23	16	375	325	985	207	5850	2210	1000	33	22	24
16	24	18	28	324	769	170	5520	3190	429	35	21	24
17	23	22	14	324	427	67	4290	3160	421	58	23	24
18	26	24	12	338	427	69	3350	2310	374	131	25	27
19	29	25	13	445	427	106	1250	825	52	186	25	27
20	29	26	12	524	480	654	906	820	32	751	25	43
21	29	24	11	509	682	1740	421	250	28	171	26	51
22	26	26	12	507	720	3420	421	90	27	132	31	36
23	23	25	19	1080	750	3340	352	80	27	118	28	33
24	25	24	27	3220	3100	2860	49	80	27	28	24	27
25	27	24	26	4940	2500	2770	44	1120	27	20	21	27
26	27	31	27	3450	450	2720	38	4850	27	22	22	27
27	26	77	35	433	1670	2170	38	6560	27	62	24	24
28	24	345	39	425	3540	1370	39	6720	25	71	26	24
29	24	451	48	565	---	1370	40	6850	27	48	27	24
30	26	459	107	771	---	1200	374	6860	27	319	24	23
31	27	---	107	771	---	500	---	6740	---	1560	24	---
TOTAL	782	2014	9503	40674	24437	90676	80396	59897	66927	4172	5028	879
MEAN	25.2	67.1	307	1312	873	2925	2680	1932	2231	135	162	29.3
MAX	31	459	804	4940	3540	6240	6410	6860	7990	1560	1750	51
MIN	21	16	11	107	338	67	38	71	25	20	19	23
AC-FT	1550	3990	18850	80680	48470	179900	159500	118800	132700	8280	9970	1740

CAL YR 1978 TOTAL 130773 MEAN 358 MAX 5200 MIN 10 AC-FT 259400
WTR YR 1979 TOTAL 385385 MEAN 1056 MAX 7990 MIN 11 AC-FT 764400

07337900 GLOVER CREEK NEAR GLOVER, OK

LOCATION.--Lat 34°05'51", long 94°54'07", in NW¼NE¼ sec.28, T.5 S., R.23 E., McCurtain County, Hydrologic Unit 11140107, near right bank on downstream side of pier of bridge on State Highways 3 and 7, 2.0 mi (3.2 km) north of Glover, 11.0 mi (17.7 km) northwest of Broken Bow, and at mile 9.2 (14.8 km).

DRAINAGE AREA.--315 mi^2 (816 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 378.70 ft (115.428 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair below 200 ft^3/s (5.66 m^3/s) and poor above.

COOPERATION.--Gage height record and 7 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--18 years, 457 ft^3/s (12.94 m^3/s), 19.70 in/yr (500 mm/yr), 331,100 acre-ft/yr (408 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 98,600 ft^3/s (2,790 m^3/s) Dec. 10, 1971, gage height, 29.72 ft (9.059 m); no flow at times in 1966, 1968, 1970, 1972, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1961 reached a stage of 28.84 ft (8.790 m), from floodmark. Flood in 1908 was higher than in May 1961, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,000 ft^3/s (227 m^3/s) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
Dec. 31	1500	14,900	422	13.60	4.145	May 22	0500	*33,600	952	*18.65	5.685
Feb. 23	0100	9,890	280	10.69	3.258	June 2	1700	10,800	306	10.83	3.301
Mar. 30	1815	18,000	510	14.71	4.484						

No flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	190	3820	242	2190	5580	334	484	61	108	8.1
2	.00	.00	157	1490	213	1720	3850	310	5660	53	81	7.4
3	.00	.00	143	858	209	3840	2070	370	4330	46	81	6.8
4	.00	.00	144	563	201	2180	1710	1100	1460	40	65	6.2
5	.00	.00	144	473	186	1560	1340	1180	829	38	52	5.5
6	.00	.00	148	477	175	1230	1100	882	721	54	45	5.8
7	.00	.00	1980	434	188	1000	877	689	767	62	39	6.9
8	.00	.00	1510	349	221	788	739	559	476	51	33	5.6
9	.00	.00	816	277	226	638	670	471	315	51	32	4.1
10	.00	.00	497	243	226	545	573	409	229	48	27	3.2
11	.00	.00	362	220	255	470	655	2650	174	43	24	2.8
12	.00	.00	284	199	390	415	2490	4020	140	38	21	2.4
13	.00	.00	231	185	463	372	1480	2010	116	44	20	2.1
14	.00	.00	193	171	438	337	1110	1340	99	43	19	1.4
15	.00	794	164	143	380	307	842	1000	85	37	26	.36
16	.00	4270	145	129	322	285	662	743	74	34	32	.00
17	.00	3210	130	122	269	263	545	590	66	39	31	.22
18	.00	1060	116	132	237	249	503	489	58	51	28	1.3
19	.00	516	104	746	214	262	558	412	52	73	24	2.0
20	.00	329	98	1600	203	3280	525	356	48	89	21	5.4
21	.00	240	92	1300	206	2220	448	12400	44	65	18	9.6
22	.00	192	86	792	2740	1670	405	17000	42	52	2•	8.8
23	.00	160	78	560	6650	2330	478	4260	78	44	20	7.9
24	.00	138	74	426	3840	1560	826	1880	80	38	19	6.2
25	.00	122	69	328	5240	1190	708	761	65	33	17	4.8
26	.00	120	65	310	3140	926	566	446	128	31	14	4.0
27	.00	241	63	406	2700	942	487	438	196	443	13	3.4
28	.00	384	58	433	2890	1120	425	610	123	2030	11	3.0
29	.00	298	57	361	---	984	391	2220	91	545	9.8	2.7
30	.00	234	63	321	---	9190	362	989	73	258	9.1	2.3
31	.00	---	7730	285	---	4910	---	570	---	156	8.3	---
TOTAL	.00	12308.00	15991	18153	32664	48973	32975	61488	17103	4690	968.2	130.28
MEAN	.000	410	516	586	1167	1580	1099	1983	570	151	31.2	4.34
MAX	.00	4270	7730	3820	6650	9190	5580	17000	5660	2030	108	9.6
MIN	.00	.00	57	122	175	249	362	310	42	31	8.3	.00
CFSM	.000	1.30	1.64	1.86	3.71	5.02	3.49	6.30	1.81	.48	.10	.01
IN.	.00	1.45	1.89	2.14	3.86	5.78	3.89	7.26	2.02	.55	.11	.02
AC-FT	.00	24410	31720	36010	64790	97140	65410	122000	33920	9300	1920	258

CAL YR 1978 TOTAL 108797.60 MEAN 298 MAX 9230 MIN .00 CFSM .95 IN 12.85 AC-FT 215800
WTR YR 1979 TOTAL 245443.48 MEAN 672 MAX 17000 MIN .00 CFSM 2.13 IN 28.99 AC-FT 486800

07337900 GLOVER CREEK NEAR GLOVER, OK--Continued

PERIOD OF RECORD.--Water years 1949, 1953, 1962-63, 1976 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)
OCT												
23...	1350	.00	150	7.1	20.0	4.0	9.7	105	9	68	3.9	9
DEC												
14...	1140	194	76	6.9	6.5	12	--	--	5	10	5.0	13
JAN												
25...	0800	335	15	9.0	2.0	8.0	15.6	115	4	--	--	--
FEB												
13...	1220	464	60	6.6	4.0	9.0	12.8	95	2	13	3.0	7
MAR												
08...	1120	798	25	8.0	11.0	8.0	11.9	106	4	--	--	--
APR												
11...	1120	566	45	6.5	18.0	7.0	9.5	102	6	14	3.0	8
MAY												
15...	0845	1040	40	6.5	18.5	--	8.7	94	9	--	--	--
JUN												
20...	1215	49	--	6.9	29.0	1.0	8.4	110	46	39	12	30
JUL												
18...	1445	51	60	7.4	30.0	--	3.2	42	10	--	--	--
AUG												
01...	1200	107	50	7.0	28.5	15	7.1	97	16	16	4.0	10
SEP												
11...	1250	2.7	110	7.7	30.5	3.0	6.0	77	6	--	--	--

DATE	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT												
23...	13	10	1.0	1.0	5.0	.1	10	--	.89	--	--	--
DEC												
14...	1.8	--	.6	12	6.0	.0	10	.20	.45	.66	2.9	.130
JAN												
25...	--	--	--	11	10	<.1	8	.40	1.2	1.6	7.2	.150
FEB												
13...	1.3	<10	.7	8.0	3.0	.0	2	.20	1.9	2.1	9.4	.050
MAR												
08...	--	--	--	1.0	3.0	.1	6	.20	.80	1.0	4.4	.140
APR												
11...	1.2	<10	.7	8.0	3.0	<.1	10	.10	.60	.70	3.1	.040
MAY												
15...	--	--	--	11	1.0	.0	3	.20	.89	1.1	4.8	.020
JUN												
20...	3.3	<10	1.1	9.0	4.0	.0	4	.10	1.2	1.3	5.8	.030
JUL												
18...	--	--	--	6.0	6.0	.0	8	<.50	1.2	1.2	--	.050
AUG												
01...	1.2	<10	1.1	12	<1.0	.0	13	<.50	1.3	6.4	28	.075
SEP												
11...	--	--	--	8.0	--	.1	5	<.50	1.1	1.1	--	.055

07337900 GLOVER CREEK NEAR GLOVER, OK--Continued

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT												
23...	--	--	--	--	950	--	40	--	--	--	--	--
DEC												
14...	--	--	--	--	670	--	<20	--	--	--	--	--
JAN												
25...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
13...	--	1	17	<2	460	7	20	<.5	<5	2	<2	11
MAR												
08...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
11...	--	--	--	--	700	--	30	--	--	--	--	--
MAY												
15...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
20...	--	--	--	--	--	--	280	--	--	--	--	--
JUL												
18...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
01...	<5	3	<10	<4	1020	<10	50	<.5	<10	<5	<2	20
SEP												
11...	--	--	--	--	--	--	--	--	--	--	--	--

07338500 LITTLE RIVER BELOW LUKFATA CREEK NEAR IDABEL, OK

LOCATION.--Lat 33°56'28", long 94°45'30", in SE¼SE¼ sec.14, T.7 S., R.24 E., McCurtain County, Hydrologic Unit 11140107, on left bank at downstream side of bridge on U.S. Highway 70 just downstream from Lukfata Creek, 5.0 mi (8.0 km) northeast of Idabel, and at mile 103.4 (166.4 km).

DRAINAGE AREA.--1,226 mi^2 (3,175 hm^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 312.08 ft (95.122 m) National Geodetic Vertical Datum of 1929. Oct. 1, 1946 to Oct. 26, 1950, and for stages below 9.0 ft (2.7 m) Oct. 26, 1950, to Oct. 10, 1951, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flow regulated since June 1969 by Pine Creek Lake 41.9 miles (67.4 km) upstream. (Station 07337300).

COOPERATION.--Gage-height record and 17 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(prior to regulation by Pine Creek Lake) 22 years (water years 1947-68), 1,622 ft^3/s (45.95 m^3/s), 1,174,000 acre-ft/yr (1.45 km^3/yr); (since regulation by Pine Creek Lake) 9 years (water years 1971-79) 1,800 ft^3/s (50.98 m^3/s), 1,304,000 acre-ft/yr (1.61 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft^3/s (2,920 m^3/s) Dec. 10, 1971, gage height, 39.39 ft (12.006 m); minimum, 0.4 ft^3/s (0.011 m^3/s) Sept. 15, 16, Sept. 21 to Oct. 1, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.-Flood in February 1938 reached a stage of 39.7 ft (12.10 m), from information by local resident, discharge, 86,000 ft^3/s (2,440 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,000 ft^3/s (396 m^3/s) May 23, gage height, 28.59 ft (8.714 m); minimum daily discharge, 19 ft^3/s (0.538 m^3/s) Oct. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	30	837	9300	1420	6430	12300	844	8260	170	2250	44
2	23	29	785	8940	1350	7100	11800	1220	8710	145	2200	43
3	25	29	762	4520	1180	8850	9510	1730	10900	125	2170	46
4	21	29	770	2510	1070	9480	5680	4870	11800	110	1240	45
5	26	28	772	3310	1020	7650	5660	3100	11500	98	385	51
6	31	31	769	3760	995	6190	6840	1790	10700	166	221	48
7	36	33	2000	3760	1180	6710	7160	1330	9950	211	167	48
8	35	32	3440	3510	1300	6930	7280	1350	7780	214	136	50
9	29	33	2610	3260	1290	6820	7150	1410	5210	169	121	46
10	28	33	2040	3110	1090	6570	6930	1330	3970	145	110	46
11	28	32	1730	3020	1080	6320	7330	1900	3560	131	99	44
12	27	31	1550	2110	1310	6090	7020	5480	3370	114	88	40
13	25	31	1440	944	1570	4770	4490	4880	3240	102	79	43
14	23	34	1350	723	1700	2110	5190	2210	3150	91	72	41
15	21	1060	1110	657	1850	866	6270	2160	2550	91	71	41
16	20	7320	637	617	1850	550	6460	3310	1220	91	67	43
17	19	7660	319	604	1390	478	6060	3640	550	96	70	43
18	20	5450	260	633	1020	369	5120	3500	320	464	80	40
19	21	1960	235	1730	972	364	3880	2260	230	497	85	38
20	23	794	214	3180	951	2180	2240	1270	190	829	82	53
21	26	558	195	3480	1220	4950	1480	2240	175	1040	76	80
22	29	417	181	2470	1470	4740	991	9140	154	386	69	78
23	27	357	168	1840	6860	5630	1260	13100	141	280	68	77
24	27	311	162	2370	9370	5670	1490	13200	143	247	71	65
25	27	271	168	4010	10900	4650	1120	9550	192	161	70	56
26	32	361	162	5190	10700	3960	792	5350	179	104	63	50
27	29	366	151	3920	8400	3610	590	5790	201	435	58	45
28	28	589	151	1630	6130	3010	480	7130	336	1750	57	44
29	29	962	173	1270	---	2550	421	8490	268	1800	56	42
30	31	924	232	1400	---	7860	385	8970	208	869	52	43
31	32	---	3480	1500	---	12300	---	8710	---	1500	48	---
TOTAL	818	29795	28853	89278	80638	155757	143379	141254	109157	12631	10481	1473
MEAN	26.4	993	931	2880	2880	5024	4779	4557	3639	407	338	49.1
MAX	36	7660	3480	9300	10900	12300	12300	13200	11800	1800	2250	80
MIN	19	28	151	604	951	364	385	844	141	91	48	38
AC-FT	1620	59100	57230	177100	159900	308900	284400	280200	216500	25050	20790	2920

CAL YR 1978 TOTAL 312061.4 MEAN 855 MAX 9350 MIN 7.8 AC-FT 619000
WTR YR 1979 TOTAL 803514.0 MEAN 2201 MAX 13200 MIN 19 AC-FT 1594000

07338500 LITTLE RIVER BELOW LUKFATA CREEK NEAR IDABEL, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-54, 1961-63, 1969-73, 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1947 to September 1954.
WATER TEMPERATURE: October 1947 to September 1954.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)
OCT												
24...	0815	.00	300	6.9	18.0	4.0	10.1	106	16	45	11	28
DEC												
14...	0706	1370	--	7.5	7.0	12	--	--	11	16	6.0	15
JAN												
24...	1700	2720	40	6.7	4.0	17	11.5	89	12	--	--	--
FEB												
12...	1555	1360	100	7.4	3.5	12	12.1	89	7	34	10	25
MAR												
07...	1525	6800	28	7.0	11.0	26	11.2	100	14	--	--	--
APR												
11...	0820	7080	44	6.5	16.5	28	8.9	93	15	55	2.0	5
MAY												
14...	1615	1850	50	7.1	19.5	--	8.5	94	15	--	--	--
JUN												
21...	0955	175	--	6.7	26.5	8.0	7.1	89	10	26	7.0	17
JUL												
18...	1315	395	220	6.8	27.5	4.0	3.4	44	14	--	--	--
AUG												
01...	1900	2260	240	7.0	25.5	10	6.7	87	21	16	4.0	10
SEP												
11...	1645	44	240	7.3	28.0	6.0	7.1	88	12	--	--	--

DATE	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT												
24...	3.8	37	2.2	6.0	61	.1	14	--	2.1	--	--	.416
DEC												
14...	2.4	<10	1.1	12	8.0	--	15	.40	.68	1.0	4.8	.129
JAN												
24...	--	--	--	7.0	7.0	.1	25	.40	1.3	1.7	7.7	.150
FEB												
12...	2.1	<10	.9	6.0	16	<.0	15	.40	1.0	1.4	6.3	.050
MAR												
07...	--	--	--	1.0	3.0	.1	28	.30	1.1	1.4	6.2	.180
APR												
11...	1.2	<10	1.0	8.0	2.0	<.1	29	.10	.80	.90	4.0	.050
MAY												
14...	--	--	--	13	2.0	<.0	114	.30	1.0	1.3	5.8	.085
JUN												
21...	1.9	<10	1.2	9.0	10	.0	7	.20	1.0	1.2	5.4	.065
JUL												
18...	--	--	--	6.0	23	.0	20	.50	1.6	2.1	9.3	.050
AUG												
01...	1.3	<10	1.4	10	--	<.0	30	<.50	1.2	1.2	--	.060
SEP												
11...	--	--	--	9.0	38	.2	8	<.50	1.4	1.4	--	.070

07338500 LITTLE RIVER BELOW LUKFATA CREEK NEAR IDABEL, OK--Continued

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 24...	--	--	--	--	540	--	90	--	--	--	--	--
DEC 14...	--	--	--	--	1000	--	60	--	--	--	--	--
JAN 24...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 12...	--	<1	22	3	1040	14	80	<.5	<5	<1	<2	20
MAR 07...	--	--	--	--	--	--	--	--	--	--	--	--
APR 11...	--	--	--	--	1900	--	100	--	--	--	--	--
MAY 14...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 21...	--	--	--	--	--	--	300	--	--	--	--	--
JUL 18...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 01...	<5	4	<10	4	2800	18	800	<.5	<10	<5	<2	15
SEP 11...	--	--	--	--	--	--	--	--	--	--	--	--

07338840 MOUNTAIN FORK NEAR SMITHVILLE, OK

LOCATION.--Lat 34°23'19", long 94°41'42", in NW¼NW¼ sec.16, T.2 S., R.25 E., McCurtain County, Hydrologic Unit 11140108, at low water crossing, 0.1 mi (0.2 km) east of State Highway 21, and 6.2 mi (10.0 km) along State Highway 21 southwest of Smithville, and at mile 50.4 (81.1 km).

DRAINAGE AREA.--482 mi^2 (1,248 km).

PERIOD OF RECORD.--Water years 1977 to current year.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CACO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
OCT 22...	1100	<50	7.3	19.0	1.0	7.1	77	16	18	3.7	9	2.3
DEC 06...	1355	24	9.2	8.0	--	11.8	103	3	24	6.0	15	1.9
JAN 23...	1000	28	7.0	4.0	8.0	--	--	1	--	--	--	--
FEB 14...	1315	42	6.8	6.5	--	13.3	109	--	--	--	--	--
MAR 06...	1400	24	7.0	9.0	8.0	11.4	100	3	--	--	--	--
APR 03...	1340	24	7.5	12.0	10	13.5	126	6	8	2.0	5	.8
MAY 09...	1200	28	7.2	21.0	6.0	11.3	130	1	--	--	--	--
JUN 19...	1545	50	7.2	28.0	3.0	7.7	100	5	11	2.0	5	1.0
JUL 24...	1430	45	7.5	28.5	3.0	5.4	71	6	--	--	--	--
AUG 28...	1700	60	7.9	29.5	3.0	6.4	86	7	11	2.0	5	1.2
SEP 25...	1330	40	8.5	22.5	3.0	4.6	54	4	--	--	--	--

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
OCT 22...	<10	1.2	8.0	8.0	--	5	--	--	--	--	--	--
DEC 06...	<10	.7	6.0	1.0	<.0	<1	.10	.70	.80	3.5	.093	--
JAN 23...	--	--	3.0	1.0	<.1	1	.30	1.3	1.6	7.1	.050	--
FEB 14...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 06...	--	--	1.0	2.0	<.1	10	.20	.90	1.1	4.9	.090	--
APR 03...	<10	.9	--	1.0	<.1	4	.30	1.2	1.5	6.6	.040	--
MAY 09...	--	--	--	7.0	.0	5	.10	.22	.32	1.4	.025	--
JUN 19...	<10	.7	3.0	1.0	<.0	6	<.10	.55	.55	--	.005	--
JUL 24...	--	--	6.0	3.0	.0	6	<.50	.97	.97	--	.025	--
AUG 28...	<10	.9	7.0	<1.0	.1	2	<.50	1.1	1.1	--	.030	<10
SEP 25...	--	--	--	--	.1	5	<.50	2.1	--	--	.045	--

07338840 MOUNTAIN FORK NEAR SMITHVILLE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 22...	--	--	--	360	--	20	--	--	--	--	--
DEC 06...	--	--	--	560	--	<20	--	--	--	--	--
JAN 23...	--	--	--	--	--	--	--	--	--	--	--
FEB 14...	--	--	--	--	--	--	--	--	--	--	--
MAR 06...	--	--	--	--	--	--	--	--	--	--	--
APR 03...	--	--	--	720	--	50	--	--	--	--	--
MAY 09...	--	--	--	--	--	--	--	--	--	--	--
JUN 19...	--	--	--	--	--	40	--	--	--	--	--
JUL 24...	--	--	--	--	--	--	--	--	--	--	--
AUG 28...	<2	<10	<4	370	25	30	<.5	10	<5	<2	10
SEP 25...	--	--	--	--	--	--	--	--	--	--	--

07338900 BROKEN BOW LAKE NEAR BROKEN BOW, OK

LOCATION.--Lat 34°08'35", long 94°41'00", in SW¼ sec.3, T.5 S., R.25 E., McCurtain County, Hydrologic Unit 11140108, at intake structure on upstream side of dam on Mountain Fork, 9.0 mi (14.5 km) northeast of Broken Bow, and at mile 20.3 (32.7 km).

DRAINAGE AREA.--754 mi^2 (1,953 km^2).

PERIOD OF RECORD.--October 1968 to current year. Prior to October 1970 published as Broken Bow Reservoir near Broken Bow.

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

REMARKS.--Reservoir is formed by a rolled earth and gravel structure. Outlet works consists of power-gener- turbines and a concrete Ogee weir controled by eight 40-ft (12.2 m) by 40-ft (12.2 m) tainter gates. Regulated storage began Oct. 3, 1968; conservation pool was first filled Jan. 30, 1969. Total capacity, 1,368,000 acre-ft (1.69 km^3) at elevation 627.5 ft (191.26 m), top of flood pool and spillway gages, 918,100 acre-ft (1.13 km^3) at elevation 599.5 ft (182.73 m), top of power pool, and 448,200 acre-ft (553 hm^3) at elevation 559.0 ft (170.38 m), bottom of power pool. Figures given herein represent total contents. Reservoir is used for flood control, power development and water supply.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,178,000 acre-ft (1.45 km^3) Dec. 17, 1971, elevation, 616.41 ft (187.882 m); minimum since conservation pool was first filled, 672,000 acre-ft (829 hm^3) Oct. 21, 1972, elevation 580.48 ft (176.930 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,091,000 acre-ft (1.35 km^3) Apr. 4, elevation, 611.03 ft (186.242 m); minimum, 777,200 acre-ft (958 hm^3) Nov. 13,14 elevation, 589.06 ft (179.545 m).

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

589	776,500	604	983,400
592	815,400	607	1,028,000
598	897,000	610	1,075,000
601	939,500	613	1,122,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	804700	783400	821600	874100	841500	935900	1064000	913800	1075000	916600	928800	912800
2	803000	783400	822400	874200	836000	933200	1088000	913800	1076000	915500	926800	913000
3	802300	782200	823400	872000	832400	947000	1089000	916200	1078000	913700	923300	913400
4	800600	782100	821400	870300	832000	956300	1087000	921600	1072000	913500	924300	912600
5	801400	782200	820700	867600	828000	958400	1081000	927200	1066000	913100	925200	911400
6	799800	781500	822300	870600	825000	957200	1089000	930900	1067000	914200	919600	911600
7	799600	781000	831100	873000	821400	949600	1065000	932000	1071000	916200	915900	910700
8	799100	799600	833400	869500	817200	940500	1057000	927900	1073000	917200	912600	910300
9	797800	779400	835800	864900	812300	934000	1048000	922600	1073000	916600	908900	909900
10	797400	778300	838300	860600	811800	931800	1039000	917600	1070000	916900	908500	908600
11	796800	778400	837600	855600	811600	933600	1037000	920900	1060000	915000	910700	908000
12	796800	778100	834800	851000	809900	929000	1045000	929800	1050000	912300	912000	907600
13	795400	777200	832200	852500	807600	927200	1037000	935500	1039000	908900	912700	907500
14	794900	777400	828600	853700	805600	923800	1043000	933900	1029000	908900	911400	906300
15	794800	789200	825400	849800	803000	920600	1017000	929600	1018000	909200	915400	905500
16	793400	806100	825400	846700	799100	917400	1005000	923800	1007000	909000	917200	905200
17	792800	816100	825900	847200	798300	918800	993500	920100	995700	908600	917400	904500
18	791500	819800	821500	845700	798300	919600	981400	917400	983700	907500	917800	902400
19	791500	821400	817200	847900	796200	920800	968900	918100	971800	906900	918400	901700
20	790400	821100	812800	854200	795000	950100	955700	919500	960100	905200	916600	903000
21	790000	820300	808500	861300	794200	953100	942800	968600	947200	905200	916900	902000
22	790000	820200	805800	865100	811600	951200	932300	1036000	937100	905200	916800	901700
23	788600	821000	806600	863000	862000	949500	927300	1054000	936600	903700	916800	901400
24	788400	820600	806500	860200	881800	944100	932300	1062000	937100	903400	915800	900600
25	787500	821000	806600	859800	905400	937200	932300	1065000	933200	903400	915700	899300
26	787400	822300	803900	858700	917900	928800	928900	1063000	929200	903100	915700	897800
27	786200	821500	801300	858700	927000	928000	924300	1062000	924000	919500	914700	896400
28	786200	822000	798500	860900	933500	924200	920300	1071000	919500	937500	914700	895600
29	786000	822200	796800	855300	---	922600	916200	1081000	916800	941400	913800	895800
30	785000	821900	797800	849800	---	986200	913500	1085000	916600	937100	913800	895800
31	784700	---	850400	845400	---	1018000	---	1082000	---	931200	913000	---
MAX	804700	822300	850400	874200	933500	1018000	1089000	1085000	1078000	941400	928800	913400
MIN	784700	777200	796800	845400	794200	917400	913500	913800	916600	903100	908500	895600
†	589.64	592.49	594.62	594.25	600.58	606.32	599.18	610.44	599.40	600.42	599.14	597.92
‡	-19,800	+37,200	+28,500	-5,000	+88,100	+84,500	-104,500	+168,500	-165,400	+14,600	-18,200	-17,200

CAL YR 1978 MAX 969500 MIN 777200 ‡+65200
WTR YR 1979 MAX 1089000 MIN 777200 ‡+91300

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-ft.

07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK

LOCATION.--Lat 34°02'30", long 94°37'15", in SE¼SE¼ sec.7, T.6 S., R.26 E., McCurtain County, Hydrologic Unit 11140108, near center of span on downstream side of pier of bridge on U.S. Highway 70, 2.0 mi (3.2 km) west of Eagletown, 10.7 mi (17.2 km) downstream from Broken Bow Dam, and at mile 8.9 (14.3 km).

DRAINAGE AREA.--787 mi^2 (2,040 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1924 to December 1925, October 1929 to current year. Published as Mountain Fork River near Broken Bow 1924-25 and as Mountain Fork River near Eagletown 1929-60. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1211: Drainage area. WSP 1241: 1924-26, 1930 (M), 1936-37 (M), 1938, 1939 (M), 1942 (M).

GAGE.--Water-stage recorder. Datum of gage is 333.87 ft (101.763 m) National Geodetic Vertical Datum of 1929. See WSP 1920 for history of changes prior to July 23, 1950.

REMARKS.--Records fair. Except for 33 mi^2 (85 km^2) intervening area, flow completely regulated since October 1968 by Broken Bow Lake (station 073389000).

COOPERATION.--Gage-height record and 8 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--Prior to regulation by Broken Bow Dam, 40 years (water years 1925, 1930-68), 1,291 ft^3/s (36.56 m^3/s), 934,600 acre-ft/yr (1.15 km^3/yr); since regulation by Broken Bow Dam, 10 years (water years 1970-79), 1,388 ft^3/s (39.31 m^3/s), 1,006,000 acre-ft/yr (1.24 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 101,000 ft^3/s (2,850 m^3/s) May 20, 1960, gage height, 26.73 ft (8.147 m), from rating curve extended above 65,000 ft^3/s (1,840 m^3/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 18-19, 1915, reached a stage of 26.4 ft (8.05 m), from information by local resident, discharge, 92,500 ft^3/s (2,620 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,300 ft^3/s (490 m^3/s) Mar. 30, gage height, 11.36 ft (3.463 m); minimum daily, 121 ft^3/s (3.43 m^3/s) Mar. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	211	380	567	2640	3570	584	913	6300	183	2530	343
2	160	482	591	2580	2600	5620	634	176	6530	225	2400	154
3	312	180	167	3870	2620	3060	3310	320	5810	732	2610	141
4	207	466	316	2920	1410	410	4630	720	6160	572	1420	144
5	395	167	941	3060	1940	1420	5760	267	5760	352	190	405
6	221	160	864	1370	2370	2620	5830	176	2590	526	1400	435
7	400	352	1550	167	2480	5000	5840	255	2540	410	2300	271
8	147	175	2180	1690	2570	5890	5930	2390	2340	197	2270	347
9	144	447	1560	3010	3130	4470	5880	3250	2450	232	2040	163
10	320	186	572	2900	1970	2820	5880	3370	1920	361	1220	180
11	160	458	615	3040	1010	1010	6210	3650	6090	676	271	352
12	347	160	2100	2790	1720	1660	1320	2100	6030	1640	160	291
13	193	164	2240	1160	2380	2360	6660	927	6000	1830	144	157
14	425	295	2280	197	2510	1970	7170	1560	5430	1140	207	147
15	154	904	2300	1320	2540	2170	7150	3540	5980	176	445	190
16	172	3810	1100	2360	2670	1900	7190	3790	5740	267	160	157
17	338	817	395	851	1850	934	7210	2820	5760	567	214	141
18	225	244	1360	927	1160	121	7250	2000	6120	695	357	357
19	425	186	2540	1650	1400	555	7270	1270	6320	652	160	526
20	225	343	2660	713	1620	2250	7310	190	6190	732	385	275
21	435	713	2520	240	1500	5230	7330	2770	6320	664	504	320
22	163	851	1830	316	1430	5350	7350	5320	6180	160	186	275
23	173	504	830	1570	1790	5790	4710	899	1330	214	263	160
24	347	197	176	2770	1180	5830	2310	514	200	357	214	157
25	244	405	150	1990	1110	5840	2660	271	1620	144	347	338
26	440	183	504	2460	899	5860	3480	1720	3070	204	170	717
27	240	320	1440	1290	899	3240	3680	2920	2650	758	170	670
28	450	1230	1410	217	2380	3210	3080	5770	2250	1150	259	471
29	167	430	1520	2140	---	3970	3230	5740	1590	948	170	315
30	167	1080	771	3680	---	7170	2430	2030	985	2710	200	184
31	380	---	1620	3110	---	1040	---	4110	---	2810	193	---
TOTAL	8323	16120	39482	56925	53778	102340	149278	65743	128255	22284	23559	8783
MEAN	268	537	1274	1836	1921	3301	4976	2121	4275	719	760	293
MAX	450	3810	2660	3870	3130	7170	7350	5770	6530	2810	2610	717
MIN	144	160	150	167	899	121	584	176	200	144	144	141
AC-FT	16510	31970	78310	112900	106700	203000	296100	130400	254400	44200	46730	17420

CAL YR 1978 TOTAL 330270 MEAN 905 MAX 7770 MIN 83 AC-FT 655100
WTR YR 1979 TOTAL 674875 MEAN 1849 MAX 7350 MIN 121 AC-FT 1339000

07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1953, 1955, 1961-63, 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1947 to September 1948, March 1955 to September 1955, November 1960 to September 1963.
WATER TEMPERATURE: October 1947 to September 1948, March 1955 to September 1955, November 1960 to September 1963.
TURBIDITY: March 1955 to September 1955.

REMARKS.--Samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Samples were collected by the U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)
OCT												
24...	1245	283	--	7.1	17.0	2.0	9.7	100	5	13	2.9	7
DEC												
14...	1030	1910	--	7.5	9.5	1.0	--	--	4	10	4.0	10
JAN												
25...	0915	1360	35	7.2	3.5	8.0	13.8	105	12	--	--	--
FEB												
13...	1050	2380	43	6.5	3.5	3.0	13.1	96	2	13	3.0	7
MAR												
07...	1650	6440	28	7.9	12.0	7.0	11.6	105	5	--	--	--
APR												
11...	0950	7550	35	6.7	15.0	12	11.5	116	8	11	2.0	5
MAY												
15...	1000	2270	50	6.2	17.0	--	9.3	97	7	--	--	--
JUN												
20...	1340	6020	35	7.5	25.0	10	9.1	110	7	15	2.0	5
JUL												
18...	1115	366	41	7.7	20.5	2.0	3.5	38	9	--	--	--
AUG												
01...	1430	1140	30	7.0	22.0	3.0	8.5	104	11	8	2.0	5
SEP												
11...	1355	299	50	6.1	26.0	2.0	7.6	90	8	--	--	--

DATE	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT												
24...	1.1	<10	.5	6.0	3.0	7.0	8	--	.89	--	--	--
DEC												
14...	1.9	--	.7	12	4.0	.0	10	.10	.45	.56	2.5	.195
JAN												
25...	--	--	--	7.0	8.0	.0	35	12	1.4	13	59	.150
FEB												
13...	1.4	<10	.8	6.0	6.0	<.0	<1	.20	1.1	1.3	5.9	.050
MAR												
07...	--	--	--	<1.0	<1.0	.1	2	.20	.90	1.1	4.9	.100
APR												
11...	1.0	<10	.8	13	4.0	<.1	13	.50	6.0	6.5	29	.100
MAY												
15...	--	--	--	13	1.0	.0	10	--	1.4	--	--	.020
JUN												
20...	1.0	<10	2.4	5.0	1.0	<.0	31	.10	.84	.94	4.2	.030
JUL												
18...	--	--	--	6.0	4.0	.0	6	--	1.2	1.2	--	<.050
AUG												
01...	.8	<10	.7	9.0	<1.0	<.1	4	<.50	1.3	1.3	--	.045
SEP												
11...	--	--	--	8.0	--	.1	2	<.50	.97	--	--	.045

07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK--Continued

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 24...	--	--	--	--	260	--	40	--	--	--	--	--
DEC 14...	--	--	--	--	170	--	30	--	--	--	--	--
JAN 25...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	--	<1	17	3	350	9	80	<,5	<5	<1	<2	10
MAR 07...	--	--	--	--	--	--	--	--	--	--	--	--
APR 11...	--	--	--	--	690	--	60	--	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 20...	--	--	--	--	--	--	120	--	--	--	--	--
JUL 18...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 01...	<5	5	14	<4	260	<10	50	<,5	<10	<5	2	10
SEP 11...	--	--	--	--	--	--	--	--	--	--	--	--

07340000 LITTLE RIVER NEAR HORATIO, AR

LOCATION.--Lat 33°55'10", long 94°23'15", in NE¼ sec.10, T.10 S., R.32 W., Sevier County, Hydrologic Unit 11140109, at bridge on State Highway 41, 0.9 mi (1.4 km) downstream from Rolling Fork, 2.0 mi (3.2 km) southwest of Horatio, 28.5 mi (45.9 km) upstream from Cossatot River, and at mile 72.0 (115.8 km).

DRAINAGE AREA.--2,674 mi^2 (6,926 km^2).

PERIOD OF RECORD.--Water years 1954 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1953 to September 1959.
WATER TEMPERATURE: October 1953 to September 1959.

REMARKS.--Some records furnished by Arkansas Department of Pollution Control and Ecology, Little Rock, AR. Discharge records are available from the USGS, Little Rock, AR. Monthly samples were collected in open-mouthed samplers at a single point. Specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

COOPERATION.--Monthly samples were collected by the U. S. Geological Survey and were analyzed by Oklahoma State Department of health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	HARD-NESS (MG/L AS CACO3)
OCT										
20...	1345	262	--	--	18.0	--	--	--	--	--
20...	1405	262	--	--	18.0	--	--	--	--	--
23...	1130	--	96	6.7	19.0	--	8.4	89	--	19
24...	1030	--	100	7.1	19.0	3.0	9.8	105	8	20
NOV										
20...	1205	--	64	6.9	13.0	--	7.8	74	--	--
30...	0900	2390	--	--	--	--	--	--	--	--
30...	1125	2390	--	--	11.5	--	--	--	--	--
DEC										
14...	0915	--	--	7.3	7.5	7.0	--	--	8	12
18...	1315	--	--	7.0	8.0	--	--	88	--	--
JAN										
18...	1200	1390	--	--	5.5	--	--	--	--	--
25...	1045	--	40	6.8	3.0	11	14.0	105	9	--
30...	1400	--	55	6.7	4.0	--	13.5	103	--	21
FEB										
13...	0905	--	64	7.3	5.0	10	12.4	95	6	25
27...	0945	--	53	6.9	7.0	--	11.1	--	--	--
MAR										
02...	1235	13400	--	--	8.0	--	--	--	--	--
08...	0930	--	25	8.1	8.0	20	13.2	109	12	--
27...	1010	--	43	6.0	13.0	--	10.4	98	--	--
APR										
03...	1505	15600	--	--	15.0	--	--	--	--	--
10...	1645	--	36	7.0	15.0	23	8.3	83	12	15
23...	1015	--	48	6.4	15.0	--	9.0	88	--	9
MAY										
15...	1000	--	53	6.9	17.0	--	9.0	94	12	--
22...	1030	--	51	6.7	18.0	--	8.3	87	--	--
23...	1815	17500	--	--	23.5	--	--	--	--	--
JUN										
20...	1545	--	100	6.7	31.0	9.0	--	--	5	18
25...	1045	--	95	6.4	22.0	--	--	67	--	--
29...	1150	2400	--	--	23.5	--	--	--	--	--
JUL										
18...	0930	--	97	7.2	25.5	--	3.0	36	15	--
23...	1100	--	116	6.3	27.0	--	5.8	72	--	34
AUG										
01...	1630	--	--	6.7	25.0	8.0	--	--	14	12
16...	1045	468	--	--	27.0	--	--	--	--	--
SEP										
10...	1300	--	102	6.9	25.0	--	7.4	88	--	--
11...	1525	--	100	7.1	28.0	4.0	7.7	95	9	--
20...	1305	632	--	--	21.5	--	--	--	--	--

07340000 LITTLE RIVER NEAR HORATIO, AR--Continued

DATE	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CACO3)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
23...	4.5	--	1.6	11	1.0	5.0	17	--	3	--
24...	5.0	12	1.7	13	.8	6.0	10	7.0	6	--
NOV										
20...	--	--	--	--	--	6.0	5.5	--	39	--
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
DEC										
14...	5.0	13	1.8	--	1.0	12	6.0	.0	16	.20
18...	--	--	--	--	--	--	8.5	--	16	--
JAN										
18...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	3.0	8.0	.1	21	--
30...	4.9	--	1.7	3.7	1.0	6.0	5.5	--	11	--
FEB										
13...	7.0	17	1.8	10	.9	6.0	6.0	<.0	6	.30
27...	--	--	--	--	--	8.0	4.5	--	30	--
MAR										
02...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	1.0	<1.0	<.1	23	.20
27...	--	--	--	--	--	24	5.0	--	18	--
APR										
03...	--	--	--	--	--	--	--	--	--	--
10...	3.0	8	1.2	<10	.9	8.0	3.0	<.1	30	.20
23...	2.5	--	.2	2.5	2.0	22	4.5	--	24	--
MAY										
15...	--	--	--	--	--	9.0	1.0	.0	14	.20
22...	--	--	--	--	--	4.0	5.0	--	52	--
23...	--	--	--	--	--	--	--	--	--	--
JUN										
20...	2.0	5	1.0	<10	.8	11	3.0	<.0	7	.20
25...	--	--	--	--	--	5.0	--	--	8	--
29...	--	--	--	--	--	--	--	--	--	--
JUL										
18...	--	--	--	--	--	6.0	12	.0	63	<.50
23...	5.7	--	3.9	5.4	3.0	5.0	18	--	9	--
AUG										
01...	3.0	7	1.0	<10	1.0	10	<1.0	<.1	26	<.50
16...	--	--	--	--	--	--	--	--	--	--
SEP										
10...	--	--	--	--	--	4.0	25	--	5	--
11...	--	--	--	--	--	8.0	76	.2	6	<.50
20...	--	--	--	--	--	--	--	--	--	--

07340000 LITTLE RIVER NEAR HORATIO, AR--Continued

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT									
20...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
23...	--	--	--	.060	<5	<10	<5	<20	410
24...	1.3	--	--	.130	--	--	--	--	430
NOV									
20...	--	--	--	.120	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--
DEC									
14...	.57	.77	3.4	.129	--	--	--	--	660
18...	--	--	--	.060	--	--	--	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
25...	2.1	--	--	.150	--	--	--	--	--
30...	--	--	--	.040	<5	<10	<5	<20	560
FEB									
13...	1.0	1.3	5.8	.100	<2	<1	17	3	870
27...	--	--	--	.070	--	--	--	--	--
MAR									
02...	--	--	--	--	--	--	--	--	--
08...	.90	1.1	4.9	.140	--	--	--	--	--
27...	--	--	--	.040	--	--	--	--	--
APR									
03...	--	--	--	--	--	--	--	--	--
10...	.80	1.0	4.4	.060	--	--	--	--	1470
23...	--	--	--	.040	<5	<10	<5	40	910
MAY									
15...	1.1	1.3	5.8	.030	--	--	--	--	--
22...	--	--	--	.070	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
JUN									
20...	.90	1.1	4.9	.020	--	--	--	--	--
25...	--	--	--	.080	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
JUL									
18...	1.7	1.7	--	.150	--	--	--	--	--
23...	--	--	--	.140	<6	<10	<5	<20	2100
AUG									
01...	1.6	1.6	--	.085	<5	4	<10	<4	1300
16...	--	--	--	--	--	--	--	--	--
SEP									
10...	--	--	--	.040	--	--	--	--	--
11...	1.0	1.0	--	.090	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--

07340000 LITTLE RIVER NEAR HORATIO, AR--Continued

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
OCT									
20...	--	--	--	--	--	--	--	10	7.1
20...	--	--	--	--	--	--	--	--	--
23...	50	43	--	--	--	--	<10	--	--
24...	--	50	--	--	--	--	--	--	--
NOV									
20...	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	10	65
30...	--	--	--	--	--	--	--	--	--
DEC									
14...	--	30	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--
JAN									
18...	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
30...	120	180	--	--	--	--	<10	--	--
FEB									
13...	<5	70	<.5	<5	--	<2	16	--	--
27...	--	--	--	--	--	--	--	--	--
MAR									
02...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--
APR									
03...	--	--	--	--	--	--	--	--	--
10...	--	90	--	--	--	--	--	--	--
23...	<10	400	--	--	--	--	10	--	--
MAY									
15...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
JUN									
20...	--	110	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
JUL									
18...	--	--	--	--	--	--	--	--	--
23...	<10	95	--	--	--	--	<10	--	--
AUG									
01...	<10	250	<.5	<10	<5	<2	15	--	--
16...	--	--	--	--	--	--	--	--	--
SEP									
10...	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain, but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations

Station Number	Station Name	Location	Drainage area (mi^2)	Period of Record	Annual Maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)
		Red River Basin					
07300150	Bear Creek near Vinson, Okla.	Lat 34°54'10", long 99°58'50", in NW¼ NE¼ sec.19, T.5 N., R.26 W., Harmon County, at bridge on State Highway 9, 6.9 mi (11.1 km) west of Vinson.	7.24	1964-79	03-22-79	9.7	572
07301455	Turkey Creek near Erick, Okla.	Lat 35°12'05", long 99°47'55", in NW¼ NW¼ sec.1, T.8 N., R.25 W., Beckham County, at county road multi-barrel culvert, 3.8 miles southeast of Erick.	19.8	1964-72 1978-79	06-09-79	6.43	2020
07301480	Short Creek near Sayre, Okla.	Lat 35°18'20", long 99°39'15", in SW¼ SE¼ sec.29, T.10 N., R.23 W., Beckham County, at county road multi-barrel culvert, 0.9 mi (1.4 km) northwest of Sayre.	9.12	1964-79	06-09-79	12.89	278
07312850	Nine Mile Beaver Creek near Elgin, Okla.	Lat 34°46'40", long 98°15'25", in SE¼ NW¼ sec.33, T.4 N., R.10 W., Comanche County, at multi-barrel culvert on State Highway 17, 2.0 mi (3.2 km) east of Elgin.	6.29	1964-79	06-09-79	6.33	746
07313600	Cow Creek at Waurika, Okla.	Lat 34°10'55", long 98°00'05", in SE¼ NE¼ sec.26, T.4 S., R.8 W., Jefferson County, at Chicago, Rock Island and Pacific Railway Co. bridge, near north edge of Waurika.	193	1967-70†			
07315680	Cottonwood Creek tributary near Loco, Okla.	Lat 34°18'40", long 97°34'00", in SE¼ NE¼ sec.12, T.3 S., R.4 W., Stephens County, at multi-barrel culvert on State Highway 53, 6.6 mi (10.6 km) southeast of Loco.	1.74	1964-79	06-09-79	12.42	1620
07316140	Brier Creek near Powell, Okla.	Lat 33°59'54", long 96°49'35", in NW¼ NW¼ sec.31, T.6 S., R.5 E., Marshall County, at bridge on State Highway 32, 3.6 mi (5.8 km) northeast of Powell.	12.0	1965-79	05-21-79	9.61	1700
07329500	Rush Creek near Maysville, Okla.	Lat 34°44'36", long 97°24'18", in SW¼ SW¼ sec.10, T.3 N., R.2 W., Garvin County, near right bank on downstream side of pier of bridge on State Highway 74, 2.8 miles downstream from Panther Creek, 5.3 miles south of Maysville, and at mile 14.2	206	1953-76† 1977-79	05-21-79	19.21	17600
07329870	Honey Creek near Davis, Okla.	Lat 34°26'50", long 97°07'40", in NW¼ NE¼ sec.30, T.1 S., R.2 E., Murray County, at bridge on State Highway.	18.7	1964-79	05-21-79	9.98	808
07335310	Rock Creek near Boswell, Okla.	Lat 33°57'57", long 95°52'02", in NE¼ NE¼ sec.7, T.7 S., R.14 E., Choctaw County, at culvert on State Highway 109, 4.2 mi (6.7 km) south of Boswell.	.94	1965-79	05-21-79	6.98	488
07336000	Tenmile Creek near Miller, Okla.	Lat 34°17'55", long 95°44'40", in NW¼ sec.16, T.3 S., R.15 E., Pushmataha County, at county road bridge, 1.2 mi (1.9 km) south of Miller.	68	1957-70† 1971-79	02-12-78 05-22-79	20.13 20.06	5220* 5150
07336520	Frazier Creek near Oleta, Okla.	Lat 34°11'50", long 95°21'00", in NW¼ NE¼ sec.19, T.4 S., R.19 E., Pushmataha County, at bridge on State Highway 3, 0.5 mi (0.8 km) west of Oleta.	19.4	1965-79	05-21-79	17.98	6780
07338520	Yanubbee Creek near Broken Bow, Okla.	Lat 34°03'35", long 94°44'22", in NW¼ SW¼ sec.6, T.6 S., R.25 E., McCurtain County, at bridge on U.S. Highway 259 2.3 mi (3.7 km) north of Broken Bow.	9.10	1964-79	03-30-79	13.58	3130
07338780	Mountain Fork tributary near Smithville, Okla.	Lat 34°29'48", long 94°40'06", in NW¼ SE¼ sec.3, T.1 S., R.25 E., McCurtain County, at multi-barrel culvert on U.S. Highway 259, 2.5 mi (4.0 km) northwest of Smithville.	.68	1965-79	03-30-79	3.96	150

† operated as a continuous-record station
* revised

Geohydrology of the Arbuckle aquifer, south-central Oklahoma

Baseflow in streams in the Arbuckle Mountain area, south-central Oklahoma, is contributed by springs which discharge from formations that make up the Arbuckle aquifer. Baseflow measurements were made to obtain an estimate of the amount of water that enters the aquifer as recharge during the rainy season and leaves the area as discharge during dry periods. Discharge from several springs near the headwater of the major streams were measured or estimated.

Site No. and Stream	Tributary to	Location	Drainage area (mi^2)	Measured previous (water years)	Measurements Date	Measurements Discharge (ft^3/s)
341534096483701 Mill Creek	Washita River	Lat 34°15'34", long 96°48'37", NW¼ NW¼ NW¼ sec.32, T.3 S., R.5 E., Johnston County, Hydrologic Unit 11130304 at concrete ford on access road to Daube ranch, 3.2 mi (5.1 km) northwest of Ravia.	89.2	1949-50 1955 1971 1976-78	02-15-79	13.66
341749096544701 Oil Creek	Washita River	Lat 34°17'49", long 96°54'47", SE¼ SW¼ NW¼ sec.17, T.3 S., R.4 E., Johnston County, Hydrologic Unit 11130304, at rock ford 0.2 mi (0.3 km) north of lake on Goddard Ranch, 3.0 mi (4.8 km) east of State Highway 18 and 14.5 mi (23.3 km) south of Sulphur.	28.6	1977-78	02-14-79	17.8
34192096422001 Pennington Creek	Washita River	Lat 34°19'20", long 96°42'20", SW¼ NW¼ SW¼ sec.5, T.3 S., R.6 E., Johnston County, Hydrologic Unit 11130304, at concrete ford on county road, 1.5 mi (2.4 km) south of Tishomingo National Fish Hatchery, 0.5 mi (0.8 km) east of Reagan.	74.5	1977-78	02-14-79	16.6
341927097021401 Cool Creek	Washita River	Lat 34°19'27", long 97°02'14", NW¼ NW¼ SW¼ sec.6, T.3 S., R.3 E., Carter County, Hydrologic Unit 11130303 at gravel ford on dirt road, 2.5 mi (4.0 km) north of Gene Autry.	10.9	1977-78	02-14-79	8.09
342049096433801 Reagan Branch	Pennington Creek	Lat 34°20'49", long 96°43'38", SW¼ SE¼ SE¼ sec.25, T.2 S., R.5 E., Johnston County Hydrologic Unit 11130304, at bridge on county road 0.25 mi (0.4 km) west of Reagan.			02-14-79	0.09
342058096420501 Keel Creek	Pennington Creek	Lat 34°20'58", long 96°42'05", NE¼ SW¼ SW¼ sec.29, T.2 S., R.6 E., Johnston County, Hydrologic Unit 11130304, at bridge crossing on State Highway 7, 0.5 mi (0.8 km) east of National Fish Hatchery at Reagan.	4.0	1977-78	02-14-79	0.37
342125097125501 Henryhouse Creek	Caddo Creek	Lat 34°21'25", long 97°12'55", NW¼ SE¼ NE¼ sec.29, T.2 S., R.1 E., Carter County, Hydrologic Unit 11130303, at ranch-road crossing 1.7 mi (2.8 km) north of State Highway 53 and 5.0 mi (8.0 km) northwest of Springer.			02-15-79	6.40
342128097144101 Unnamed Stream	Henryhouse Creek	Lat 34°21'28", long 97°14'41", NE¼ SW¼ NE¼ sec.30, T.2 S., R.1 E, Carter County, Hydrologic Unit 11130303, at ranch-road crossing, 1.8 mi (2.9 km) north of State Highway 53, and 6.1 mi (9.8 km) northwest of Springer.			02-15-79	1.90
342140096471801 Rock Creek	Washita River	Lat 34°21'40", long 96°47'18", SW¼ SE¼ SW¼ sec.21, T.2 S., R.5 E., Johnston County, Hydrologic Unit 11130304, at bridge on State Highway 7, 1.0 mi (1.6 km) east of State Highway 12 and 3.5 mi (5.6 km) south of Mill Creek.	9.06	1977-78	02-14-79	0.80
342146096392701 Buzzard Creek	Washita River	Lat 34°31'46", long 96°39'27", SW¼ NE¼ NE¼ sec.3, T.3 S., R.6 E., Johnston County, Hydrologic Unit 11130304, at bridge on State Highway 99, 8.7 mi (14.0 km) south of Connerville.	4.3	1978	02-14-79	0.93

Geohydrology of the Arbuckle aquifer, south-central Oklahoma.--Continued

Site No. and Stream	Tributary to	Location	Drainage area (mi^2)	Measured previous (water years)	Measurements Date	Measurements Discharge (ft^3/s)
342253097165801 Hickory Creek	Caddo Creek	Lat 34°22'53", long 97°16'58", SE¼ NE¼ SE¼ sec.15, T.2 S., R.1 W., Murray County, Hydrologic Unit 11130303, on 4-Sixes Ranch, at north end of Mountain Lake, 2.2 mi (3.6 km) north of Woodford.		1978	02-15-79	9.16
342307097190501 Spring Creek	Caddo Creek	Lat 34°23'07", long 97°19'05", NE¼ SE¼ NE¼ sec.17, T.2 S., R.1 W., Murray County, Hydrologic Unit 11130303, 1.7 mi (2.7 km) northwest of Mountain Lake 2.1 mi (3.4 km) north of State Highway 53 and 3.9 mi (6.3 km) north of Milo.			02-15-79	0.23
342332097193001 Unnamed Stream	Spring Creek	Lat 34°23'32", long 97°19'30", SW¼ SW¼ SE¼ sec.8, T.2 S., R.1 W., Murray County, Hydrologic Unit 11130303, 2.3 mi (3.7 km) northwest of Mountain Lake 2.1 mi (3.4 km) north of State Highway 53 and 4.2 mi (6.8 km) north of Milo.			02-15-79	0.35
342417096514701 Mill Creek	Washita River	Lat 34°24'17", long 96°51'47", NW¼ NW¼ NW¼ sec.11, T.2 S., R.4 E., Johnston County, Hydrologic Unit 11130304, at county highway bridge 2.0 mi (3.2 km) west of Mill Creek.	46.4	1952-55 1958-63 1965-71 1976-78	02-15-79	3.23
342418097040701 Deel Creek	Washita River	Lat 34°24'18", long 97°04'07", NW¼ NE¼ SW¼ sec.11, T.2 S, R.2 E, Murray County, Hydrologic Unit 11130303, at dirt road 200 ft (61.0 m) south of State Highway 110, 0.75 mi (1.2 km) west of Dougherty.			02-15-79	2.85
342517096314901 Houghtubby Branch	Delware Creek	Lat 34°25'17", long 96°31'49", SW¼ SW¼ SE¼ sec.36, T.1 S., R.7 E., Johnston County, Hydrologic Unit 11140104, at bridge on county road, 0.5 mi (0.8 km) west of southwest corner of Coal County and 1.2 mi (1.9 km) northwest of Bromide.		1977-78	02-14-79	0
342534096270501 Walnut Branch	Delaware Creek	Lat 34°25'34", long 96°27'05", NW¼ NW¼ SW¼ sec.34, T.1 S., R.8 E., Coal County, Hydrologic Unit 11140104, 0.5 mi (0.8 km) north of Coal and Johnston County line and 1.6 mi (2.6 km) east of Bromide.		1977-78	02-14-79	0.97
342604097062301 Falls Creek	Washita River	Lat 34°26'04", long 97°06'23", NW¼ NW¼ SW¼ sec.33, T.1 S., R.2 E., Murray County, Hydrologic Unit 11130303, at bridge outside gate at Falls Creek Assembly, 5.0 mi (8.0 km) south of Davis.	6.82	1977-78	02-14-79	6.68
342648097075901 Honey Creek	Washita River	Lat 34°26'48", long 97°07'59", NW¼ SE¼ SW¼ sec.30, T.1 S., R.2 E., Murray County, Hydrologic Unit 11130303, at bridge crossing on State Highway 77D, at Cedar Village, 3.5 mi (5.6 km) south of Davis.		1977-78	02-14-79	22.0
342652096563501 Buckhorn Creek	Rock Creek	Lat 34°26'52", long 96°56'35", SE¼ SE¼ SW¼ sec.24, T.1 S., R.3 E., Murray County, Hydrologic Unit 11130303, at concrete ford 0.5 mi (0.8 km) east of State Highway 18, and 4.0 mi (6.4 km) south of Sulphur.	1.85	1977-78	02-14-79	3.06

Geohydrology of the Arbuckle aquifer, south-central Oklahoma.--Continued

Site No. and Stream	Tributary to	Location	Drainage area (mi^2)	Measured previous (water years)	Measurements Date	Measurements Discharge (ft^3/s)
342654096332301 Delaware Creek	Clear Boggy Creek	Lat 34°26'54", long 96°33'23", SW¼ SW¼ SE¼ sec.34, T.1 S., R.7 E., Johnston County, Hydrologic Unit 11140104, at ford on county road 4.6 mi (7.4 km) east of Connerville.	8.3	1977	02-14-79	10.7
342654096364801 Little Blue Creek	Blue River	Lat 34°26'54", long 96°36'48", SW¼ SE¼ SW¼ sec.19, T.1 S., R.7 E., Johnston County, Hydrologic Unit 11140102, at bridge on county road, 1.3 mi (2.1 km) east of Connerville.	18.9	1977-78	02-15-79	2.29
342716096380801 Blue River	Red River	Lat 34°27'16", long 96°38'08", NW¼ NW¼ SW¼ sec.24, T.1 S., R.6 E., Johnston County, Hydrologic Unit 11140102, downstream from bridge at State Highway 99, 0.25 mi (0.40 km) north of Connerville.	123	1977-78	02-15-79	24.0
342825097114001 Colbert Creek	Washita River	Lat 34°28'25", long 97°11'40", NW¼ SW¼ NW¼ sec.15, T.1 S., R.1 E., Murray County, Hydrologic Unit 11130303, at concrete ford, 2.5 mi (4.0 km) south of State Highway 7, 4 mi (6.4 km) west of Davis.		1978	02-14-79	6.19
342911097203601 Eightmile Creek	Wildhorse Creek	Lat 34°29'11", long 97°20'36", SW¼ SW¼ SE¼ sec.7, T.1 S., R.1 W., Murray County, Hydrologic Unit 11130303, on Sparks Ranch, at road crossing behind barn, 2.1 mi (3.4 km) south of Hennepin.		1978	02-15-79	9.17
343137096320201 Goose Creek	Clear Boggy Creek	Lat 34°31'37", long 96°32'02", NW¼ NE¼ SE¼ sec.26, T.1 N., R.7 E., Pontotoc County, Hydrologic Unit 11140104, at ford, upstream from large pond, 6.8 mi (10.9 km) southeast of Harden City.	2.7	1977-78	02-14-79	2.77
343239096331301 Coal Creek	Clear Boggy Creek	Lat 34°32'39", long 96°33'13", NE¼ SW¼ NE¼ sec.22, T.1 N., R.7 E., Pontotoc County, Hydrologic Unit 11140104, 0.5 mi (0.8 km) east of Cobbler Knob, 4.7 mi (7.6 km) southeast of Harden City.	5.8	1977	02-14-79	3.65
343445096380001 Sheep Creek	Clear Boggy Creek	Lat 34°34'45", long 96°38'00", SW¼ SW¼ SE¼ sec.1, T.1 N., R.6 E., Pontotoc County, Hydrologic Unit 11140104, at bridge on State Highway 99, 2.4 mi (3.9 km) south of Fittstown.	1.34	1977-78	02-14-79	2.65

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD SITES

Samples are collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin. Such sites are referred to as miscellaneous sites.

353325099111001 FOSS RESERVOIR AT SITE NO. 1 NEAR FOSS, OK
WATER-QUALITY RECORDS

LOCATION.--Lat 35°33'25", long 99°11'10", in SW¼ sec. 35, T.13 N., R.19 W., Custer County, Hydrologic Unit 11130301, over old river channel, 600 feet from left edge of water on a bearing of 250° from concrete structure at north end of dam.

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

REMARKS.--Samples were collected monthly in a Kemmerer sampler at depths one foot from the surface, mid-depth, and one foot from the bottom.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMPLING DEPTH (FT)	RESERVOIR STORAGE (AC-FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
NOV												
03...	0735	1.0	167100	1860	8.7	16.0	8.6	92	920	45	1620	2.20
03...	0734	10	167100	1860	--	16.0	8.6	92	--	--	--	--
03...	0733	20	167100	1860	8.5	16.0	8.5	91	950	48	1620	2.20
03...	0732	30	167100	1860	--	16.0	8.2	88	--	--	--	--
03...	0731	40	167100	1860	--	16.0	8.1	87	--	--	--	--
03...	0730	50	167100	1860	8.4	16.0	7.7	83	1000	48	1620	2.20
MAR												
16...	1230	1.0	167500	1860	7.6	6.5	12.4	106	--	--	--	--
APR												
30...	1056	1.0	172200	1910	8.2	15.5	9.3	98	970	49	1630	2.22
30...	1055	10	172200	--	8.2	15.5	9.3	98	--	--	--	--
30...	1050	20	172200	--	8.2	15.5	9.3	98	--	--	--	--
30...	1112	25	172200	--	8.2	15.5	9.3	98	--	--	--	--
30...	1110	30	172200	1910	8.2	15.5	9.3	98	980	49	1630	2.22
30...	1107	40	172200	--	8.2	15.0	9.3	98	--	--	--	--
30...	1105	50	172200	1920	8.2	14.5	9.3	96	1000	48	1630	2.22
30...	1100	60	172200	--	8.2	14.5	9.3	96	--	--	--	--
JUN												
01...	1220	1.0	175600	2100	8.4	19.5	9.1	103	890	45	1630	2.22
01...	1254	5.0	175600	2100	--	20.5	--	--	--	--	--	--
01...	1252	10	175600	2100	--	20.0	--	--	--	--	--	--
01...	1251	15	175600	2150	--	20.0	--	--	--	--	--	--
01...	1250	20	175600	2100	--	20.5	8.5	98	--	--	--	--
01...	1230	25	175600	2100	8.4	20.0	8.5	98	980	45	1630	2.22
01...	1248	30	175600	2100	--	20.0	8.5	98	--	--	--	--
01...	1247	35	175600	--	--	19.5	8.4	95	--	--	--	--
01...	1246	40	175600	--	--	19.5	8.0	91	--	--	--	--
01...	1245	45	175600	--	--	19.5	7.7	88	--	--	--	--
01...	1240	50	175600	--	--	18.5	5.8	65	--	--	--	--
01...	1226	60	175600	2100	8.1	18.5	8.3	93	890	44	1560	2.12
27...	1035	1.0	179400	2190	7.8	23.5	8.5	106	960	52	1620	2.20
27...	1042	10	179400	2210	7.8	23.5	--	--	--	--	--	--
27...	1041	20	179400	2280	7.8	22.5	--	--	--	--	--	--
27...	1040	30	179400	2260	7.8	22.5	--	--	940	51	1630	2.22
27...	1038	40	179400	2260	7.8	22.0	--	--	--	--	--	--
27...	1037	50	179400	2260	7.8	21.5	--	--	--	--	--	--
27...	1045	60	179400	2200	7.8	21.0	--	--	950	49	1620	2.20
JUL												
12...	1035	1.0	180300	2390	8.0	26.0	7.1	93	980	47	1620	2.20
12...	1030	10	180300	2390	8.0	25.5	6.0	78	--	--	--	--
12...	1020	20	180300	2380	7.8	25.0	5.1	65	--	--	--	--
12...	1015	30	180300	2410	7.7	24.0	3.2	40	980	47	1630	2.22
12...	1010	40	180300	2410	7.6	23.0	2.2	27	--	--	--	--
12...	1005	50	180300	2370	7.5	22.0	.3	4	--	--	--	--
12...	0953	60	180300	2370	7.6	21.0	.3	4	950	52	1620	2.20
SEP												
14...	1020	1.0	175600	1910	8.5	24.0	7.3	91	1000	50	--	--
14...	1023	5.0	175600	1900	8.5	24.0	7.1	89	--	--	--	--
14...	1024	10	175600	1910	8.5	24.0	7.1	89	--	--	--	--
14...	1025	20	175600	1900	8.5	24.0	7.0	88	--	--	--	--
14...	1021	30	175600	1910	8.5	24.0	7.0	88	1000	50	1600	2.18
14...	1026	40	175600	1910	8.5	24.0	7.0	88	--	--	--	--
14...	1027	50	175600	1910	8.5	24.0	6.9	86	--	--	--	--
14...	1022	55	175600	1900	8.5	24.0	6.8	85	1000	50	1580	2.15
28...	1028	1.0	173200	1830	8.6	22.5	7.3	90	790	46	1600	2.18
28...	1029	5.0	173200	1840	8.6	22.5	7.5	93	--	--	--	--
28...	1031	10	173200	1840	8.6	22.5	7.2	89	--	--	--	--
28...	1033	20	173200	1850	8.6	22.5	6.9	85	--	--	--	--
28...	1035	30	173200	1850	8.6	22.5	6.8	84	770	48	1610	2.19
28...	1036	40	173200	1850	8.6	22.5	6.8	84	--	--	--	--
28...	1037	50	173200	1860	8.5	22.0	6.4	79	--	--	--	--
28...	1039	60	173200	1860	8.5	22.0	6.3	78	--	--	--	--
28...	1043	65	173200	1860	8.5	22.0	5.0	62	770	48	1590	2.16
28...	1030	--	173200	--	--	--	--	--	--	--	--	--

353405099132501 FOSS RESERVOIR AT SITE NO. 2 NEAR FOSS, OK

WATER-QUALITY RECORDS

LOCATION.--Lat 35°34'05", long 99°13'25", in SE¼ sec. 28, T.13 N., R.19 W., Custer County, Hydrologic Unit 11130301, over old river channel, 900 feet from left edge water on a bearing 155° from campgrounds on north shore.

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

REMARKS.--Samples were collected monthly in a Kemmerer sampler at depths of one foot from the surface, mid-depth, and one foot from the bottom.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMPLING DEPTH (FT)	RESERVOIR STORAGE (AC-FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
NOV												
03...	0820	1.0	167100	1860	8.7	16.0	9.7	104	980	48	1610	2.19
03...	0818	5.0	167100	1860	--	16.0	9.3	100	--	--	--	--
03...	0816	10	167100	1860	--	16.0	9.4	101	--	--	--	--
03...	0815	15	167100	1860	8.4	16.0	9.1	98	1000	48	1610	2.19
03...	0814	20	167100	1860	--	16.0	8.9	96	--	--	--	--
03...	0811	25	167100	1860	--	16.0	8.7	94	--	--	--	--
03...	0810	30	167100	1860	8.3	16.0	8.4	90	1000	48	1610	2.19
APR												
30...	1147	1.0	172200	2130	8.3	16.0	9.1	98	970	48	1630	2.22
30...	1145	10	172200	2130	8.1	16.0	9.1	98	--	--	--	--
30...	1140	20	172200	2130	8.1	16.0	8.9	96	970	49	1640	2.23
30...	1152	30	172200	2130	8.1	16.0	9.1	98	--	--	--	--
30...	1150	40	172200	2130	8.0	16.0	9.1	98	980	48	1640	2.23
JUN												
01...	1309	1.0	175600	2100	8.4	20.0	8.5	98	960	46	1610	2.19
01...	1314	5.0	175600	2100	--	21.0	--	--	--	--	--	--
01...	1313	10	175600	2100	--	21.0	--	--	--	--	--	--
01...	1312	15	175600	2100	--	20.5	8.3	96	--	--	--	--
01...	1310	20	175600	2100	8.4	20.0	8.1	93	980	46	1630	2.22
01...	1311	25	175600	2100	--	20.0	8.2	94	--	--	--	--
01...	1308	30	175600	2100	--	19.0	7.9	89	--	--	--	--
01...	1307	35	175600	--	--	19.0	7.8	88	--	--	--	--
01...	1306	40	175600	--	--	19.0	7.5	84	--	--	--	--
01...	1305	45	175600	2100	8.3	18.5	7.7	86	990	46	1640	2.23
27...	1135	1.0	179400	2230	8.0	24.0	8.3	105	950	53	1590	2.16
27...	1136	5.0	179400	2230	8.0	24.0	8.3	105	--	--	--	--
27...	1140	10	179400	2260	7.9	23.5	8.3	104	890	49	1600	2.18
27...	1142	20	179400	2240	7.9	23.5	8.0	100	--	--	--	--
27...	1145	30	179400	2250	7.8	23.0	7.5	93	930	48	1590	2.16
JUL												
12...	1055	1.0	180300	2400	8.2	26.5	7.4	99	970	47	1560	2.12
12...	1051	10	180300	2400	8.2	26.5	7.4	99	--	--	--	--
12...	1050	20	180300	2360	8.0	25.5	5.9	77	960	46	1570	2.14
12...	1047	30	180300	2410	7.9	24.0	2.0	25	--	--	--	--
12...	1045	40	180300	2390	7.9	23.0	.3	4	980	47	1560	2.12
12...	1046	45	180300	2370	7.9	23.5	.3	4	--	--	--	--
SEP												
14...	1112	1.0	175600	1900	8.7	24.0	7.2	90	1000	49	1590	2.16
14...	1113	5.0	175600	1900	8.6	24.0	7.1	89	--	--	--	--
14...	1114	10	175600	1890	8.6	24.0	7.0	88	--	--	--	--
14...	1115	15	175600	1900	8.6	24.0	6.9	86	--	--	--	--
14...	1111	20	175600	1900	8.6	24.0	7.0	88	1000	48	1590	2.16
14...	1116	25	175600	1900	8.6	24.0	6.8	85	--	--	--	--
14...	1117	30	175600	1900	8.6	24.0	6.8	85	--	--	--	--
14...	1118	35	175600	1900	8.6	23.5	6.6	82	--	--	--	--
14...	1110	39	175600	1900	8.6	23.5	6.6	82	1000	50	1580	2.15
28...	1103	1.0	173200	1870	8.7	22.5	7.8	96	780	47	1600	2.18
28...	1106	5.0	173200	1870	8.6	22.5	7.7	95	--	--	--	--
28...	1107	15	173200	1870	8.6	22.5	7.7	95	--	--	--	--
28...	1109	25	173200	1870	8.6	22.5	7.4	91	790	47	1580	2.15
28...	1110	35	173200	1870	8.6	22.5	7.4	91	--	--	--	--
28...	1112	45	173200	1870	8.6	22.5	7.2	89	--	--	--	--
28...	1113	47	173200	1870	8.6	22.5	6.6	81	790	47	1600	2.18

353615099135001 FOSS RESERVOIR AT SITE NO. 3 NEAR FOSS, OK

WATER QUALITY RECORDS

LOCATION.--Lat 35°36'15", long 99°13'50", in SE¼ sec.17, T.13 N., R.19 W., Custer County, Hydrologic Unit 11130301, over old river channel, 600 feet from left edge of water on a bearing of 240° from small tributary on north shore.

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

REMARKS.--Samples were collected monthly in a Kemmerer sampler at depths one foot from the surface, mid-depth, and one foot from the bottom.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMPLING DEPTH (FT)	RESERVOIR STORAGE (AC-FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
NOV												
03...	0835	1.0	167100	1860	7.8	16.0	9.8	105	950	45	1600	2.18
03...	0834	5.0	167100	1860	--	16.0	9.7	104	--	--	--	--
03...	0833	10	167100	1860	8.3	16.0	9.7	104	940	46	1600	2.18
03...	0832	15	167100	1860	--	16.0	9.6	103	--	--	--	--
03...	0831	20	167100	1860	--	16.0	9.5	102	--	--	--	--
03...	0830	25	167100	1860	8.8	16.0	9.3	100	960	45	1600	2.18
MAR												
16...	1147	1.0	167500	1870	--	8.0	12.0	108	--	--	--	--
16...	1146	5.0	167500	1870	--	8.0	12.0	108	--	--	--	--
16...	1145	10	167500	1870	--	8.0	12.0	108	--	--	--	--
16...	1144	15	167500	1870	--	8.0	11.9	107	--	--	--	--
16...	1143	20	167500	1870	--	8.0	12.0	108	--	--	--	--
16...	1142	25	167500	1870	--	8.0	12.0	108	--	--	--	--
16...	0835	--	167500	--	--	--	--	--	--	--	--	--
APR												
30...	1212	1.0	172200	1906	8.1	16.0	9.3	100	960	49	1630	2.22
30...	1210	10	172200	--	8.2	16.0	9.3	100	--	--	--	--
30...	1217	15	172200	1910	8.5	16.0	9.2	99	970	49	1620	2.20
30...	1205	22	172200	--	8.2	16.0	9.2	99	--	--	--	--
30...	1215	30	172200	1907	8.2	16.0	9.2	99	930	50	1610	2.19
JUN												
01...	1350	1.0	175600	2100	8.4	20.0	8.1	93	940	45	1620	2.20
01...	1351	5.0	175600	2100	--	20.0	--	--	--	--	--	--
01...	1349	10	175600	2100	--	20.0	80.0	92	--	--	--	--
01...	1352	15	175600	2100	8.3	20.0	7.9	91	930	45	1630	2.22
01...	1347	20	175600	2100	--	19.5	7.5	85	--	--	--	--
01...	1346	25	175600	2100	--	19.0	6.8	76	--	--	--	--
01...	1345	30	175600	2100	8.3	18.5	6.6	74	950	46	1630	2.22
27...	1205	1.0	179400	2230	8.4	24.5	9.3	117	900	48	1560	2.12
27...	1207	5.0	179400	2230	8.3	24.5	9.3	117	--	--	--	--
27...	1210	10	179400	2220	8.3	24.5	9.1	115	900	51	1560	2.12
27...	1212	20	179400	2240	8.3	24.0	9.1	115	--	--	--	--
27...	1215	28	179400	2200	8.0	24.5	8.9	112	900	49	1570	2.14
JUL												
12...	1130	1.0	180300	2330	8.3	27.0	7.7	103	930	45	1510	2.05
12...	1125	10	180300	2320	8.3	27.0	8.1	108	--	--	--	--
12...	1120	15	180300	2320	8.3	26.5	7.3	97	930	46	1520	2.07
12...	1115	20	180300	2330	8.2	26.5	7.1	94	--	--	--	--
12...	1110	30	180300	2320	8.7	25.5	3.1	40	930	45	1520	2.07
SEP												
14...	1145	1.0	175600	1890	8.5	24.0	7.2	90	1000	50	1580	2.15
14...	1148	5.0	175600	1890	8.7	24.0	6.8	85	--	--	--	--
14...	1146	15	175600	1890	8.7	24.0	7.0	88	1000	49	1580	2.15
14...	1149	20	175600	1890	8.7	24.0	7.0	88	--	--	--	--
14...	1150	25	175600	1890	8.7	24.0	7.0	88	--	--	--	--
14...	1147	27	175600	1890	8.7	24.0	6.9	86	1000	47	1580	2.15
28...	1134	1.0	173200	1860	8.8	23.5	8.0	98	790	47	1580	2.15
28...	1136	5.0	173200	1860	8.7	23.0	7.6	95	--	--	--	--
28...	1138	10	173200	1870	8.7	23.0	7.5	94	790	47	1590	2.16
28...	1140	20	173200	1870	8.7	23.0	6.9	85	--	--	--	--
28...	1141	27	173200	1870	8.6	22.5	6.3	78	780	54	1610	2.19

CADDO COUNTY

351308098341601. LOCAL NUMBER, 09N-13W-28 DDD 1.
LOCATION.--LAT 35 13'08", LONG 098 34'16", HYDROLOGIC UNIT 11130302, OWNER: U.S. GEOLOGICAL SURVEY.
AQUIFER.--RUSH SPRINGS FORMATION.
WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 6 IN (0.15M), DEPTH 335 FT (102M).
DATUM.--ALTITUDE OF LAND-SURFACE DATUM IS 1405 FT (428M). MEASURING POINT: TOP OF CASING 2.00 FT (0.61M) ABOVE LAND-SURFACE DATUM.
REMARKS.--RECORDS FURNISHED BY OKLAHOMA WATER RESOURCES BOARD.
PERIOD OF RECORD.--1948 TO CURRENT YEAR.
EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 34.71 FT (10.580M) BELOW LAND-SURFACE DATUM, AUG. 13, 1949; LOWEST, 46.44 FT (14.155M) BELOW LAND-SURFACE DATUM, SEPT. 15, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1978	44.90	MAY 10, 1979	45.43	JUL 10, 1979	44.96	SEP 10, 1979	45.68
10	44.42	15	45.35	15	44.38	15	46.44
15	44.47	JUN 20	45.00	20	44.23	20	46.44
20	44.43	25	44.96	AUG 25	45.67	25	46.10
25	44.60	30	44.93	31	45.61	30	46.16
31	42.31	JUL 05	45.08	SEP 05	46.14		

WTR YEAR 1979 MAX 42.31 OCT 31, 1978 MIN 46.44 SEP 15, 1979

352423098341701. LOCAL NUMBER, 11N-13W-21 DDD 1.
LOCATION.--LAT 35 24'23", LONG 098 34'17", HYDROLOGIC UNIT, 11130302, OWNER: CADDO ELECTRIC CO-OP.
AQUIFER.--RUSH SPRINGS FORMATION.
WELL CHARACTERISTICS.--UNUSED INDUSTRIAL WELL, DIAMETER 5 IN (0.13M), DEPTH 210 FT (64.008M).
DATUM.--ALTITUDE OF LAND-SURFACE DATUM IS 1640 FT (500M). MEASURING POINT: TOP OF CASING 0.77 FT (0.23M) ABOVE LAND-SURFACE DATUM.
REMARKS.--RECORDS FURNISHED BY OKLAHOMA WATER RESOURCES BOARD.
PERIOD OF RECORD.--1965 TO CURRENT YEAR.
EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 58.06 FT (17.697M) BELOW LAND-SURFACE DATUM, AUG. 2, 1965; LOWEST, 70.07 FT (21.357M) BELOW LAND-SURFACE DATUM, MAY 10, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1978	68.16	DEC 31, 1978	68.50	MAY 31, 1979	70.06	AUG 05, 1979	69.47
NOV 05	68.07	MAR 10, 1979	63.87	JUN 05	69.88	10	69.47
10	68.16	15	63.81	20	68.98	15	69.69
15	67.91	20	63.88	25	68.95	20	69.68
20	67.86	25	63.78	30	68.84	25	69.76
25	67.70	31	63.83	JUL 05	68.93	31	69.57
DEC 05	68.42	APR 05	63.84	10	68.83	SEP 05	69.52
10	68.35	MAY 10	70.07	15	69.15	10	69.84
15	68.29	15	70.00	20	69.28	15	69.95
20	68.53	20	69.99	25	69.34	20	69.86
25	68.54	25	69.96	31	69.36	25	69.99

WTR YEAR 1979 MAX 63.78 MAR 25, 1979 MIN 70.07 MAY 10, 1979

COMANCHE COUNTY

343540098342001. LOCAL NUMBER, 01N-13W-04 BAA 1.
LOCATION.--LAT 34 35'40", LONG 098 34'20", HYDROLOGIC UNIT 11130203, OWNER: U.S. GEOLOGICAL SURVEY.
AQUIFER.--LOWER ARBUCKLE GROUP.
WELL CHARACTERISTICS.--TEST WELL, DIAMETER 6 IN (0.15M), DEPTH 997 FT (304M).
DATUM.--ALTITUDE OF LAND-SURFACE DATUM IS 1191 FT (363M). MEASURING POINT: TOP OF CASING 1.8 FT (0.55M) ABOVE LAND-SURFACE DATUM.
PERIOD OF RECORD.--1972 TO CURRENT YEAR.
EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 71.03 FT (21.650M) BELOW LAND-SURFACE DATUM, SEPT. 25, 1974; LOWEST, 88.62 FT (27.011M) BELOW LAND-SURFACE DATUM, MAY 10, 1972.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1978	75.78	JAN 22, 1979	74.12	APR 03, 1979	74.62	JUL 18, 1979	73.29
NOV 06	76.13	FEB 21	75.32	MAY 09	73.75	AUG 13	73.80
DEC 11	76.13	MAR 14	75.27	JUN 12	73.46	SEP 17	73.91

WTR YEAR 1979 MAX 73.29 JULY 18, 1979 MIN 76.13 NOV 06, 1978

GRADY COUNTY

344656098031401. LOCAL NUMBER, 04N-08W-33 BBB 1.
LOCATION.--LAT 34 46'56", LONG 098 03'14", HYDROLOGIC UNIT 11130208, OWNER: U.S. GEOLOGICAL SURVEY.
AQUIFER.--RUSH SPRINGS FORMATION.
WELL CHARACTERISTICS.--DRILLED TEST WELL, DIAMETER 6 IN (0.15M), DEPTH 254 FT (77.4M).
DATUM.--ALTITUDE OF LAND-SURFACE DATUM IS 1350 FT (411M). MEASURING POINT: TOP OF CASING 3.35 FT (1.02M) ABOVE LAND-SURFACE DATUM.
PERIOD OF RECORD.--1948 TO CURRENT YEAR.
EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 78.95 FT (24.064M) BELOW LAND-SURFACE DATUM, APR. 10, 1963; LOWEST, 85.67 FT (26.112M) BELOW LAND-SURFACE DATUM, FEB. 29, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1978	82.37	JAN 05, 1979	82.57	APR 25, 1979	82.62	JUL 20, 1979	81.92
20	82.37	25	82.51	30	82.56	25	81.86
25	82.43	31	82.72	MAY 10	82.54	31	81.87
31	82.54	FEB 05	82.61	15	82.51	AUG 05	81.90
NOV 05	82.40	25	82.46	20	82.42	10	81.88
10	82.62	28	82.37	25	82.42	15	81.90
15	82.59	MAR 05	82.54	31	82.44	20	81.87
20	82.53	10	82.71	JUN 05	82.26	25	81.83
25	82.45	15	82.69	10	82.45	31	81.83
30	82.42	20	82.64	15	82.21	SEP 05	81.79
DEC 05	82.58	25	82.57	20	82.19	10	81.77
15	82.46	APR 05	82.66	25	82.15	20	81.69
20	82.57	10	82.47	30	82.02	25	81.76
25	82.58	15	82.66	JUL 05	82.08	30	81.73
31	82.57	20	82.67	10	81.94		

WTR YEAR 1979 MAX 81.69 SEP 20, 1979 MIN 82.72 JAN 31, 1979

PONTOTOC COUNTY

343457096404501. LOCAL NUMBER, 01N-06E-04 CAD 1.
LOCATION.--LAT 34 34'57", LONG 096 40'45", HYDROLOGIC UNIT 11140102, OWNER: J.H. BRENTZ.
AQUIFER.--ARBUCKLE GROUP.
WELL CHARACTERISTICS.--DRILLED OIL TEST WELL, DIAMETER 18 IN (0.46M), DEPTH 396 FT (121 M).
DATUM.--ALTITUDE OF LAND-SURFACE DATUM IS 1157 FT (353M). MEASURING POINT: BASE OF RECORDER SHELTER AT LAND-SURFACE DATUM.
REMARKS.-- WELL ORIGINALLY 1,707 FT (520 M) DEEP.
PERIOD OF RECORD.--1959 TO CURRENT YEAR.
EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 83.49 FT (25.448M) BELOW LAND-SURFACE DATUM, APR. 30, 1973; LOWEST, 126.05 FT (38.420M) BELOW LAND-SURFACE DATUM, DEC. 31, 1966.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1978	115.68	JAN 20, 1979	120.30	APR 15, 1979	106.51	JUL 10, 1979	104.27
10	115.92	25	120.41	20	105.92	20	105.71
15	116.33	31	120.52	25	105.66	25	106.35
20	116.58	FEB 05	120.56	30	105.70	31	107.21
25	116.87	10	120.70	MAY 05	105.72	AUG 05	107.90
31	117.28	15	120.73	10	110.70	10	108.53
NOV 05	117.49	20	120.69	15	110.69	15	109.19
10	117.77	25	120.77	20	110.66	20	109.74
15	118.03	28	120.59	25	110.02	25	110.29
20	118.27	MAR 05	120.25	31	109.03	31	110.84
25	118.41	10	119.79	JUN 05	108.65	SEP 05	111.39
DEC 05	119.02	15	119.61	10	108.10	10	111.88
10	119.30	20	118.97	15	104.40	15	112.39
15	119.41	25	115.80	20	103.07	20	112.78
20	119.61	31	113.66	25	102.91	25	113.28
25	119.81	APR 05	112.76	30	103.05	30	113.62
31	120.13	10	107.15	JUL 05	103.72		

WTR YEAR 1979 MAX 102.91 JUNE 25, 1979 MIN 120.77 FEB 25, 1979

ROGER MILLS COUNTY

354527099470501. LOCAL NUMBER, 15N-24W-19 DDA 1.
LOCATION.--LAT 35 45'27", LONG 099 47'05", HYDROLOGIC UNIT 11130301, OWNER: CHESTER WRIGHT.
AQUIFER.--OGALLALA FORMATION.
WELL CHARACTERISTICS.--DRILLED UNUSED IRRIGATION WELL, DIAMETER 12 IN (0.30M), DEPTH 122 FT (37.2M).
DATUM.--ALTITUDE OF LAND-SURFACE DATUM IS 2315 FT (706M), MEASURING POINT: TOP OF WOOD RECORDER BASE AT LAND-SURFACE DATUM.
PERIOD OF RECORD.--1970 TO CURRENT YEAR.
EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 55.45 FT (16.896M) BELOW LAND-SURFACE DATUM, MARCH 5, 1978; LOWEST, 57.27 FT (17.435M) BELOW LAND-SURFACE DATUM, JUNE 5, 1973.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1978	55.78	DEC 25, 1978	55.76	APR 05, 1979	55.81	JUN 30, 1979	55.71
05	55.81	31	55.71	10	55.79	JUL 05	55.82
10	55.68	JAN 05, 1979	55.75	15	55.74	10	55.75
15	55.67	20	55.67	20	55.85	15	55.97
20	55.61	25	55.66	25	55.83	20	55.81
25	55.75	31	55.92	30	55.74	25	55.79
31	55.81	FEB 05	55.90	MAY 05	55.71	31	55.86
NOV 05	55.82	10	55.70	10	55.80	AUG 20	55.79
10	55.67	15	55.94	15	55.77	25	55.81
15	55.71	25	55.84	20	55.72	31	55.76
20	55.59	28	55.72	25	55.76	SEP 05	55.78
25	55.63	MAR 05	55.81	31	55.87	10	55.77
30	55.56	10	55.86	JUN 05	55.65	15	55.85
DEC 05	55.67	15	55.79	10	55.92	20	55.74
10	55.71	20	55.80	15	55.70	25	55.86
15	55.63	25	55.65	20	55.81	30	55.79
20	55.73	31	55.75	25	55.81		

WTR YEAR 1979 MAX 55.56 NOV 30, 1978 MIN 55.97 JULY 15, 1979

WASHITA COUNTY

352125099102901. LOCAL NUMBER, 10N-19W-11 DAA 1.
LOCATION.--LAT 35 21'25", LONG 099 10'25", HYDROLOGIC UNIT 11120302, OWNER: U.S. GEOLOGICAL SURVEY.
AQUIFER.--ELK CITY SANDSTONE.
WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 8 IN (0.20M), DEPTH 220 FT (67.1M).
DATUM.--ALTITUDE OF LAND-SURFACE DATUM IS 1890 FT (576M), MEASURING POINT: TOP OF CASING 2.20 FT (0.67M) ABOVE LAND-SURFACE DATUM.
PERIOD OF RECORD.--1961 TO APRIL 1979 (DISCONTINUED).
EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 15.92 FT (4.852M), BELOW LAND-SURFACE DATUM, AUG. 25, 1975; LOWEST, 25.17 FT (7.672M) BELOW LAND-SURFACE DATUM, MARCH 31, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1978	19.68	NOV 15, 1978	20.85	DEC 20, 1978	21.06	MAR 15, 1979	21.61
10	19.46	20	20.94	25	21.05	20	21.50
15	19.63	25	20.73	31	21.14	25	21.40
20	19.57	30	20.82	JAN 05, 1979	21.24	31	21.40
25	19.70	DEC 05	20.91	FEB 25	21.71	APR 05	21.29
31	19.90	10	21.01	28	21.46	15	21.17
NOV 09	20.92	15	20.78	MAR 05	21.58		

OCT 1978 TO APR 1979 MAX 19.46 OCT 10, 1978 MIN 21.71 FEB 25, 1979

WASHITA COUNTY

352142099122501. LOCAL NUMBER, 10N-19W-10 BBB 1.
LOCATION.--LAT 35 35'05", LONG 099 12'25", HYDROLOGIC UNIT 11120302, OWNER: MIDWEST OKLA DEVELOPMENT AUTHORITY.
AQUIFER.--ELK CITY SANDSTONE.
WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 8 IN (0.20M), DEPTH 107 FT (32.6M).
DATUM.--ALTITUDE OF LAND-SURFACE DATUM IS 1920 FT (585M). MEASURING POINT: TOP OF CASING 1.35 FT (0.41M) ABOVE LAND-SURFACE DATUM.
PERIOD OF RECORD.--APRIL TO SEPTEMBER 1979
EXTREMES FOR CURRENT YEAR.-- HIGHEST WATER LEVEL 33.33 FT (10.159M) BELOW LAND-SURFACE DATUM APR. 30, 1979; LOWEST, 33.58 FT (10.235M) BELOW LAND-SURFACE DATUM, AUG. 20, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 20, 1979	33.34	MAY 31, 1979	33.41	JUL 10, 1979	33.55	AUG 31, 1979	33.53
25	33.34	JUN 05	33.36	15	33.51	SEP 05	33.54
30	33.33	10	33.42	20	33.49	10	33.55
MAY 05	33.33	15	33.37	25	33.49	15	33.57
10	33.36	20	33.44	31	33.50	20	33.56
15	33.38	25	33.44	AUG 15	33.56	25	33.58
20	33.38	30	33.43	20	33.58		
25	33.38	JUL 05	33.49	25	33.55		

WTR YEAR 1979 MAX 33.33 APR 30, 1979 MIN 33.58 AUG 20, 1979

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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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