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Water Resources Data for Oklahoma

Volume 2. Red River Basin

U.S. GEOLOGICAL SURVEY
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U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OK-78-2

WATER YEAR 1978

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

CALENDAR FOR WATER YEAR 1978

1977

OCTOBER

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Water Resources Data for Oklahoma

Volume 2. Red River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OK-78-2

WATER YEAR 1978

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

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

For information on the water program in Oklahoma write to
District Chief, Water Resources Division
U.S. Geological Survey
Rm 621, 215 N.W. 3rd Street
Oklahoma City, Oklahoma 73102

1979

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 J.S. Cragwall, Jr., Chief Hydrologist, U.S. Geological Survey, and G.W. Whetstone, 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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Volume 2, Red River Basin

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16. Abstract (Limit: 200 words)

Water resources data for the 1978 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 120 gaging stations; stage and contents for 27 lakes or reservoirs; water quality for 121 gaging stations, 3 lakes, and 76 wells; water levels for 48 wells. Also included are 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.

17. Document Analysis a. Descriptors

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b. Identifiers/Open-Ended Terms

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

WATER RESOURCES DATA FOR OKLAHOMA, 1978

Volume 2. Red River Basin

INTRODUCTION

Water resources data for Oklahoma for the 1978 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 120 gaging stations; stage and contents for 27 lakes and reservoirs; water quality for 121 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, streamflow 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. These 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-78-1." 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, Calvin T. Grant, deputy commissioner.

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

Assistance in the form of funds or services was given by the following Federal Agencies: Agricultural Research Service, U.S. Department of Agriculture; Bureau of Land Management, U.S. Department of the Interior; Bureau of Reclamation, U.S. Department of the Interior; Corps of Engineers, U.S. Army; Federal Insurance Administration, U.S. Department of Housing and Urban Development.

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, Edmond, Guthrie, Lawton, Shawnee, and Tulsa; and Oklahoma Gas and Electric Company.

Organizations that supplied data are acknowledged in station descriptions.

HYDROLOGIC CONDITIONS

No runoff extremes were experienced during the entire year. Rainfall during the 1978 water year served to keep the streamflow near normal for the first quarter. A rather severe winter brought in moisture in the form of snow and ice which also served to maintain streamflow to near normal during the record quarter. Some high runoff occurred in the northeast during the last week in March and runoff from Kansas and Missouri caused flood gates to be opened at Lake O'The Cherokees in early April. A series of slow-moving fronts moved across the western half of the State May 26-27th, triggering moderate to heavy rainfall. Some low-land flooding of small streams and near bankfull stage of major streams was experienced. Scattered rains continued to fall during the first two weeks in June resulting in 282 percent of median runoff for June at the index station. No major flooding occurred during this period. Rainfall throughout the State was less than normal beginning near the middle of June and for the rest of the year. Runoff in streams gradually fell until it was only 32 percent of median during September at the index station.

Reservoir contents were below average at all reservoirs for the first 8 months except Lake Altus which remained above average. Beginning in June all reservoirs contents were near or above average for the remainder of the year.

NOTICE

During the water year 1978, revisions were made in the terminology used to define 143 of the water-quality parameter codes that have been used by the Geological Survey in its publication of water-quality data and in its WATSTORE data system. These revisions were made to achieve consistency in terminology and to conform to a joint USGS-EPA agreement on terminology. They do not represent a change in the way the codes have been used in the past or in the association of specific code numbers with identified analytical procedures.

Use of the new terminology began with data for the 1978 water year, and therefore, it first appears in this publication. Definitions on which the terminolgy is based are included in the "Definitions" section of this report, and a table showing both old and new terminology is attached as an appendix to the report.

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 $C/(m^2 \cdot time)$ for periphyton and macrophytes and mt $C/(m^3 \cdot time)$] 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 $O_2/(m^2 \cdot time)$ for periphyton and macrophytes and mg $O_2/(m^3 \cdot time)$/ 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 latitutde 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.

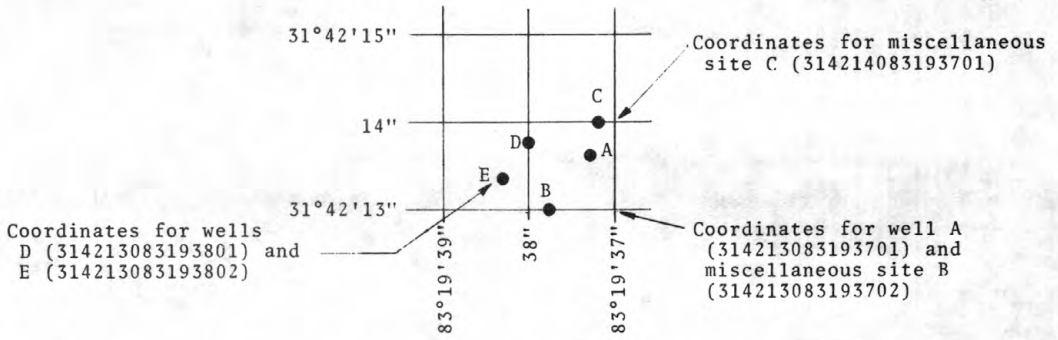

Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrolgic 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 water-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.

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

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

EXPLANATION OF 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 888, 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 effective January 1978 but 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. 1975. 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,* by 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. *Stage 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 programed 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. *Computation 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 elements 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 A 3, 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, $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.

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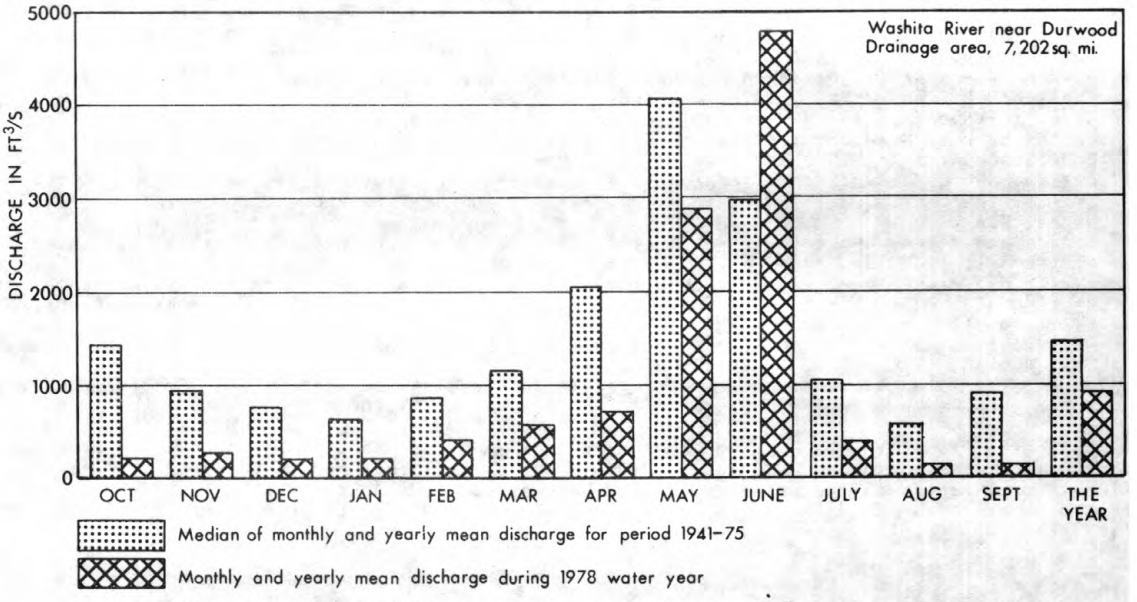

FIGURE 2.--Discharge during 1978 water year compared with median discharge for perid 1941–75 for one representative gaging station.

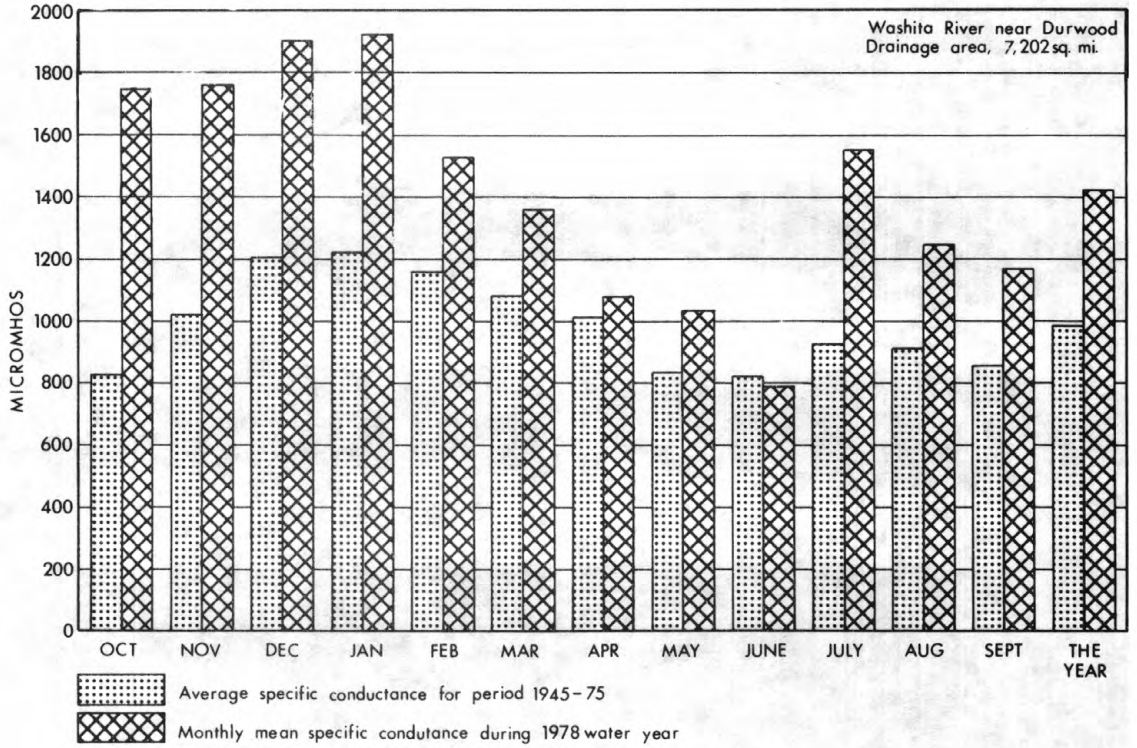

FIGURE 3.--Specific conductance during 1978 water year compared with average specific conductance for period 1945–75 at one site.

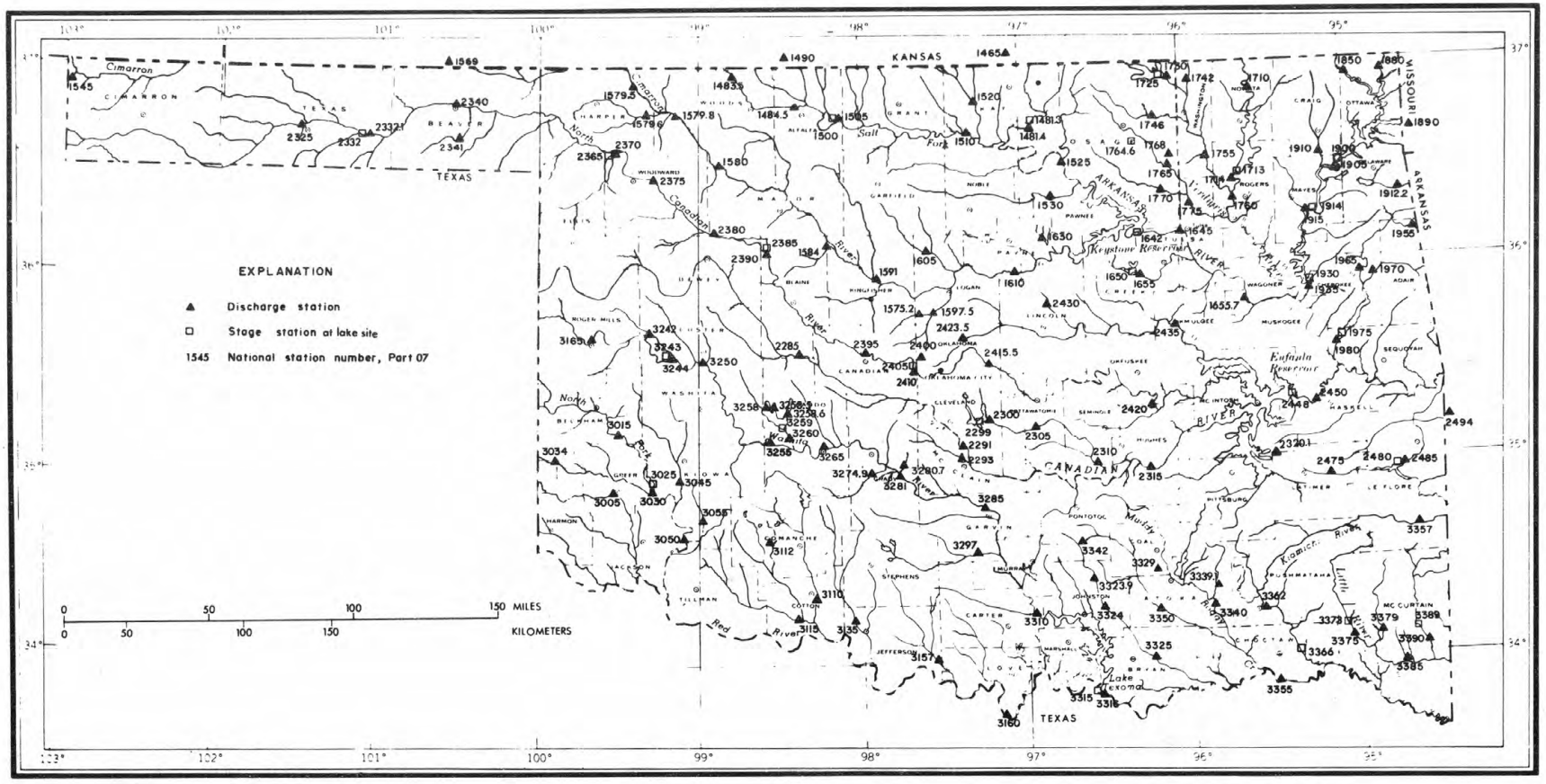

Figure 4.--Locations of continuous-record surface-water stations, water year 1978.

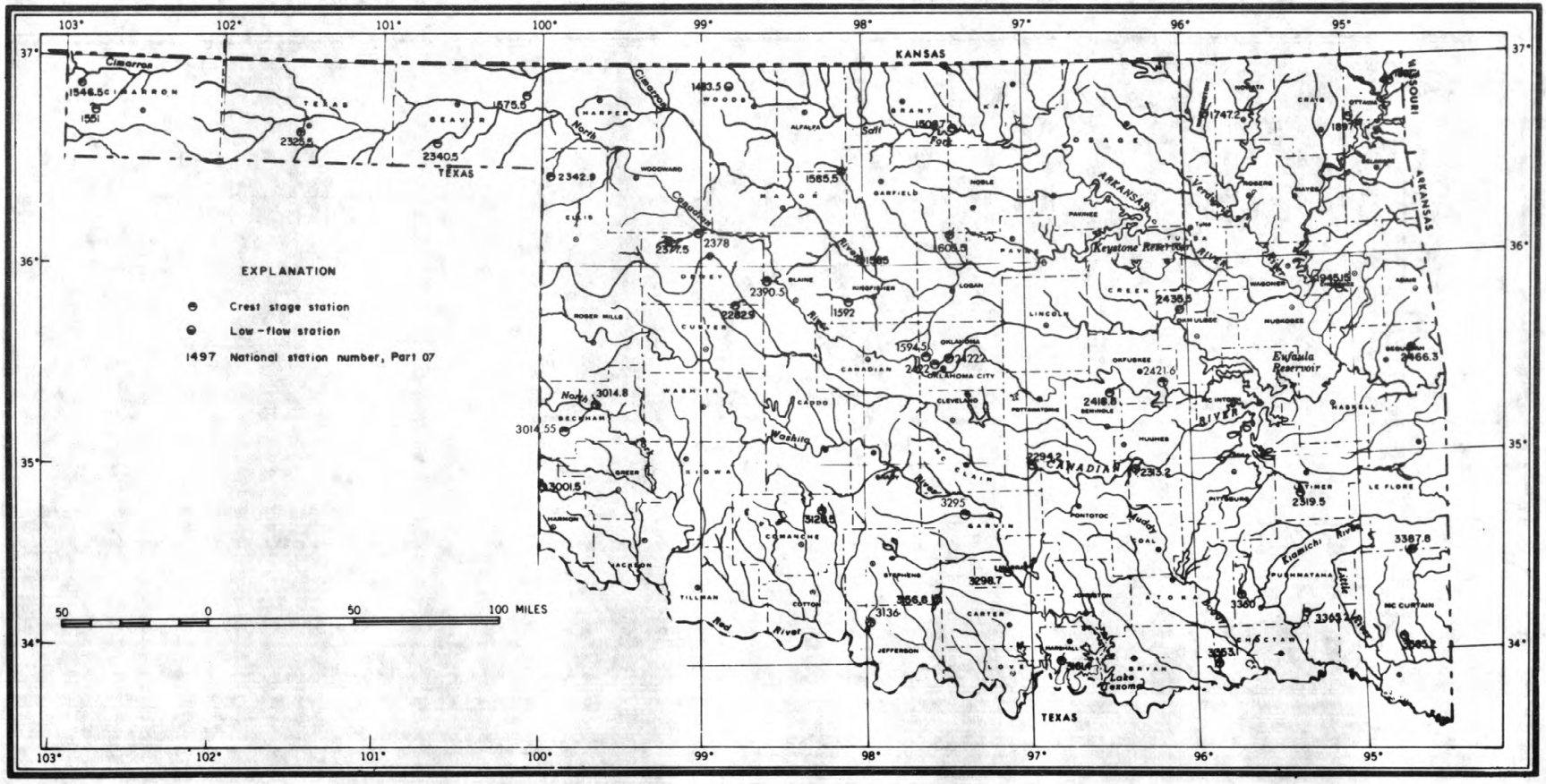

Figure 5.--Locations of partial record stations, water year 1978.

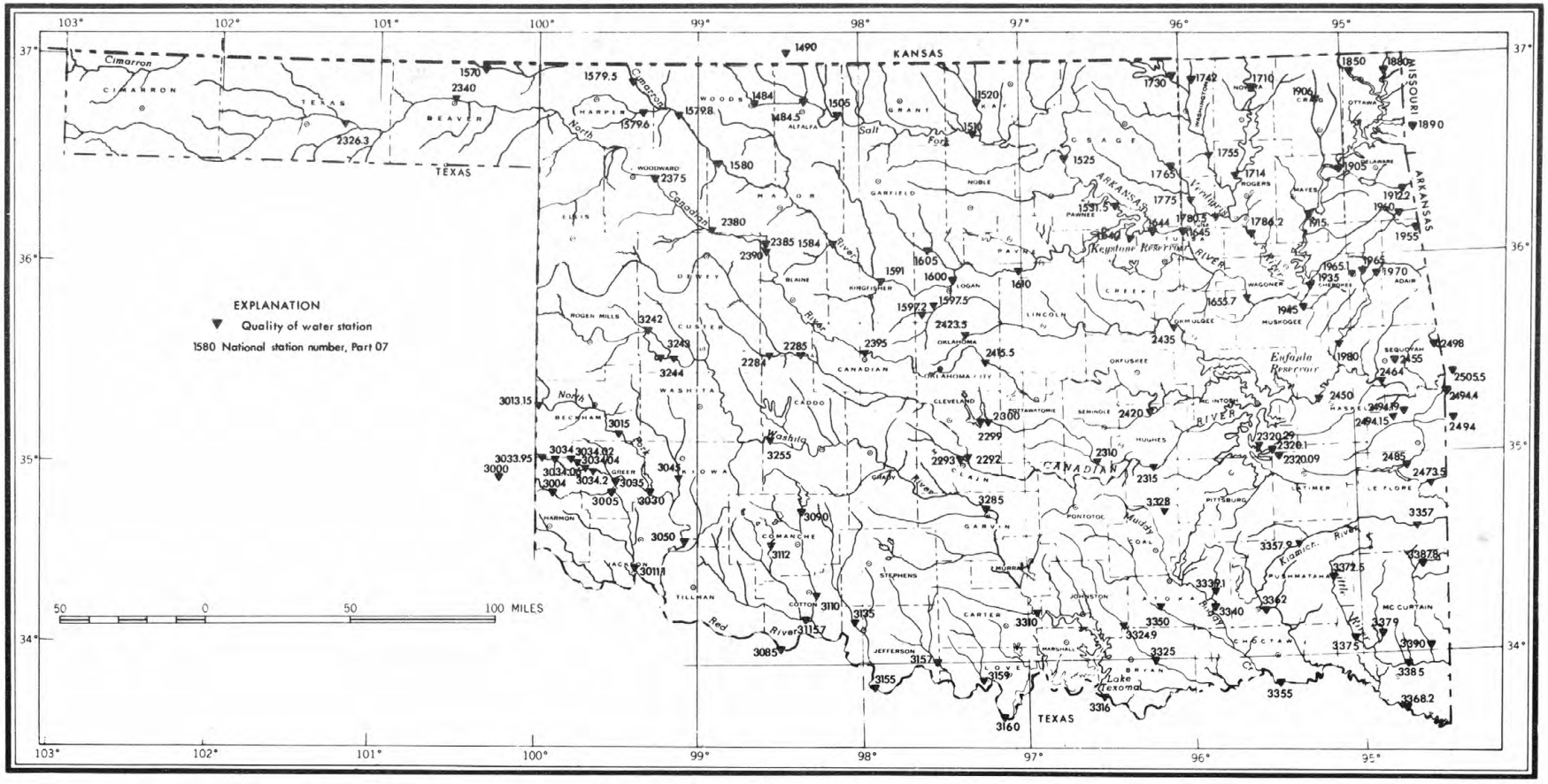

Figure 6.--Locations of water-quality stations, water year 1978.

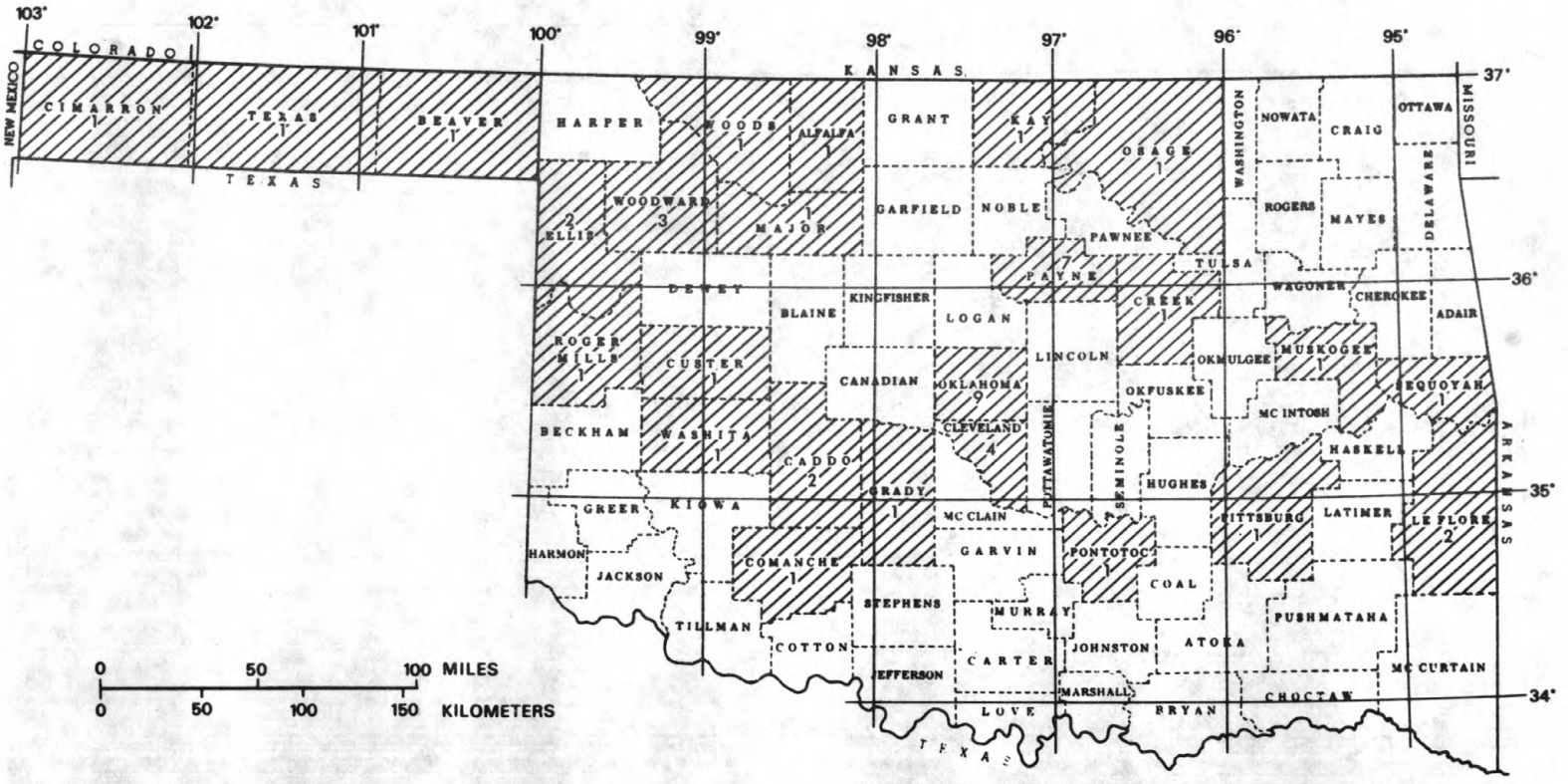

Figure 7.--Counties (hatched) containing observation wells measured more than once a year, and number of wells in each county, water year 1978.

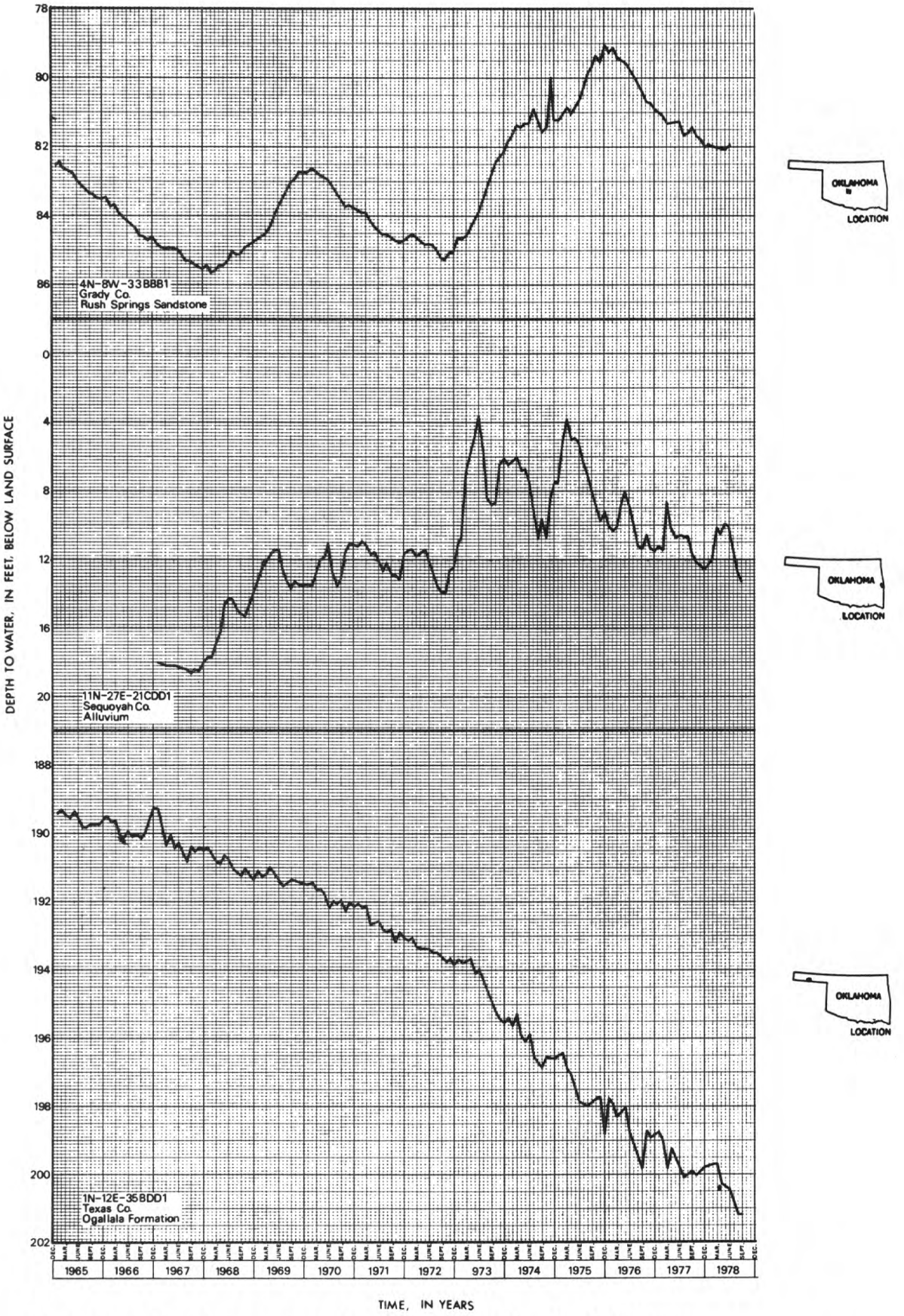

Figure 8.--Depth to water in selected wells in Oklahoma.

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 Bureau of Reclamation). 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.--41 years (water years 1937-78), 89.1 ft^3/s (2.523 m^3/s), 64,550 acre-ft/yr (79.6 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, 36,000 ft^3/s (1,020 m^3/s) May 28, gage height, 13.45 ft (4,100 m), no other 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 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	14	15	16	28	40	18	6.4	189	7.0	.00	.00
2	1.1	16	16	15	27	38	20	16	158	7.0	.00	.00
3	.54	14	16	14	25	33	17	47	298	14	.00	.00
4	2.0	12	17	17	27	24	17	121	167	7.3	.00	.00
5	1.6	11	18	20	29	34	17	85	2790	12	.10	.00
6	1.0	12	17	25	29	35	22	72	2330	5.5	.00	.00
7	1.5	13	15	21	27	32	23	63	678	5.2	.00	.00
8	1.9	18	15	19	20	28	19	58	273	3.7	.00	.00
9	1.8	17	13	15	20	30	20	49	186	2.7	.00	.00
10	1.4	16	13	12	22	29	41	42	230	1.5	.00	.00
11	.70	15	15	13	28	26	51	31	139	1.1	.00	.00
12	.40	15	17	13	43	24	36	22	98	1.0	.00	.00
13	.34	14	22	15	66	24	27	18	87	.70	.00	.00
14	.23	15	21	15	50	25	21	15	123	.40	.00	.00
15	.18	14	19	22	44	27	17	13	71	.25	.00	.00
16	.15	14	18	31	66	24	17	10	181	.15	.00	.00
17	.17	14	17	19	54	23	14	8.6	78	.10	.00	.00
18	.20	14	17	22	60	24	11	8.0	57	.08	.00	.00
19	.22	14	16	23	52	21	8.9	8.2	48	.00	.00	.00
20	.18	14	15	21	62	20	8.2	37	39	.00	.00	231
21	1.7	13	15	20	54	19	7.6	58	31	.00	7.0	634
22	21	13	15	22	51	18	6.7	69	22	.00	.50	131
23	25	13	15	22	54	17	6.4	131	15	9.6	.00	83
24	33	13	16	27	69	17	6.4	86	21	1.3	.00	54
25	23	14	16	26	69	18	6.4	58	13	.00	.00	42
26	18	14	16	30	54	17	6.4	50	12	.00	.00	75
27	15	14	16	26	46	17	6.1	9090	8.8	.00	.00	42
28	14	14	16	25	43	17	5.8	22600	8.0	.00	7.0	84
29	13	15	17	23	---	16	6.3	849	7.0	.00	.50	42
30	15	15	18	21	---	16	6.4	371	7.3	.00	.00	24
31	15	---	19	23	---	16	---	286	---	.00	.00	---
TOTAL	210.61	424	511	633	1219	749	489.6	34378.2	8365.1	80.58	15.10	1442.00
MEAN	6.79	14.1	16.5	20.4	43.5	24.2	16.3	1109	279	2.60	.49	48.1
MAX	33	18	22	31	69	40	51	22600	2790	14	7.0	634
MIN	.15	11	13	12	20	16	5.8	6.4	7.0	.00	.00	.00
AC-FT	418	841	1010	1260	2420	1490	971	68190	16590	160	30	2860

CAL YR 1977 TOTAL 49077.78 MEAN 134 MAX 13200 MIN .00 AC-FT 97350
WTR YR 1978 TOTAL 48517.19 MEAN 133 MAX 22600 MIN .00 AC-FT 96230

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 May 1977.

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)
OCT 20...	1715	.12	3750	8.0	24.0	1	7.8	98	10	--
NOV 29...	1100	15	3800	8.2	7.0	6	11.3	96	6	--
DEC 16...	1000	18	3600	7.8	7.0	9	10.7	95	5	--
JAN 23...	1615	22	3400	8.1	.5	5	13.8	101	10	--
FEB 16...	0900	66	3050	8.5	.0	1	14.6	105	28	--
MAR 28...	1045	17	3500	8.2	18.0	18	97.0	108	--	--
APR 13...	1000	27	3000	8.4	17.0	13	9.8	106	--	12
MAY 11...	0800	55	3400	8.2	16.5	4	9.2	100	11	--
JUN 26...	1415	12	3390	8.0	34.5	15	7.2	106	18	--
JUL 18...	0900	.08	4900	7.7	24.0	7	6.7	84	23	--
SEP 24...	1045	54	2400	8.2	21.5	255	8.9	101	32	--

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 105 DEG. C, DISSOLVED (MG/L)
OCT 20...	1160	372	930	55	215	8.2	1702	305	.4	3528
NOV 29...	--	--	--	--	--	--	1555	241	--	--
DEC 16...	892	294	735	38	203	4.8	1515	243	.7	--
JAN 23...	--	--	--	--	--	--	1518	262	.4	--
FEB 16...	1491	439	1098	90	204	6.6	1546	272	.5	--
MAR 28...	--	--	--	--	--	--	--	--	--	--
APR 13...	1545	452	1130	101	155	6.4	1405	197	.1	--
MAY 11...	--	--	--	--	--	--	1043	313	.5	--
JUN 26...	1972	594	1485	118	207	8.1	1349	267	.4	--
JUL 18...	--	--	--	--	--	--	1199	704	.4	--
SEP 24...	--	--	--	--	--	--	876	196	.3	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 20...	--	<.10	2.1	2.1	--	.03	--	--	--	--
NOV 29...	15	1.0	1.2	2.2	9.9	.02	--	--	--	--
DEC 16...	24	1.2	1.0	2.2	9.7	.01	--	--	--	--
JAN 23...	9	1.4	1.0	2.4	11	1.0	--	--	--	--
FEB 16...	59	1.0	1.3	2.3	10	.29	3	1	48	16
MAR 28...	--	--	--	--	--	--	--	--	--	--
APR 13...	51	.30	1.9	2.2	9.9	5.3	--	--	--	--
MAY 11...	83	.20	1.4	1.6	7.3	7.5	--	--	--	--
JUN 26...	39	.30	1.5	1.8	8.2	1.5	--	--	--	--
JUL 18...	13	.10	2.2	2.3	10	4.5	--	--	--	--
SEP 24...	540	--	<1.0	--	--	.31	--	--	--	--

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 20...	220	--	150	--	--	--	--	--	3.0
NOV 29...	--	--	--	--	--	--	--	--	3.0
DEC 16...	330	--	40	--	--	--	--	--	3.0
JAN 23...	--	--	--	--	--	--	--	--	12
FEB 16...	12500	58	310	<.5	70	4	5	52	19
MAR 28...	--	--	--	--	--	--	--	--	--
APR 13...	850	--	130	--	--	--	--	--	2.0
MAY 11...	--	--	--	--	--	--	--	--	18
JUN 26...	520	--	70	--	--	--	--	--	<5.0
JUL 18...	--	--	--	--	--	--	--	--	5.0
SEP 24...	--	--	--	--	--	--	--	--	10

07301110 SALT FORK RED RIVER NEAR ELMER, OK

LOCATION.--Lat 34°28'44", long 99°22'55", on the north line of NE¼NW¼NE¼ sec. 15, T. 1 S., R. 21 W., Jackson County, Hydrologic Unit 11120202, at bridge on State Highway 5, 1.8 mi (2.9 km) west of Elmer.

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

PERIOD OF RECORD.--March to September 1978.

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

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	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)
JAN											
24...	1130	32	3900	8.0	.0	15	--	14.0	101	32	300
FEB											
23...	0800	65	3650	8.0	3.0	140	--	12.0	92	45	230
MAR											
22...	0930	22	--	8.1	18.5	15	--	11.2	124	93	41
APR											
25...	1700	7.7	4600	8.3	23.0	35	--	10.6	126	--	78
MAY											
16...	0930	12	4300	8.3	21.5	60	--	10.6	126	57	42
JUN											
07...	0830	814	620	7.3	22.0	--	1200	6.3	75	46	36
JUL											
27...	0830	1.5	2500	8.1	23.5	--	80	9.6	117	6200	440
AUG											
30...	1000	2.0	2600	8.0	22.0	--	6.3	8.9	105	460	990
SEP											
28...	0930	84	2300	7.9	20.0	--	30	8.4	94	220	470

DATE	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	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
JAN										
24...	1800	1600	470	150	330	29	3.4	6.4	240	0
FEB										
23...	1500	1400	430	110	280	28	3.1	6.0	200	0
MAR										
22...	1900	1800	530	150	400	31	4.0	6.9	180	0
APR										
25...	2000	1900	540	170	370	28	3.6	11	160	0
MAY										
16...	1800	1700	460	150	400	33	4.1	9.7	140	0
JUN										
07...	270	200	86	14	28	18	.7	5.8	--	--
JUL										
27...	940	790	230	89	460	51	6.5	11	--	--
AUG										
30...	780	650	190	73	250	41	3.9	10	--	--
SEP										
28...	820	730	240	54	140	27	2.1	7.9	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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, 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)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
JAN 24...	200	.5	1500	570	.6	12	3350	3160	4.56	289
FEB 23...	160	3.2	1300	420	.6	14	2850	2660	3.88	500
MAR 22...	150	2.3	1700	640	.5	4.6	3540	3520	4.81	210
APR 25...	130	1.3	1800	700	.5	5.3	4050	3880	5.51	84.2
MAY 16...	110	1.1	1600	620	.6	9.4	3470	3320	4.72	112
JUN 07...	70	--	210	36	.2	9.2	419	431	.57	921
JUL 27...	150	--	730	430	.6	12	1690	2050	2.30	6.8
AUG 30...	130	--	650	370	.6	12	1670	1630	2.27	9.0
SEP 28...	92	--	600	250	.4	10	1600	1360	2.18	363

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (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, DISSOLVED (MG/L AS P)
JAN 24...	2.0	.94	.66	1.6	.40	1.2	3.6	16	.40	.30
FEB 23...	1.4	.84	.86	1.7	.81	.89	3.1	14	.57	.20
MAR 22...	.38	.19	1.3	1.5	.20	1.3	1.9	8.3	.20	.06
APR 25...	.01	.01	1.2	1.2	.60	.60	1.2	5.4	.25	.06
MAY 16...	.01	.01	1.6	1.6	1.2	.38	1.6	7.1	.17	.00
JUN 07...	2.9	.33	3.2	3.5	2.6	.87	6.4	28	1.2	.05
JUL 27...	.81	.01	1.6	1.6	.88	.72	2.4	11	.23	.10
AUG 30...	.97	.10	1.5	1.6	.50	1.1	2.6	11	.18	.10
SEP 28...	.81	.12	1.7	1.8	1.2	.62	2.6	12	.35	.04

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	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)
JAN 24...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	4	2	2	500	100	400	1	0	2	20	10	10
MAR 22...	--	--	--	--	--	--	--	--	--	--	--	--
APR 25...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 16...	3	0	3	0	0	0	2	1	1	10	0	10
JUN 07...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 27...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 30...	4	0	4	200	0	200	0	0	0	0	0	0
SEP 28...	--	--	--	--	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)
JAN 24...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	0	0	0	18	18	0	6900	--	10	15	11	4
MAR 22...	--	--	--	--	--	--	--	--	--	--	--	--
APR 25...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 16...	2	1	1	9	9	0	1900	--	10	18	16	2
JUN 07...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 27...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 30...	0	0	0	9	9	0	510	490	20	4	4	0
SEP 28...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, SUS-PENDED TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, SUS-PENDED RECOV-ERABLE (UG/L AS AG)
JAN 24...	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	200	160	40	.0	.0	.0	7	1	6	1	1
MAR 22...	--	--	--	--	--	--	--	--	--	--	--
APR 25...	--	--	--	--	--	--	--	--	--	--	--
MAY 16...	240	170	70	.0	.0	.0	2	0	2	0	0
JUN 07...	--	--	--	--	--	--	--	--	--	--	--
JUL 27...	--	--	--	--	--	--	--	--	--	--	--
AUG 30...	40	30	10	.0	.0	.0	2	0	3	0	0
SEP 28...	--	--	--	--	--	--	--	--	--	--	--

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 TOTAL (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
JAN 24...	--	--	--	--	4.4	--	--	--	151	13	98
FEB 23...	0	50	40	10	--	4.1	4.1	--	397	70	79
MAR 22...	--	--	--	--	5.4	--	--	59000	177	11	95
APR 25...	--	--	--	--	10	--	--	--	207	4.3	95
MAY 16...	0	50	30	20	--	3.8	>1.7	79000	1232	40	92
JUN 07...	--	--	--	--	33	--	--	47	5740	12600	61
JUL 27...	--	--	--	--	6.9	--	--	--	365	1.5	88
AUG 30...	0	20	10	10	--	5.7	2.6	150000	72	.39	96
SEP 28...	--	--	--	--	13	--	--	--	592	134	98

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

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO AUGUST 1978

DATE	MAR 22,78	MAY 16,78	AUG 30,78
TIME	0930	0930	1000
TOTAL CELLS/ML	41000	79000	150000
DIVERSITY: DIVISION	0.4	0.4	0.2
.CLASS	0.4	0.4	0.2
..ORDER	0.4	0.6	0.3
...FAMILY	0.4	0.6	0.3
....GENUS	0.4	0.6	0.4

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	--	-	*	0
....CHODATELLA	--	-	--	-	*	0
....CLOSTERIOPSIS	--	-	--	-	*	0
....KIRCHNERIELLA	--	-	--	-	*	0
....OOCYSTIS	--	-	--	-	*	0
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	--	-	*	0
....SCENEDESMUS	370	1	71000#	91	*	0
..TETRASPORALES						
...PALMELLACEAE						
....SPHAEROCYSTIS	--	-	1800	2	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	640	2	--	-	*	0
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	600	1	3400	4	970	1
..PENNALES						
...ACHNANTHACEAE						
....COCCONEIS	--	-	--	-	*	0
...FRAGILARIACEAE						
....SYNEDRA	*	0	--	-	--	-
...NAVICULACEAE						
....GYROSIGMA	*	0	--	-	--	-
....NAVICULA	370	1	--	-	*	0
...NITZSCHIACEAE						
....NITZSCHIA	--	-	1100	1	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	--	-	*	0
....ANACYSTIS	39000#	95	--	-	1100	1
..HORMOGONALES						
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	910	1
....OSCILLATORIA	--	-	--	-	140000#	95
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	--	-	*	0
....PHACUS	--	-	890	1	--	-

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 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	5060	2320	4310	2690	2660
2							---	5170	1240	4060	2870	2640
3							---	1280	1960	3930	---	2660
4							---	2250	2380	3630	2700	2760
5							---	3120	896	3710	2600	3040
6							---	3210	733	3480	2580	3170
7							---	3320	765	3080	2900	2990
8							---	3390	---	3210	2780	3180
9							---	3390	2000	2920	2620	2890
10							---	3480	2360	3110	2220	2870
11							---	3630	2670	3010	2460	3140
12							---	3810	2920	2960	2650	3300
13							---	3960	1000	2840	2640	3200
14							---	4130	1580	2880	2650	3330
15							---	4220	2480	2510	2680	3300
16							---	4410	2630	2630	2480	3480
17							---	4520	2920	2560	2560	2800
18							---	4470	3020	2580	2480	3610
19							---	2700	3210	2610	2170	3880
20							---	2690	3530	2680	1930	2790
21							---	3820	3700	2580	2740	1710
22							---	2900	3950	2570	2860	1830
23							---	2970	4160	---	2840	2140
24							---	3080	4230	2470	2650	2480
25							---	2870	4400	2550	2650	1840
26							---	2790	4540	2470	2440	2180
27							---	1110	4620	2420	---	1220
28							5090	1100	4700	2520	2330	2280
29							---	1170	4620	2500	2220	2890
30							---	1580	4700	2580	2450	2870
31							---	1990	---	2590	2720	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	16.5	29.0	31.0	33.5	31.0
2							---	15.5	22.0	30.0	30.0	27.5
3							---	8.5	25.0	32.0	---	26.5
4							---	9.0	23.0	30.0	26.0	31.0
5							---	14.5	23.0	28.0	27.0	30.5
6							---	15.5	23.5	31.5	27.5	28.5
7							---	18.0	25.0	34.0	31.0	28.5
8							---	18.5	---	33.5	27.0	25.0
9							---	18.5	26.5	33.0	30.0	30.0
10							---	19.5	27.5	34.0	27.0	31.0
11							---	21.5	28.0	30.5	30.0	31.5
12							---	20.5	28.0	32.0	30.5	28.5
13							---	18.5	24.5	30.0	30.0	31.0
14							---	19.0	28.0	35.0	29.5	31.0
15							---	21.0	29.5	30.0	34.0	30.0
16							---	21.0	30.0	33.0	31.0	34.0
17							---	18.5	30.0	32.0	31.5	23.5
18							---	19.5	28.5	31.0	32.0	26.0
19							---	18.0	30.5	34.0	21.5	27.0
20							---	20.5	36.0	30.0	29.5	22.5
21							---	16.5	32.0	30.0	32.0	18.0
22							---	29.5	29.0	28.0	30.0	20.0
23							---	28.0	30.0	---	31.5	24.5
24							---	30.0	30.5	32.5	31.0	23.0
25							---	27.0	30.0	34.0	38.0	20.0
26							---	28.0	28.5	33.0	29.5	21.0
27							---	19.0	31.0	29.5	---	23.5
28							23.5	19.5	31.0	32.0	28.0	26.0
29							---	25.0	31.0	31.5	28.5	25.5
30							---	27.0	30.5	34.0	26.5	26.0
31							---	28.0	---	33.0	29.0	---

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 fair.

AVERAGE DISCHARGE.--32 years (1944-62, 1964-78), 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.--Maximum discharge, 13,600 ft^3/s (385 m^3/s) at 1830 May 28, gage height, 11.73 ft (3.575 m), no other peaks above base of 3,200 ft $^3/s$ (90.6 m^3/s); no flow Aug. 15-Sept. 18.

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	8.2	20	35	50	65	143	49	29	329	36	1.7	.00
2	7.0	24	36	47	65	153	47	38	232	35	1.7	.00
3	6.0	25	37	48	65	132	46	100	933	32	1.8	.00
4	5.1	23	38	43	65	123	52	339	439	31	2.6	.00
5	4.4	23	39	63	65	123	58	217	795	29	6.5	.00
6	4.3	23	36	65	65	115	56	163	1690	25	3.8	.00
7	5.1	24	36	65	65	110	52	163	1000	22	2.6	.00
8	5.2	35	38	67	65	105	49	159	602	20	1.8	.00
9	3.8	36	44	65	65	93	47	166	829	19	1.1	.00
10	3.8	34	42	65	65	79	110	110	449	18	.92	.00
11	3.3	32	40	65	65	71	132	85	418	15	.70	.00
12	3.1	31	45	65	100	64	102	68	299	13	.50	.00
13	3.4	33	48	65	170	69	80	56	231	11	.30	.00
14	3.5	33	48	65	200	65	68	52	268	8.2	.10	.00
15	3.5	34	45	70	190	67	60	47	255	7.0	.00	.00
16	3.6	33	48	75	175	62	56	40	183	5.5	.00	.00
17	4.0	33	46	70	190	60	51	36	145	3.8	.00	.00
18	4.6	31	44	65	189	58	47	35	132	3.0	.00	.00
19	5.2	33	44	60	190	57	43	40	118	2.1	.00	.25
20	5.9	33	44	55	190	57	41	269	110	1.5	.00	1000
21	6.0	30	41	65	190	55	39	408	100	1.1	.00	620
22	7.0	30	37	65	182	53	38	648	93	1.0	.00	280
23	13	31	41	65	179	53	36	420	85	.92	.00	180
24	15	30	42	65	169	55	34	388	70	.75	.00	118
25	18	31	45	65	162	55	33	240	55	.67	.00	93
26	17	32	43	65	159	55	32	224	49	.60	.00	209
27	15	33	41	65	153	54	31	4730	46	.53	.00	200
28	16	32	41	65	146	53	30	12000	43	.46	.00	100
29	17	33	44	65	---	52	29	2660	40	.46	.00	70
30	19	34	48	65	---	51	29	1070	37	.46	.00	50
31	20	---	50	65	---	49	---	583	---	1.4	.00	---
TOTAL	256.0	909	1306	1948	3649	2393	1577	25583	10075	345.45	26.12	2920.25
MEAN	8.26	30.3	42.1	62.8	130	77.2	52.6	825	336	11.1	.84	97.3
MAX	20	36	50	75	200	153	132	12000	1690	36	6.5	1000
MIN	3.1	20	35	43	65	49	29	29	37	.46	.00	.00
AC-FT	508	1800	2590	3860	7240	4750	3130	50740	19980	685	52	5790

CAL YR 1977	TOTAL	110820.80	MEAN 304	MAX 15600	MIN 3.1	AC-FT	219800
WTR YR 1978	TOTAL	50987.82	MEAN 140	MAX 12000	MIN .00	AC-FT	101100

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
OCT 20...	1520	6.5	3500	8.1	25.0	2	9.4	119	12	1123
NOV 29...	1300	33	3600	8.3	9.0	5	11.9	108	12	--
DEC 15...	1545	45	2800	8.0	11.5	5	10.3	101	9	290
JAN 23...	1415	65	6000	8.1	.0	3	14.1	103	15	--
FEB 16...	1100	175	2750	8.3	.0	3	14.1	102	23	1053
MAR 28...	1315	53	2900	8.3	21.5	--	9.1	108	--	--
APR 13...	1200	78	3200	8.4	19.0	18	10.0	114	21	1064
MAY 11...	1055	87	2850	8.3	20.0	2	9.5	109	21	--
JUN 26...	1700	49	2780	8.1	33.5	5	7.3	109	34	1290
JUL 17...	1330	38	4200	7.9	36.0	3	7.2	109	19	--
AUG 07...	1500	2.6	4300	8.1	33.0	1	8.5	123	23	870
SEP 24...	1315	115	1390	8.2	22.0	360	8.6	99	38	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 20...	286	715	98	340	5.4	1054	434	.5	2956	--
NOV 29...	--	--	--	--	--	1193	323	--	--	13
DEC 15...	84	210	19	257	3.6	980	289	.6	--	625
JAN 23...	--	--	--	--	--	984	347	.6	--	2
FEB 16...	278	695	84	254	7.7	1104	349	.5	--	343
MAR 28...	--	--	--	--	--	--	--	--	--	--
APR 13...	272	681	91	280	6.2	1126	397	.1	--	53
MAY 11...	--	--	--	--	--	498	436	.6	--	101
JUN 26...	322	805	118	330	6.0	1027	163	.5	--	703
JUL 17...	--	--	--	--	--	1017	542	.4	--	14
AUG 07...	330	825	110	468	7.6	1202	757	.3	--	13
SEP 24...	--	--	--	--	--	485	192	.3	--	741

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NITRATE TOTAL (MG/L AS N)	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 20...	--	<.10	1.6	1.6	--	.03	--	--	--	--
NOV 29...	--	.60	1.4	2.0	9.1	.04	--	--	--	--
DEC 15...	.90	--	1.1	2.0	--	.02	--	--	--	--
JAN 23...	--	1.5	1.1	2.6	12	6.7	--	--	--	--
FEB 16...	--	.90	1.8	2.7	12	.22	8	1	36	12
MAR 28...	--	--	--	--	--	--	--	--	--	--
APR 13...	--	1.4	1.6	3.0	13	9.5	--	--	--	--
MAY 11...	--	.10	1.7	1.8	8.1	.12	--	--	--	--
JUN 26...	--	<.10	1.9	1.9	--	7.0	--	--	--	--
JUL 17...	--	<.10	1.0	1.0	--	4.0	--	--	--	--
AUG 07...	--	.10	1.3	1.4	6.5	--	3	4	12	9
SEP 24...	--	--	<1.0	--	--	.42	--	--	--	--

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 20...	220	--	40	--	--	--	--	--	3.0
NOV 29...	--	--	--	--	--	--	--	--	16
DEC 15...	290	--	40	--	--	--	--	--	1.0
JAN 23...	--	--	--	--	--	--	--	--	19
FEB 16...	5400	60	200	<.5	68	<1	5	34	12
MAR 28...	--	--	--	--	--	--	--	--	--
APR 13...	1050	--	80	--	--	--	--	--	10
MAY 11...	--	--	--	--	--	--	--	--	5.0
JUN 26...	650	--	60	--	--	--	--	--	9.0
JUL 17...	--	--	--	--	--	--	--	--	5.0
AUG 07...	<100	14	20	<.5	--	<1	6	30	16
SEP 24...	--	--	--	--	--	--	--	--	10

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 mi² (6,514 km²), of which 399 mi² (1,033 km²) 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 hm³) at elevation 1,559.0 ft (475.18 m) crest of uncontrolled spillway and 72,500 acre-ft (89.4 hm³) at elevation 1,547.0 ft (471.53 m) crest of controlled spillway. Dead storage, 1,660 acre-ft (2.05 hm³) 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 km²). 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 hm³) May 19, 1951, elevation, 1,562.10 ft (476.128 m); minimum after initial storage, 4,690 acre-ft (5.78 hm³) Aug. 25, 1944, elevation, 1,520.2 ft (463.357 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 142,300 acre-ft (175 hm³) May 29, elevation, 1,560.22 ft (475.555 m); minimum, 54,850 acre-ft (67.6 hm³) Sept. 19, elevation, 1,542.46 ft (470.142 m).

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

1542	53,240	1552	95,180
1545	64,170	1556	116,600
1548	76,680	1561	147,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96580	95480	95630	95930	98260	105800	108700	110100	134900	131900	89080	60960
2	96230	95430	95680	95930	98260	106100	108900	111000	134900	131200	87810	60480
3	95880	95280	95680	95930	98510	106000	109100	111000	135100	130700	86960	60180
4	95680	95330	95680	95980	98770	106100	109400	111100	135500	130000	86120	59850
5	95580	95280	95580	95980	99020	106200	109300	111700	136100	128800	85330	59410
6	95230	95330	95230	96130	99230	106600	109300	112100	137700	127500	84460	58860
7	95430	95480	94880	96180	99430	106700	109200	112200	137100	126500	83460	58640
8	95280	95780	95180	96280	99790	106600	109300	112500	136400	125100	82330	57770
9	95080	95480	95030	96230	100100	106900	109900	112700	135800	123800	81390	57260
10	95130	95480	94930	96280	100300	107000	110100	112600	135700	122400	80190	56830
11	94780	95530	94930	96380	100800	107100	110100	112900	135800	120400	79440	56510
12	94680	95330	95080	96430	100900	107200	110400	112800	135200	118900	78530	56190
13	94530	95480	95180	96480	101000	107200	110200	112700	134700	117000	77490	56160
14	94480	95430	95180	96580	101100	107200	110500	112600	134200	115500	76420	55940
15	94330	95580	95180	96580	101300	107200	110500	112600	134000	113900	75360	55690
16	94140	95730	95380	96890	101800	107200	110500	112500	134500	112300	74360	55370
17	94280	95630	95430	96780	102100	107400	110700	112400	134900	110400	73200	55160
18	94090	95530	95430	96990	102200	107200	110700	113200	135000	108600	72140	54950
19	93990	95630	95530	96890	102400	107500	110600	115700	134700	107200	71130	54880
20	93790	95730	95530	96940	102700	107600	110500	116900	135100	105400	70650	55590
21	94140	95680	95430	97040	102900	107500	110100	116000	134800	103700	70050	56550
22	94930	95580	95380	97090	103200	107700	110500	119100	134700	102200	69260	57880
23	94980	95680	95480	97090	103600	108200	110400	120200	134900	100500	68510	58350
24	95030	95680	95580	97290	104100	108100	110400	120900	134500	98970	67700	58710
25	95080	95680	95530	97290	104600	108100	110300	121600	134300	97240	66620	58790
26	95030	95680	95630	97340	104900	108200	110200	122100	134200	95730	65600	58900
27	95080	95630	95580	97490	105400	108300	109900	130200	133800	94630	64170	59590
28	95130	95630	95680	97640	105600	108400	109900	138600	133100	93440	63520	60810
29	95030	95630	95780	97640	---	108600	110100	141100	132700	92270	62800	60960
30	95230	95630	95830	97850	---	108400	110200	136500	132300	91250	62160	61110
31	95330	---	96180	97900	---	108700	---	135200	---	90040	61520	---
MAX	96580	95780	96180	97900	105600	108700	110700	141100	137700	131900	89080	61110
MIN	93790	95280	94880	95930	98260	105800	108700	110100	132300	90040	61520	54880
†	1,552.03	1,552.09	1,552.20	1,552.54	1,554.02	1,554.59	1,554.87	1,559.10	1,558.63	1,550.95	1,544.30	1,544.19
‡	-1,610	+300	+500	+1,720	+7,700	+3,100	+1,500	+25,000	-2,900	-42,260	-28,520	-410
††	556	0	584	0	0	839	0	678	2,200	36,467	26,323	4,626

CAL YR 1977 MAX 152400 MIN 75280 ‡ 20,690 †† 47,825
WTR YR 1978 MAX 141100 MIN 54880 ‡ 35,830 †† 72,773

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

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 below 100 ft^3/s (2.83 m^3/s) and fair above. 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, 6,380 ft^3/s (181 m^3/s) May 29, by computation of peak flow over dam, gage height, 13.26 ft (4.042 m); minimum daily, 0.14 ft^3/s (0.004 m^3/s) Sept. 8-18.

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	.50	.83	1.2	2.6	2.6	2.4	.60	.20	801	2.0	.45	.20
2	.50	.83	1.2	2.6	2.6	2.3	.55	.20	537	1.4	.42	.20
3	.50	.83	1.3	2.6	2.6	2.2	.50	.25	349	1.0	.42	.18
4	.50	.83	1.3	2.6	2.6	2.2	.50	.40	570	.70	.42	.18
5	.55	.83	1.4	2.6	2.6	2.1	.45	.35	1010	.50	.42	.18
6	.66	.80	1.4	2.6	2.6	2.0	.40	.32	1550	.37	.46	.18
7	.77	.80	1.5	2.6	2.6	2.0	.40	.30	1560	.30	.46	.18
8	.80	.80	1.6	2.6	2.6	2.0	.45	.30	1000	.25	.51	.14
9	.80	.80	1.8	2.6	2.6	2.0	.50	.28	813	.20	.51	.14
10	.80	.80	2.0	2.6	2.7	2.0	.40	.28	544	.17	.51	.14
11	.80	.80	2.0	2.6	2.9	2.3	.35	.28	406	.15	.51	.14
12	.77	.75	2.0	2.6	3.5	2.5	.30	.28	493	.15	.45	.14
13	.77	.75	2.0	2.6	4.0	2.3	.28	.28	545	.15	.45	.14
14	.77	.75	2.0	2.6	4.0	2.0	.25	.28	358	.15	.45	.14
15	.77	.75	2.0	2.6	3.8	1.8	.20	.28	55	.20	.40	.14
16	.77	.71	2.0	2.3	3.6	1.7	.20	.28	9.6	.35	.40	.14
17	.77	.71	2.1	2.0	3.3	1.5	.20	.28	9.8	.80	.40	.14
18	.77	.71	2.2	2.3	3.0	1.4	.20	.28	26	1.4	.40	.14
19	.77	.71	2.3	2.6	3.0	1.3	.20	.28	15	1.4	.35	.17
20	.77	.71	2.3	2.6	3.0	1.2	.20	.40	13	1.4	.35	.70
21	.77	.75	2.4	2.6	3.0	1.2	.20	.50	20	1.3	.35	2.0
22	.77	.75	2.5	2.6	3.0	1.1	.20	.40	15	1.2	.35	2.0
23	.77	.80	2.5	2.6	3.0	1.0	.20	.35	10	1.0	.30	2.0
24	.77	.85	2.5	2.6	3.0	1.0	.20	.30	8.8	.90	.30	2.0
25	.77	.90	2.5	2.6	2.8	1.0	.20	.28	7.2	.80	.30	2.0
26	.77	.95	2.5	2.6	2.7	.95	.20	.28	5.9	.70	.25	2.1
27	.77	1.0	2.6	2.6	2.6	.89	.20	192	6.2	.60	.25	2.5
28	.80	1.0	2.6	2.6	2.5	.85	.20	4880	5.0	.55	.25	2.8
29	.80	1.1	2.6	2.6	---	.80	.20	6300	4.0	.50	.25	3.2
30	.83	1.2	2.6	2.6	---	.75	.20	3940	2.5	.47	.20	3.6
31	.83	---	2.6	2.6	---	.70	---	1630	---	.45	.20	---
TOTAL	22.76	24.80	63.5	79.4	82.8	49.44	9.13	16949.91	10749.0	21.51	11.74	27.91
MEAN	.73	.83	2.05	2.56	2.96	1.59	.30	547	358	.69	.38	.93
MAX	.83	1.2	2.6	2.6	4.0	2.5	.60	6300	1560	2.0	.51	3.6
MIN	.50	.71	1.2	2.0	2.5	.70	.20	.20	2.5	.15	.20	.14
AC-FT	45	49	126	157	164	98	18	33620	21320	43	23	55

CAL YR 1977 TOTAL 80808.06 MEAN 221 MAX 11800 MIN .00 AC-FT 160300
WTR YR 1978 TOTAL 28091.90 MEAN 77.0 MAX 6300 MIN .14 AC-FT 55720

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)
OCT										
20...	1825	.77	2500	8.3	22.5	12	9.5	114	32	--
NOV										
29...	0845	2.0	2650	8.2	7.0	7	10.9	93	29	--
DEC										
16...	0900	3.9	2400	7.8	3.0	8	10.7	86	20	--
JAN										
24...	0900	3.7	2090	8.3	2.0	2	14.8	112	17	--
FEB										
16...	0615	5.0	1900	8.2	3.0	1	14.0	109	11	--
MAR										
27...	1915	1.9	2100	8.2	17.5	--	11.2	123	--	--
APR										
13...	0900	1.1	2100	8.3	16.5	9	9.0	97	--	21
MAY										
11...	0630	.46	2350	8.1	20.0	2	7.4	85	24	--
JUN										
26...	1215	4.8	1290	8.1	27.5	9	7.8	103	21	--
JUL										
18...	0730	1.4	2050	8.1	280	13	6.7	89	25	--
AUG										
08...	0800	.51	2100	7.9	25.5	12	7.6	96	25	--
SEP										
24...	0930	2.0	2680	7.9	21.0	50	5.3	60	47	--

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 105 DEG. C, DISSOLVED (MG/L)
OCT										
20...	388	53	134	61	240	8.6	419	328	.7	1742
NOV										
29...	--	--	--	--	--	--	685	311	--	--
DEC										
16...	768	194	485	68	243	7.2	676	303	.6	--
JAN										
24...	--	--	--	--	--	--	442	257	.4	--
FEB										
16...	631	162	405	54	175	7.8	724	237	.4	--
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
13...	478	114	285	46	180	7.2	704	259	.1	--
MAY										
11...	--	--	--	--	--	--	405	291	.4	--
JUN										
26...	656	180	450	49	140	6.2	--	213	.4	--
JUL										
18...	--	--	--	--	--	--	443	272	.4	--
AUG										
08...	785	200	500	69	205	7.9	572	280	.6	--
SEP										
24...	--	--	--	--	--	--	773	437	.4	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	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 20...	--	--	<.10	2.6	2.6	--	.11	--	--	--
NOV 29...	19	--	<.10	1.6	1.6	--	.06	--	--	--
DEC 16...	20	<.10	--	1.3	1.3	--	.03	--	--	--
JAN 24...	2	--	<.10	1.3	1.3	--	2.5	--	--	--
FEB 16...	17	--	.10	1.4	1.5	6.9	.35	2	1	19
MAR 27...	--	--	--	--	--	--	--	--	--	--
APR 13...	22	--	.10	1.7	1.8	8.3	1.1	--	--	--
MAY 11...	37	--	<.10	2.4	2.4	--	.11	--	--	--
JUN 26...	38	--	.20	1.5	1.7	7.6	5.0	--	--	--
JUL 18...	49	--	<.10	1.2	1.2	--	7.0	--	--	--
AUG 08...	38	--	.10	1.6	1.7	7.9	.12	2	3	7
SEP 24...	80	--	.10	<1.0	<1.0	--	.16	--	--	--

DATE	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 20...	--	630	--	80	--	--	--	--	--	8.0
NOV 29...	--	--	--	--	--	--	--	--	--	14
DEC 16...	--	240	--	20	--	--	--	--	--	5.0
JAN 24...	--	--	--	--	--	--	--	--	--	14
FEB 16...	5	180	54	30	<.5	43	<1	4	22	7.0
MAR 27...	--	--	--	--	--	--	--	--	--	--
APR 13...	--	540	--	90	--	--	--	--	--	9.0
MAY 11...	--	--	--	--	--	--	--	--	--	5.0
JUN 26...	--	770	--	70	--	--	--	--	--	7.0
JUL 18...	--	--	--	--	--	--	--	--	--	8.0
AUG 08...	6	610	15	70	<.5	--	<1	4	17	21
SEP 24...	--	--	--	--	--	--	--	--	--	12

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 current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1973 to current year.
WATER TEMPERATURE: April 1973 to current year.

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 tables, 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 months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 21,500 micromhos Oct. 11; minimum daily, 2,700 micromhos May 29.
WATER TEMPERATURE: Maximum daily, 35.0°C May 19; minimum, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (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
OCT											
10...	1745	11	14500	7.6	20.0	2500	2500	730	170	2600	69
12...	1215	10	19300	7.5	19.0	2800	2800	810	200	3800	74
14...	1730	12	10200	7.5	20.5	2300	2200	670	140	1600	61
NOV											
12...	1300	13	7040	7.8	14.0	1900	1800	570	120	930	51
22...	1715	13	6570	7.8	12.5	1900	1800	570	120	830	48
28...	1730	14	6360	7.8	9.0	1900	1800	560	120	760	47
DEC											
09...	1145	12	8400	7.8	1.0	2200	2100	660	140	1200	54
11...	1715	14	5710	7.9	1.5	1800	1700	530	120	690	45
22...	0900	14	7100	7.9	.5	2000	1900	610	120	1000	52
JAN											
05...	1345	14	5520	7.9	10.0	1600	1400	460	100	820	53
10...	1245	13	11200	7.9	.5	1900	1800	520	150	2000	69
24...	1730	22	5300	7.8	.5	1700	1600	520	100	660	46
MAR											
01...	1115	22	6650	7.9	4.0	1800	1700	530	120	910	52
04...	1530	19	5720	7.6	6.0	1500	1400	530	38	720	51
22...	1045	12	7890	7.3	15.5	2300	2200	570	210	1100	51
APR											
04...	1730	12	7500	7.7	27.0	2000	1900	580	130	1000	52
21...	1815	13	8630	7.6	21.0	2200	2100	630	140	1300	57
29...	1730	11	9110	7.8	21.5	2100	2000	620	140	1400	59
MAY											
06...	1817	28	6220	7.6	18.5	1600	1500	490	100	790	51
17...	1020	11	9800	7.7	18.0	1800	1800	470	140	1600	66
29...	2000	245	2700	7.5	25.0	1300	1200	440	39	320	35
JUN											
02...	1950	179	3290	7.5	23.5	1400	1300	480	57	220	25
11...	1745	93	5540	7.6	31.0	1800	1800	580	94	590	41
28...	1720	20	8390	7.6	28.5	2000	2000	620	120	1200	56
JUL											
01...	1920	18	8250	8.0	31.0	2300	2200	730	120	1200	53
08...	1640	13	11000	7.7	34.0	2300	2300	720	130	1800	63
11...	1720	10	12400	7.6	33.0	2500	2500	780	140	2100	64
AUG											
10...	1740	8.1	10700	7.9	32.0	2200	2100	680	120	1700	63
17...	1815	4.4	15200	7.8	33.5	2500	2400	740	150	2800	71
24...	1830	4.1	17000	7.5	33.0	2600	2500	760	160	3200	73
SEP											
01...	1745	3.7	13500	7.4	33.0	2500	2500	770	150	2500	68
10...	1812	3.4	16900	7.4	31.0	2700	2600	800	170	3300	73
24...	1530	24	5370	7.8	30.0	1400	1300	470	62	720	52

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SODIUM AD-SORP-TION RATIO	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
OCT											
10...	23	14	90	0	74	3.6	1900	4300	9840	13.4	292
12...	31	18	88	0	72	4.5	2100	6000	13000	17.7	551
14...	15	10	110	0	90	5.6	1900	2500	7050	9.59	228
NOV											
12...	9.2	7.2	100	0	82	2.5	1700	1500	5050	6.87	177
22...	8.3	7.0	90	0	74	2.3	1700	1400	4810	6.54	169
28...	7.8	6.7	97	0	80	2.5	1700	1200	4630	6.30	175
DEC											
09...	11	7.8	130	0	110	3.3	1800	1900	6090	8.28	197
11...	7.0	6.1	130	0	110	2.6	1400	1200	4190	5.70	158
22...	9.7	7.1	140	0	110	2.8	1600	1700	5440	7.40	206
JAN											
05...	9.0	6.4	140	0	110	2.8	1700	1400	4780	6.50	181
10...	20	10	160	0	130	3.2	1400	3300	7880	10.7	277
24...	6.9	5.5	150	0	120	3.8	1500	1100	3950	5.37	235
MAR											
01...	9.3	8.6	85	0	70	1.7	1500	1500	4910	6.68	292
04...	8.1	7.6	150	0	120	6.0	1400	1100	4270	5.81	219
22...	10	11	120	0	98	9.6	1800	1800	5480	7.45	178
APR											
04...	9.8	11	95	0	78	3.0	1600	1600	5280	7.18	171
21...	12	12	100	0	82	2.5	1800	2000	6120	8.32	215
29...	13	12	100	0	82	2.5	1800	2200	6430	8.74	191
MAY											
06...	8.5	8.4	130	0	110	5.2	1300	1400	4450	6.05	336
17...	17	10	130	0	110	4.2	1600	2300	6970	9.48	207
29...	3.9	7.1	100	0	82	5.1	1100	280	2220	3.02	1470
JUN											
02...	2.5	6.6	110	0	90	5.6	1300	370	2730	3.71	1320
11...	6.0	8.1	46	0	38	1.8	1600	1000	4320	5.88	1090
28...	12	11	56	0	46	2.3	2000	1900	6170	8.39	333
JUL											
01...	11	9.5	84	0	69	1.3	1800	1900	6090	8.28	296
08...	16	12	94	0	77	3.0	2200	2600	7820	10.6	274
11...	18	13	90	0	74	3.6	2200	3400	8690	11.8	235
AUG											
10...	16	12	110	0	90	2.2	1900	2800	7520	10.2	164
17...	25	15	110	0	90	2.8	2000	4600	10600	14.4	126
24...	28	17	84	0	69	4.3	1700	5400	11700	15.9	130
SEP											
01...	22	15	88	0	72	5.6	2200	3800	9320	12.7	93
16...	28	18	77	0	63	4.9	2500	4900	11600	15.8	106
24...	8.3	8.9	110	0	90	2.8	1300	1100	3790	5.15	246

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	6650	---	---	6850	8170	---	3400	8250	---	13500
2	---	---	---	8710	---	7130	7980	---	3290	9580	---	13600
3	---	---	6380	6260	6180	---	7880	---	3300	9550	---	---
4	---	---	6530	5520	6540	5720	7500	6170	---	9550	---	15100
5	---	---	---	5520	---	6850	---	6190	---	9560	---	15000
6	---	---	6360	5950	---	6840	---	6220	3520	11000	---	15000
7	---	---	---	5800	---	6880	---	7350	3520	11000	---	13800
8	---	---	---	---	---	6810	8960	7470	4860	11000	---	15800
9	---	---	8400	---	---	6680	---	7940	4860	12100	---	13800
10	14500	---	---	11200	---	7320	---	7960	4860	12100	10700	13800
11	21300	---	5710	---	---	---	---	9240	5540	12400	10700	13800
12	19300	7040	---	---	---	7290	---	9240	5530	12400	10700	13300
13	---	---	7090	---	---	---	---	9240	5560	11600	10700	13300
14	10200	---	6580	---	---	6690	---	9710	5550	11600	13200	16800
15	---	---	6390	---	---	---	8640	9710	5570	11600	13300	16800
16	---	6530	---	---	---	---	8800	9770	5360	13400	13200	16900
17	---	---	6510	---	---	7500	8820	9800	5370	13400	15200	16800
18	---	---	---	---	---	6510	7790	9240	6440	13600	15300	---
19	---	---	7290	---	---	---	7790	9210	6420	13600	15500	---
20	---	---	7260	---	---	7710	8640	9240	6420	13200	15400	---
21	---	6530	---	---	---	7630	8630	---	6430	13200	---	---
22	---	6570	7100	---	---	7890	8630	---	7960	13200	---	5500
23	---	6530	---	---	5930	---	8630	---	7980	13200	---	5390
24	---	---	---	5300	---	---	8630	---	7980	13900	17000	5370
25	---	---	---	---	---	---	8940	6740	7980	15900	17000	---
26	---	6870	6680	6130	6600	---	8920	6750	7940	14000	17000	---
27	---	---	7460	7660	6630	7460	9100	---	8300	16200	---	---
28	---	6360	6690	---	6900	7580	9090	---	8390	16300	15400	5990
29	---	6400	6880	---	---	7750	9110	6700	8260	16200	15400	5970
30	---	6820	---	7010	---	---	---	3740	8300	16200	15400	5980
31	---	---	---	---	---	---	---	3740	---	---	13500	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	9.0	---	---	4.0	16.0	---	26.0	31.0	---	33.0
2	---	---	---	2.0	---	5.0	25.0	---	23.5	32.5	---	30.0
3	---	---	13.5	2.0	9.0	---	22.0	---	26.5	32.0	---	---
4	---	---	10.5	6.5	12.5	6.0	27.0	19.0	---	33.0	---	31.0
5	---	---	---	10.0	---	9.0	---	16.5	---	33.5	---	32.5
6	---	---	7.5	7.0	---	14.5	---	18.5	25.5	33.5	---	30.0
7	---	---	---	7.5	---	5.5	---	25.0	28.5	34.0	---	30.5
8	---	---	---	---	---	15.5	27.0	24.5	25.5	34.0	---	31.0
9	---	---	1.0	---	---	16.0	---	23.5	27.0	33.5	---	30.0
10	20.0	---	---	.5	---	16.5	---	20.5	23.5	25.5	32.0	31.5
11	12.5	---	1.5	---	---	---	---	22.0	31.0	33.0	33.5	29.5
12	19.0	14.0	---	---	---	15.5	---	24.0	29.0	33.5	33.0	31.0
13	---	---	17.0	---	---	---	---	22.0	29.5	33.5	26.0	32.0
14	20.5	---	9.5	---	---	21.0	---	19.0	32.0	29.5	33.0	31.5
15	---	---	11.5	---	---	---	19.5	24.0	31.5	33.5	32.5	32.0
16	---	18.5	---	---	---	---	20.0	18.5	32.5	34.5	34.0	31.0
17	---	---	8.0	---	---	21.0	21.0	18.0	31.0	34.0	33.5	30.5
18	---	---	---	---	---	20.0	22.0	33.0	31.5	33.5	34.0	---
19	---	---	11.5	---	---	---	23.5	35.0	32.0	34.5	27.5	---
20	---	---	7.5	---	---	22.0	20.5	33.5	34.0	33.5	28.5	---
21	---	9.0	---	---	---	17.5	21.0	---	33.5	34.0	---	---
22	---	12.5	.5	---	---	15.5	20.0	---	31.5	29.5	---	25.0
23	---	13.5	---	---	13.0	---	20.5	---	31.0	29.0	---	27.0
24	---	---	---	.5	---	---	20.0	---	30.5	33.0	33.0	30.0
25	---	---	---	---	---	---	20.5	25.0	32.0	33.5	34.0	---
26	---	13.0	6.0	1.0	13.0	---	20.0	26.0	32.0	29.0	33.0	---
27	---	---	2.5	1.0	13.5	23.5	21.0	---	30.5	34.0	---	---
28	---	9.0	3.5	---	9.0	23.0	25.0	---	28.5	33.5	29.5	27.0
29	---	12.0	7.5	---	---	15.0	21.5	25.0	31.5	28.5	27.5	26.5
30	---	10.5	---	1.0	---	---	---	28.0	29.5	32.5	31.0	27.0
31	---	---	---	---	---	---	---	29.0	---	---	32.5	---

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8660	8490	6630	8350	6210	6760	9160	---	---	---	8340	13200
2	8740	7820	6360	7990	7010	7010	8190	---	---	---	8200	13600
3	8300	7560	6210	6730	5660	7040	7900	---	---	---	8760	14400
4	8580	7440	6470	4920	6380	9190	8220	---	---	---	9240	15100
5	7650	7330	6410	4870	6300	6840	9420	---	---	---	8060	14900
6	8730	7420	6210	5700	6540	6210	8340	---	---	---	6920	14600
7	10100	7460	7220	5360	5750	6980	8220	---	---	---	12600	13200
8	11300	7510	7720	5450	6690	6450	8570	---	---	---	14000	13900
9	12600	6820	8840	7490	7360	6620	8420	---	---	---	13800	13700
10	14200	6500	7400	11100	5530	6960	5420	8190	---	---	11900	13600
11	21500	6850	5710	6500	5110	7140	7750	9010	---	---	10700	13900
12	19400	6970	6320	5520	5230	7050	8390	9450	---	---	10500	13700
13	14800	6810	7000	5950	6800	7160	8130	8960	---	---	10800	14900
14	10000	6640	6470	6310	7640	6340	8280	9480	---	---	13100	16800
15	9830	6610	6290	6820	5020	6900	8400	9360	---	---	13000	16400
16	9740	6440	6400	6820	5430	7000	8550	9300	---	---	13200	16300
17	9830	6410	6450	---	8560	7300	8530	9410	---	---	14800	16200
18	9840	6410	6740	8660	5280	6710	7690	9020	---	---	15300	17100
19	9790	6580	7210	7970	5940	7300	7830	8660	---	15100	15500	17900
20	9800	6610	7240	7190	5310	7730	8550	10600	---	14000	15500	---
21	---	6370	7260	7050	7270	7400	8770	7860	6870	---	16000	7110
22	---	6440	7070	7470	5550	7700	8600	8610	10900	---	15700	5900
23	---	6440	6890	5520	5650	7440	8610	4910	7970	---	15800	5590
24	---	6490	6960	5350	6080	6830	8710	6460	5850	---	16600	5370
25	---	6630	6530	6850	6260	6890	---	6800	7180	---	16700	5380
26	8290	6770	6450	5060	6420	7110	---	6660	7740	14000	16800	5380
27	8400	6680	6310	5830	6680	7320	---	3310	8600	---	16000	5580
28	8840	6350	6700	6340	7140	7490	---	2970	5700	16500	15200	5990
29	9050	6290	6890	6910	---	7960	---	2830	---	16500	15300	5570
30	9070	6690	6930	7030	---	8560	---	3840	---	---	14800	3780
31	8740	---	7040	6210	---	9690	---	3760	---	11200	13300	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.5	12.5	5.0	.5	1.5	4.0	18.0	19.0		---	28.0	24.5
2	18.5	9.0	4.5	.5	2.0	4.0	19.0	11.0		---	27.5	26.0
3	17.0	13.0	7.5	.5	4.5	.5	18.5	10.5		---	26.5	24.0
4	17.0	14.0	8.0	3.0	5.5	2.0	21.0	13.0		---	24.0	25.5
5	18.5	14.5	6.5	5.0	2.5	5.5	18.5	15.0		---	25.0	26.5
6	18.5	16.5	2.0	5.5	.5	10.5	16.0	18.0		---	26.5	26.0
7	21.0	16.0	2.5	6.5	.5	4.0	20.5	19.5		---	26.0	25.0
8	18.0	13.5	3.5	1.5	.5	6.5	20.5	20.0		---	26.0	23.0
9	14.5	6.5	.5	.5	.5	8.0	21.0	20.5		---	25.0	25.0
10	15.5	7.5	.5	.0	.5	10.5	13.5	19.5		---	26.5	26.0
11	13.0	9.5	1.0	.0	.5	10.5	15.0	22.5		---	26.5	25.0
12	13.0	10.0	8.5	.5	1.5	9.5	17.5	20.0		---	27.5	27.0
13	13.5	12.0	7.5	.5	1.5	11.0	16.5	20.5		---	27.5	27.0
14	14.5	11.5	5.5	.5	1.0	11.5	18.5	22.0		---	26.5	26.5
15	13.5	12.5	6.5	1.5	2.0	8.5	21.0	24.5		---	27.0	26.5
16	12.5	11.5	7.5	2.0	1.0	9.0	20.5	23.5		---	26.0	26.5
17	15.0	10.0	6.5	.0	.5	11.5	18.5	21.5		---	26.0	26.0
18	16.5	9.5	5.5	.0	1.0	12.5	16.0	26.5		---	28.0	25.5
19	16.5	12.5	6.5	.0	2.0	13.5	15.0	24.0		28.5	21.0	25.0
20	17.5	11.0	4.0	.0	2.0	16.5	16.5	21.0		28.0	25.5	---
21	18.0	5.5	1.5	.0	2.5	15.0	14.5	23.5		27.5	27.5	20.5
22	16.0	7.0	2.0	.5	5.5	16.0	17.0	25.5		26.0	26.5	17.5
23	16.5	10.0	6.0	.5	7.5	11.0	17.5	27.0		27.0	26.5	19.0
24	17.5	7.5	7.0	.5	9.5	10.0	17.5	25.5		28.0	26.0	22.0
25	18.5	8.5	3.0	.5	8.0	10.5	17.5	25.5		28.5	26.5	23.5
26	18.5	8.5	2.0	.5	6.5	13.5	17.0	24.0		28.5	26.0	22.0
27	16.5	9.0	2.0	1.5	8.0	15.5	17.0	19.0		27.0	27.0	21.5
28	20.0	7.5	3.5	3.0	8.5	16.0	18.5	17.5		26.5	25.5	23.0
29	18.0	7.5	6.0	.5	---	15.0	21.0	20.0		27.5	25.5	22.5
30	18.0	6.0	6.0	1.0	---	16.0	21.5	21.0		28.5	24.5	22.5
31	17.0	---	6.5	1.0	---	19.0	---	21.0		27.5	24.0	---

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

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1700	1700	1600	1700	1600	1600	1700	---	---	---	1700	2000
2	1700	1700	1600	1700	1600	1600	1700	---	---	---	1700	2000
3	1700	1600	1600	1600	1500	1600	1700	---	---	---	1700	2000
4	1700	1600	1600	1500	1600	1700	1700	---	---	---	1700	2100
5	1600	1600	1600	1500	1600	1600	1700	---	---	---	1700	2100
6	1700	1600	1600	1500	1600	1600	1700	---	---	---	1600	2000
7	1800	1600	1600	1500	1500	1600	1700	---	---	---	1900	2000
8	1900	1600	1700	1500	1600	1600	1700	---	---	---	2000	2000
9	1900	1600	1700	1600	1600	1600	1700	---	---	---	2000	2000
10	2000	1600	1600	1800	1500	1600	1500	1700	---	---	1900	2000
11	2400	1600	1500	1600	1500	1600	1700	1700	---	---	1800	2000
12	2300	1600	1600	1500	1500	1600	1700	1700	---	---	1800	2000
13	2100	1600	1600	1500	1600	1600	1700	1700	---	---	1800	2100
14	1800	1600	1600	1600	1600	1600	1700	1800	---	---	2000	2200
15	1800	1600	1600	1600	1500	1600	1700	1700	---	---	2000	2100
16	1800	1600	1600	1600	1500	1600	1700	1700	---	---	2000	2100
17	1800	1600	1600	---	1700	1600	1700	1700	---	---	2100	2100
18	1800	1600	1600	1700	1500	1600	1600	1700	---	---	2100	2200
19	1800	1600	1600	1700	1500	1600	1700	1700	---	2100	2100	2200
20	1800	1600	1600	1600	1500	1700	1700	1800	---	2000	2100	---
21	---	1600	1600	1600	1600	1600	1700	1700	1600	---	2100	1600
22	---	1600	1600	1600	1500	1600	1700	1700	1800	---	2100	1500
23	---	1600	1600	1500	1500	1600	1700	1500	1700	---	2100	1500
24	---	1600	1600	1500	1600	1600	1700	1600	1500	---	2200	1500
25	---	1600	1600	1600	1600	1600	---	1600	1600	---	2200	1500
26	1700	1600	1600	1500	1600	1600	---	1600	1700	2000	2200	1500
27	1700	1600	1600	1500	1600	1600	---	1400	1700	---	2100	1500
28	1700	1600	1600	1600	1600	1600	---	1400	1500	2100	2100	1600
29	1700	1600	1600	1600	---	1700	---	1400	---	2100	2100	1500
30	1700	1600	1600	1600	---	1700	---	1400	---	---	2100	1400
31	1700	---	1600	1600	---	1800	---	1400	---	1800	2000	---

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.8	68.8	64.8	37.2	82.1	45.0	55.1	---	---	---	170.0	17.3
2	33.0	68.8	69.1	50.5	73.4	90.7	55.1	---	---	---	59.7	18.4
3	33.0	60.5	69.1	56.2	76.9	86.4	55.1	---	---	---	50.5	18.4
4	44.5	60.5	69.1	64.8	77.8	87.2	59.7	---	---	---	91.8	20.4
5	47.5	60.5	69.1	60.7	77.8	77.8	68.8	---	---	---	91.8	21.0
6	50.5	56.2	64.8	56.7	77.8	73.4	55.1	---	---	---	60.5	18.4
7	58.3	51.8	60.5	56.7	85.0	73.4	50.5	---	---	---	61.6	16.7
8	56.4	60.5	73.4	48.6	73.4	69.1	42.2	---	---	---	52.4	15.1
9	56.4	64.8	55.1	40.6	90.7	69.1	50.5	---	---	---	52.4	16.7
10	59.4	60.5	60.5	63.2	76.9	60.5	458.0	78.0	---	---	49.2	17.3
11	60.9	60.5	56.7	51.8	97.2	56.2	179.0	73.4	---	---	42.3	16.7
12	60.2	56.2	60.5	44.5	174.0	51.8	106.0	68.8	---	---	36.4	18.9
13	62.4	56.2	60.5	44.5	147.0	69.1	73.4	59.7	---	---	31.6	23.2
14	53.5	56.2	60.5	56.2	117.0	64.8	64.3	58.3	---	---	31.3	22.0
15	58.3	56.2	60.5	86.4	113.0	56.2	64.3	55.1	---	---	28.1	19.3
16	58.3	56.2	60.5	86.4	93.1	51.8	64.3	55.1	---	---	24.8	18.7
17	58.3	56.2	60.5	---	106.0	51.8	59.7	55.1	---	---	23.2	17.0
18	58.3	56.2	60.5	59.7	76.9	47.5	60.5	59.7	---	---	21.5	17.2
19	58.3	56.2	60.5	68.8	117.0	47.5	64.3	64.3	---	51.6	20.4	19.6
20	58.3	56.2	60.5	354.0	113.0	50.5	59.7	180.0	---	48.1	24.4	---
21	---	51.8	60.5	242.0	117.0	47.5	59.7	147.0	164.0	---	24.9	2640.0
22	---	56.2	60.5	194.0	105.0	51.8	64.3	252.0	219.0	---	23.2	352.0
23	---	60.5	60.5	134.0	101.0	51.8	59.7	227.0	138.0	---	23.2	166.0
24	---	60.5	56.2	101.0	104.0	51.8	64.3	86.4	109.0	---	22.6	101.0
25	---	60.5	56.2	90.7	99.4	51.8	---	64.8	95.0	---	22.0	81.0
26	68.8	60.5	56.2	76.9	95.0	51.8	---	138.0	101.0	49.7	20.2	304.0
27	68.8	60.5	56.2	81.0	95.0	51.8	---	15000.0	101.0	---	19.8	227.0
28	68.8	60.5	56.2	86.4	99.4	51.8	---	8920.0	81.0	48.2	19.8	130.0
29	68.8	64.8	56.2	82.1	---	55.1	---	1250.0	---	44.2	19.3	89.1
30	68.8	64.8	56.2	86.4	---	55.1	---	764.0	---	---	18.7	71.8
31	68.8	---	60.5	82.1	---	58.3	---	484.0	---	603.0	17.3	---

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

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2100	2100	1400	2000	1300	1500	2300	---	---	---	2000	3700
2	2200	1800	1300	1900	1600	1600	2000	---	---	---	2000	3900
3	2000	1800	1300	1500	1100	1600	1900	---	---	---	2200	4200
4	2100	1700	1400	830	1300	2300	2000	---	---	---	2300	4400
5	1800	1700	1400	820	1300	1500	2400	---	---	---	1900	4300
6	2200	1700	1300	1100	1400	1300	2000	---	---	---	1500	4200
7	2600	1700	1600	990	1100	1600	2000	---	---	---	3500	3700
8	3100	1700	1800	1000	1500	1400	2100	---	---	---	4000	4000
9	3500	1500	2200	1700	1700	1400	2100	---	---	---	3900	3900
10	4100	1400	1700	3000	1000	1500	1000	2000	---	---	3300	3900
11	6600	1500	1100	1400	900	1600	1800	2300	---	---	2900	4000
12	5900	1600	1300	1000	940	1600	2000	2400	---	---	2800	3900
13	4300	1500	1600	1200	1500	1600	2000	2200	---	---	2900	4300
14	2600	1400	1400	1300	1800	1300	2000	2400	---	---	3700	5000
15	2600	1400	1300	1500	870	1500	2100	2400	---	---	3700	4900
16	2500	1400	1400	1500	1000	1600	2100	2400	---	---	3700	4800
17	2600	1400	1400	---	2100	1700	2100	2400	---	---	4300	4800
18	2600	1400	1500	2100	960	1500	1800	2300	---	---	4500	5100
19	2500	1400	1600	1900	1200	1700	1900	2100	---	4400	4500	5400
20	2500	1400	1600	1600	970	1800	2100	2800	---	4000	4500	---
21	---	1300	1700	1600	1700	1700	2200	1900	1500	---	4700	1600
22	---	1400	1600	1700	1100	1800	2200	2100	2900	---	4600	1200
23	---	1400	1500	1000	1100	1700	2100	830	1900	---	4600	1100
24	---	1400	1500	980	1200	1500	2200	1400	1200	---	4900	990
25	---	1400	1400	1500	1300	1500	---	1500	1600	---	5000	1000
26	2000	1500	1400	880	1400	1600	---	1400	1800	4000	5000	1000
27	2100	1500	1300	1200	1500	1700	---	270	2100	---	4700	1100
28	2200	1300	1500	1300	1600	1700	---	150	1100	4900	4400	1200
29	2300	1300	1500	1500	---	1900	---	100	---	4900	4500	1100
30	2300	1500	1500	1600	---	2100	---	460	---	---	4300	430
31	2200	---	1600	1300	---	2500	---	430	---	3000	3800	---

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.2	85.0	56.7	43.7	66.7	89.1	74.5	---	---	---	200.0	32.0
2	42.8	72.9	56.2	56.4	73.4	90.7	64.8	---	---	---	70.2	35.8
3	38.9	68.0	56.2	52.6	56.4	86.4	61.6	---	---	---	65.3	38.6
4	55.0	64.3	60.5	35.9	63.2	118.0	70.2	---	---	---	124.0	42.8
5	53.5	64.3	60.5	33.2	63.2	72.9	97.2	---	---	---	103.0	43.0
6	65.3	59.7	52.6	41.6	68.0	59.7	64.8	---	---	---	56.7	38.6
7	84.2	55.1	60.5	37.4	62.4	73.4	59.4	---	---	---	113.0	31.0
8	92.1	64.3	77.8	32.4	68.8	60.5	52.2	---	---	---	105.0	30.2
9	104.0	60.7	71.3	43.1	96.4	60.5	62.4	---	---	---	102.0	32.6
10	122.0	52.9	64.3	105.0	51.3	56.7	305.0	91.8	---	---	85.5	33.7
11	168.0	56.7	41.6	45.4	58.3	56.2	190.0	99.4	---	---	68.1	33.5
12	155.0	56.2	49.1	29.7	109.0	51.8	124.0	97.2	---	---	56.7	36.9
13	128.0	52.6	60.5	35.6	138.0	69.1	86.4	77.2	---	---	50.9	47.6
14	77.2	49.1	52.9	45.6	131.0	52.6	75.6	77.8	---	---	57.9	49.9
15	84.2	49.1	49.1	81.0	65.8	52.6	79.4	77.8	---	---	51.9	45.0
16	81.0	49.1	52.9	81.0	62.1	51.8	79.4	77.8	---	---	46.0	42.8
17	84.2	49.1	52.9	---	130.0	55.1	73.7	77.8	---	---	47.6	38.9
18	84.2	49.1	56.7	73.7	49.2	44.5	68.0	80.7	---	---	46.2	39.9
19	81.0	49.1	60.5	76.9	94.0	50.5	71.8	79.4	---	108.0	43.7	48.1
20	81.0	49.1	60.5	354.0	73.3	53.5	73.7	280.0	---	96.1	52.2	---
21	---	42.1	64.3	242.0	124.0	50.5	77.2	164.0	154.0	---	55.8	2640.0
22	---	49.1	60.5	207.0	77.2	58.3	83.2	312.0	352.0	---	50.9	282.0
23	---	52.9	56.7	89.1	74.2	55.1	73.7	125.0	154.0	---	50.9	122.0
24	---	52.9	52.6	66.1	77.8	48.6	83.2	75.6	87.5	---	50.3	66.8
25	---	52.9	49.1	85.0	80.7	48.6	---	60.7	95.0	---	49.9	54.0
26	81.0	56.7	49.1	45.1	83.2	51.8	---	121.0	107.0	99.4	45.9	202.0
27	85.0	56.7	45.6	64.8	89.1	55.1	---	2890.0	125.0	---	44.4	166.0
28	89.1	49.1	52.6	70.2	99.4	55.1	---	956.0	59.4	112.0	41.6	97.2
29	93.1	52.6	52.6	76.9	---	61.6	---	89.1	---	103.0	41.3	65.3
30	93.1	60.7	52.6	86.4	---	68.0	---	251.0	---	---	38.3	22.1
31	89.1	---	60.5	66.7	---	81.0	---	149.0	---	1000.0	32.8	---

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

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6200	6090	4880	5990	4600	4960	6520	---	---	---	5990	9150
2	6250	5650	4700	5760	5120	5120	5890	---	---	---	5900	9410
3	5960	5480	4600	4940	4240	5140	5700	---	---	---	6260	9930
4	6140	5400	4770	3760	4710	6540	5910	---	---	---	6570	10400
5	5540	5330	4730	3730	4660	5010	6690	---	---	---	5810	10300
6	6240	5390	4600	4270	4820	4600	5990	---	---	---	5060	10100
7	7130	5420	5260	4050	4300	5100	5910	---	---	---	8760	9150
8	7910	5450	5580	4110	4910	4760	6140	---	---	---	9670	9610
9	8760	5000	6310	5430	5350	4870	6040	---	---	---	9540	9480
10	9600	4790	5380	7780	4160	5090	4090	5890	---	---	8310	9410
11	14600	5020	4280	4790	3890	5210	5600	6420	---	---	7520	9610
12	13200	5100	4670	4150	3960	5150	6020	6710	---	---	7390	9480
13	10200	4990	5120	4430	4990	5220	5850	6390	---	---	7590	10300
14	7070	4880	4770	4670	5530	4690	5950	6730	---	---	9090	11500
15	6960	4860	4650	5000	3830	5050	6030	6650	---	---	9020	11200
16	6900	4750	4730	5000	4090	5120	6120	6610	---	---	9150	11200
17	6960	4730	4760	---	6130	5310	6110	6680	---	---	10200	11100
18	6960	4730	4950	6200	4000	4930	5560	6430	---	---	10500	11700
19	6930	4840	5250	5750	4430	5310	5660	6200	---	10400	10600	12200
20	6940	4860	5270	5240	4020	5590	6120	7460	---	9670	10600	---
21	---	4710	5290	5150	5290	5380	6270	5680	5030	---	11000	5190
22	---	4750	5160	5420	4170	5570	6290	6160	7650	---	10800	4400
23	---	4750	5040	4150	4240	5400	6160	3760	5750	---	10800	4200
24	---	4780	5090	4040	4500	5010	6230	4760	4370	---	11400	4050
25	---	4880	4810	5020	4630	5040	---	4990	5230	---	11400	4060
26	5960	4970	4760	3850	4740	5190	---	4890	5600	9670	11500	4060
27	6030	4910	4670	4350	4910	5320	---	2710	6160	---	11000	4190
28	6310	4690	4920	4690	5210	5430	---	2490	4270	11300	10500	4460
29	6450	4650	5040	5060	---	5740	---	2400	---	11300	10500	4190
30	6460	4910	5070	5140	---	6130	---	3060	---	---	10200	3020
31	6250	---	5140	4600	---	6870	---	3010	---	7850	9220	---

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131.0	247.0	198.0	131.0	236.0	295.0	211.0	---	---	---	598.0	79.1
2	122.0	229.0	203.0	171.0	235.0	290.0	191.0	---	---	---	207.0	86.4
3	116.0	207.0	199.0	173.0	218.0	278.0	185.0	---	---	---	186.0	91.2
4	161.0	204.0	206.0	162.0	229.0	336.0	207.0	---	---	---	355.0	101.0
5	165.0	201.0	204.0	151.0	226.0	243.0	271.0	---	---	---	314.0	103.0
6	185.0	189.0	186.0	161.0	234.0	211.0	194.0	---	---	---	191.0	92.7
7	231.0	176.0	199.0	153.0	244.0	234.0	176.0	---	---	---	284.0	76.6
8	235.0	206.0	241.0	133.0	225.0	206.0	153.0	---	---	---	253.0	72.7
9	260.0	202.0	204.0	138.0	303.0	210.0	179.0	---	---	---	250.0	79.3
10	291.0	181.0	203.0	273.0	213.0	192.0	1250.0	270.0	---	---	215.0	81.3
11	371.0	190.0	162.0	155.0	252.0	183.0	590.0	277.0	---	---	177.0	80.4
12	346.0	179.0	177.0	123.0	460.0	167.0	374.0	272.0	---	---	150.0	89.6
13	303.0	175.0	194.0	132.0	458.0	226.0	253.0	224.0	---	---	133.0	114.0
14	210.0	171.0	180.0	164.0	403.0	190.0	225.0	218.0	---	---	142.0	115.0
15	226.0	171.0	176.0	270.0	290.0	177.0	228.0	215.0	---	---	127.0	103.0
16	224.0	167.0	179.0	270.0	254.0	166.0	231.0	214.0	---	---	114.0	99.8
17	226.0	166.0	180.0	---	381.0	172.0	214.0	216.0	---	---	113.0	89.9
18	226.0	166.0	187.0	218.0	205.0	146.0	210.0	226.0	---	---	108.0	91.6
19	225.0	170.0	198.0	233.0	347.0	158.0	214.0	234.0	---	256.0	103.0	109.0
20	225.0	171.0	199.0	1160.0	304.0	166.0	215.0	745.0	---	232.0	123.0	---
21	---	153.0	200.0	779.0	386.0	160.0	220.0	491.0	516.0	---	131.0	8580.0
22	---	167.0	195.0	659.0	293.0	180.0	238.0	915.0	929.0	---	120.0	1030.0
23	---	180.0	191.0	370.0	286.0	175.0	216.0	569.0	466.0	---	120.0	465.0
24	---	181.0	179.0	273.0	292.0	162.0	235.0	257.0	319.0	---	117.0	273.0
25	---	184.0	169.0	285.0	288.0	163.0	---	202.0	311.0	---	114.0	219.0
26	241.0	188.0	167.0	198.0	282.0	168.0	---	422.0	333.0	240.0	106.0	822.0
27	244.0	186.0	164.0	235.0	292.0	172.0	---	29000.0	366.0	---	104.0	634.0
28	256.0	177.0	173.0	253.0	324.0	176.0	---	15900.0	231.0	259.0	99.2	361.0
29	261.0	188.0	177.0	260.0	---	186.0	---	2140.0	---	238.0	96.4	249.0
30	262.0	199.0	178.0	278.0	---	199.0	---	1670.0	---	---	90.9	155.0
31	253.0	---	194.0	236.0	---	223.0	---	1040.0	---	2630.0	79.7	---

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.--19 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)
May 27	2345	*8,220	233	*8.26	2.518	Sept. 20	1215	2,160	61.2	5.28	1.609
June 5	0800	2,480	70.2	5.55	1.692						

Minimum daily discharge, 3.1 ft^3/s (0.087 m^3/s) Sept. 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	8.1	15	15	8.4	19	22	12	11	91	18	37	3.5
2	7.5	15	16	11	17	21	12	36	151	18	13	3.7
3	7.5	14	16	13	19	20	12	168	119	19	11	3.7
4	10	14	16	16	18	19	13	59	72	18	20	3.9
5	11	14	16	15	18	18	15	34	1030	17	20	4.0
6	11	13	15	14	18	17	12	27	622	16	14	3.7
7	12	12	14	14	21	17	11	27	233	15	12	3.4
8	11	14	16	12	17	16	9.5	22	164	15	10	3.1
9	11	15	12	9.7	21	16	11	18	119	14	10	3.4
10	11	14	14	13	19	14	113	17	112	13	9.9	3.5
11	9.7	14	14	12	24	13	39	16	93	12	9.0	3.4
12	10	13	14	11	43	12	23	15	77	11	7.8	3.8
13	11	13	14	11	34	16	16	13	209	11	6.8	4.4
14	11	13	14	13	27	15	14	12	145	11	6.1	4.0
15	12	13	14	20	26	13	14	12	87	11	5.5	3.7
16	12	13	14	20	23	12	14	12	65	10	4.9	3.6
17	12	13	14	8.1	23	12	13	12	65	9.9	4.4	3.3
18	12	13	14	13	19	11	14	13	63	9.3	4.1	3.2
19	12	13	14	15	29	11	14	14	57	9.4	3.9	3.6
20	12	13	14	82	28	11	13	37	40	9.2	4.6	995
21	13	12	14	56	27	11	13	32	38	8.8	4.7	612
22	30	13	14	45	26	12	14	55	45	9.2	4.4	87
23	38	14	14	33	25	12	13	56	30	9.5	4.4	41
24	24	14	13	25	24	12	14	20	27	9.7	4.1	25
25	19	14	13	21	23	12	13	15	22	9.4	4.0	20
26	15	14	13	19	22	12	12	32	22	9.5	3.7	75
27	15	14	13	20	22	12	12	3960	22	9.4	3.8	56
28	15	14	13	20	23	12	12	2360	20	8.8	3.8	30
29	15	15	13	19	---	12	12	330	19	8.1	3.7	22
30	15	15	13	20	---	12	11	202	19	7.5	3.6	19
31	15	---	14	19	---	12	---	128	---	124	3.5	---
TOTAL	427.8	410	437	628.2	657	437	520.5	7765	3878	480.7	257.7	2050.9
MEAN	13.8	13.7	14.1	20.3	23.5	14.1	17.4	250	129	15.5	8.31	68.4
MAX	38	15	16	82	43	22	113	3960	1030	124	37	995
MIN	7.5	12	12	8.1	17	11	9.5	11	19	7.5	3.5	3.1
AC-FT	849	813	867	1250	1300	867	1030	15400	7690	953	511	4070

CAL YR 1977 TOTAL 29214.9 MEAN 80.0 MAX 5430 MIN 6.1 AC-FT 57950
WTR YR 1978 TOTAL 17949.8 MEAN 49.2 MAX 3960 MIN 3.1 AC-FT 35600

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 tables, and loads for those parameters were caluclated 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 months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 82,000 micromhos Sept. 19; minimum daily, 4,820 micromhos May 29.
WATER TEMPERATURE: Maximum, 36.5°C Sept. 2,3; minimum daily, 0.0°C Jan. 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	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											
10...	1730	11	29200	7.6	2700	2600	720	210	6400	84	54
12...	1230	10	32800	7.6	2800	2700	730	240	7500	85	62
14...	1800	12	29200	7.6	2600	2500	720	200	6600	84	56
NOV											
12...	1245	13	22800	7.8	2200	2100	580	160	4700	82	44
22...	1700	13	23200	7.8	1500	1400	300	190	4800	87	53
29...	1745	16	21400	7.9	1700	--	390	170	4400	85	47
DEC											
06...	1500	18	20100	7.8	2400	2300	660	190	4000	78	35
15...	1800	14	22000	7.8	2500	2300	670	190	4500	80	40
26...	1700	13	18900	7.8	2400	2300	670	180	3700	77	33
JAN											
03...	1630	17	19400	7.8	2200	2000	600	160	3700	79	35
10...	1230	17	53900	7.5	3400	3300	800	350	15000	90	111
24...	1715	22	17000	7.8	2000	1900	560	150	3300	78	32
MAR											
05...	1215	18	24000	8.0	2500	2200	630	180	5300	83	48
14...	1530	16	19800	7.7	1900	1800	610	81	4200	83	42
27...	1730	13	22900	7.6	2300	2300	640	180	4800	82	43
APR											
04...	1715	14	23600	7.5	2400	2300	660	180	5100	82	45
15...	1850	13	28600	7.5	2600	2500	680	220	6200	84	53
25...	1730	12	29600	7.6	2700	2600	710	230	6800	84	57
MAY											
05...	1600	32	17400	7.7	1900	1800	540	140	3500	80	35
15...	1000	13	32100	7.5	--	--	--	--	--	--	--
25...	1840	13	16000	7.6	2000	1900	560	140	3200	78	31
JUN											
06...	1845	416	6460	7.6	1500	1400	490	64	860	56	9.7
15...	1815	134	12600	7.6	2100	2000	650	120	2300	70	22
25...	1810	116	22500	7.5	2600	2500	740	180	4700	80	40
JUL											
03...	1810	19	29000	7.4	2800	2700	780	210	6000	82	49
15...	1810	9.6	40700	7.4	3000	2900	810	230	10000	88	80
25...	1815	9.6	48900	7.7	3500	3400	890	310	11000	87	81
AUG											
10...	1520	8.1	41000	7.7	3100	3000	800	260	9000	86	71
15...	1810	5.3	47800	8.0	3400	3300	870	290	12000	88	90
25...	1540	4.1	70500	7.1	4200	4100	1000	410	20000	91	135
SEP											
05...	1720	4.1	63600	7.3	3600	3600	880	340	17000	91	123
15...	1710	3.7	74900	7.6	4100	4000	950	410	21000	92	143
24...	1540	24	15500	7.4	1600	1500	480	94	3200	81	35

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
OCT										
10...	27	97	0	80	3.9	2000	9800	19700	26.8	585
12...	28	110	0	90	4.4	2000	12000	23400	31.8	632
14...	26	94	0	77	3.8	1900	11000	20000	27.2	648
NOV										
12...	19	120	0	98	3.0	1800	7700	14900	20.3	523
22...	19	111	0	91	2.8	1700	7700	15600	21.2	548
29...	17	--	0	--	--	1700	6900	13700	18.6	592
DEC										
06...	18	150	0	120	3.8	1700	6700	13400	18.2	651
15...	20	150	0	120	3.8	1700	7500	14500	19.7	548
26...	17	140	0	110	3.6	1800	6200	12500	17.0	439
JAN										
03...	11	170	0	140	4.3	1600	6100	12800	17.4	588
10...	47	180	0	150	9.1	2100	24000	38900	52.9	1790
24...	14	160	0	130	4.1	1500	5500	10900	14.8	647
MAR										
05...	23	130	0	110	2.1	1600	8200	16500	22.4	802
14...	20	130	0	110	4.2	1800	6300	13300	18.1	575
27...	23	110	0	90	4.4	1500	7300	15300	20.8	537
APR										
04...	34	94	0	81	5.0	1700	7900	15800	21.5	597
15...	28	120	0	98	6.1	1800	9900	19600	26.7	688
25...	44	100	0	82	4.0	1300	10000	20400	27.7	661
MAY										
05...	16	120	0	98	3.8	1400	5600	--	--	--
15...	--	130	0	110	6.6	1800	10000	22500	30.6	790
25...	15	110	0	90	4.4	1600	4900	11000	15.0	386
JUN										
06...	9.2	140	0	110	5.6	1000	1500	6760	9.19	7590
15...	15	140	0	110	5.6	1800	3600	7450	10.1	2700
25...	25	100	0	82	5.1	2000	7600	15100	20.5	4730
JUL										
03...	35	92	0	75	5.9	2000	11000	20300	27.6	1040
15...	35	90	0	74	5.7	2200	15000	27600	37.5	715
25...	46	72	0	59	2.3	2300	20000	35700	46.6	925
AUG										
10...	35	75	0	62	2.4	2000	15000	29100	39.6	636
15...	50	66	0	54	1.1	--	18000	34900	47.5	499
25...	71	59	0	48	7.5	2800	32000	56600	77.0	627
SEP										
05...	65	46	0	38	3.7	2500	27000	48200	65.6	534
15...	79	58	0	48	2.3	2800	34000	59500	80.9	594
24...	17	100	0	82	6.4	1500	4800	9970	13.6	646

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	22000	---	---	20200	26700	---	5140	25100	---	59000
2	---	---	---	29600	---	19500	25100	---	5110	28900	---	60100
3	---	---	21200	18100	16800	---	24400	---	5080	29000	---	63500
4	---	---	20800	14200	17200	19500	23600	17500	---	29000	---	63300
5	---	---	---	17800	---	24000	---	17400	---	29000	---	63600
6	---	---	20100	---	---	18700	---	17500	6460	32100	---	63300
7	---	---	---	16900	---	20300	---	21400	6450	32000	---	61900
8	---	---	---	---	---	20000	29700	21200	10000	31900	---	62200
9	---	---	49400	---	---	20400	---	26200	9970	36300	---	62100
10	29200	---	---	51200	---	23000	---	26100	10100	36300	41000	62000
11	31600	---	20200	---	---	---	---	28700	12000	41400	40800	61800
12	32800	22800	---	---	---	22600	---	28700	12000	40400	40700	56000
13	---	---	21400	---	---	---	---	28700	7530	38700	40900	55900
14	29200	---	21200	---	---	19800	---	32300	7520	38700	47700	75200
15	---	---	22000	---	---	---	28600	32100	12600	40700	47800	74900
16	---	22000	---	---	---	---	28800	34000	12700	45600	47800	75200
17	---	---	21100	---	---	23300	26800	34400	12700	45800	60100	75000
18	---	---	---	---	---	23500	26100	31800	15300	47200	60100	---
19	---	---	20600	---	---	---	26100	32200	15300	47200	60200	---
20	---	---	20400	---	---	22900	29300	31400	15200	48000	60100	---
21	---	22300	---	---	---	24200	29600	---	15200	47600	---	---
22	---	23200	23500	---	---	24900	29600	---	22300	47800	---	15600
23	---	21000	---	---	18300	---	29400	---	22300	47900	---	15500
24	---	---	---	17000	---	---	29300	---	22400	48800	70700	15500
25	---	---	---	---	---	---	29600	16000	22500	48900	70500	---
26	---	23400	18900	15000	19800	---	29600	16000	22300	48800	70800	---
27	---	---	23000	23200	20800	22900	30500	---	23200	57200	---	---
28	---	20900	22000	---	20400	24000	30400	---	23300	57400	65200	19600
29	---	21400	22000	---	---	24200	30300	4820	25000	57500	65400	19700
30	---	22600	---	22300	---	---	---	7020	25000	57600	65200	19700
31	---	---	---	---	---	---	---	7000	---	---	60000	---
MEAN	30700	22200	22900	22500	18900	22000	28200	23300	14500	42100	56400	52200

WTR YR 1978 MEAN 31200 MAX 75200 MIN 4820

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	9.0	---	---	3.5	25.0	---	26.0	31.0	---	33.0
2	---	---	---	3.0	---	6.0	24.0	---	23.5	32.5	---	30.0
3	---	---	12.5	5.5	9.5	---	22.0	---	26.5	32.0	---	33.0
4	---	---	11.5	9.5	---	8.0	27.5	19.0	---	33.0	---	31.0
5	---	---	---	10.0	---	9.0	---	16.5	---	33.5	---	32.5
6	---	---	7.0	5.0	---	16.0	---	18.5	25.5	33.5	---	30.0
7	---	---	---	5.5	---	6.0	---	24.0	28.5	34.0	---	30.5
8	---	---	---	---	---	16.0	26.5	24.5	25.5	34.0	---	31.0
9	---	---	.0	---	---	17.0	---	23.5	27.0	33.5	---	30.0
10	21.5	---	---	.0	---	15.5	---	21.5	23.5	25.0	32.0	31.0
11	13.0	---	5.5	---	---	---	---	21.5	31.0	33.0	33.5	29.5
12	18.0	13.0	---	---	---	14.5	---	24.0	28.0	33.5	33.0	31.5
13	---	---	14.5	---	---	---	---	24.0	29.5	34.0	28.0	32.0
14	21.0	---	9.0	---	---	20.5	---	19.0	32.0	29.5	33.0	31.5
15	---	---	11.0	---	---	---	19.0	24.0	31.5	33.5	33.0	32.0
16	---	18.5	---	---	---	---	20.0	18.5	32.5	34.5	33.5	31.0
17	---	---	8.0	---	---	20.5	21.0	18.0	31.0	34.0	33.5	30.5
18	---	---	---	---	---	20.5	23.0	35.0	31.5	33.5	34.0	---
19	---	---	11.0	---	---	---	22.0	35.0	32.0	34.5	27.5	---
20	---	---	7.5	---	---	23.5	20.5	33.5	34.0	33.5	28.5	---
21	---	8.0	---	---	---	16.5	21.0	---	33.5	34.0	---	---
22	---	12.5	5.5	---	---	16.5	20.0	---	31.5	29.5	---	25.0
23	---	12.5	---	---	16.5	---	20.5	---	33.0	29.0	---	27.0
24	---	---	---	1.0	---	---	20.0	---	32.0	33.0	32.5	30.0
25	---	---	---	---	---	---	22.5	25.0	32.0	33.5	34.5	---
26	---	12.0	6.0	4.0	12.0	---	22.0	26.0	33.5	29.0	32.0	---
27	---	---	2.0	4.5	14.0	24.0	21.0	---	32.0	34.0	---	---
28	---	8.5	4.0	---	9.0	23.5	25.0	---	31.5	33.5	29.5	27.0
29	---	11.0	7.5	---	---	15.5	21.5	26.0	31.5	28.5	27.0	27.0
30	---	10.5	---	3.0	---	---	---	28.0	29.5	32.5	31.0	26.5
31	---	---	---	---	---	---	---	29.5	---	---	32.5	---
MEAN	18.5	12.0	7.5	4.5	12.0	15.5	22.0	24.5	30.0	32.5	31.5	30.0

WTR YR 1978 MEAN 23.0 MAX 35.0 MIN .0

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26100	25400	21900	27100		---	26800	25300	---	---	55700	55900
2	25200	24600	21400	25800		---	25200	24900	---	---	54400	51400
3	27200	24100	20900	22200		---	24400	22800	---	---	50200	64200
4	34400	23800	20600	16900		---	23800	18900	---	---	42800	58200
5	29100	24000	20200	16600		---	22000	15100	---	---	42100	52700
6	28800	23800	19700	19000		---	24000	17800	---	---	43900	56800
7	30000	23800	19700	19400		---	26900	20700	---	---	42500	56700
8	29700	23500	19000	21000		---	30800	20600	---	---	40300	59300
9	30000	22600	---	30800		---	24800	21900	---	---	37200	55400
10	29500	21600	22400	41100		---	---	24700	10200	---	36700	56100
11	31000	22000	20000	---		---	---	28800	11800	---	36200	57200
12	32700	22600	20000	---		---	---	29100	11800	---	34700	50400
13	30600	22700	21000	---		---	18300	28000	7740	---	41300	49000
14	28700	22300	20800	---		---	32000	31900	---	---	45800	69200
15	29100	22300	21600	---		---	28900	33100	---	---	42700	67100
16	28700	21300	21400	---		---	29500	35200	---	---	42100	69800
17	29100	21300	20800	---		---	27600	33900	12700	---	53200	74200
18	29000	21800	21000	---		---	26200	31400	15300	---	51700	78300
19	29100	22300	20400	---		---	28900	32400	15200	48100	61700	82000
20	28900	22200	20500	---		---	28400	30600	15200	47100	57200	53200
21	---	21900	---	---		---	38600	26200	11800	48300	62500	29200
22	---	22500	22500	---		17100	28900	24600	22300	48900	64800	10200
23	---	21000	22000	---		14200	26700	12800	22400	47600	66200	13800
24	---	21500	21300	---		16400	32200	11000	22200	49400	67700	12300
25	---	22300	---	---		19900	29300	14300	22700	49600	66600	12700
26	25400	23300	---	---		21500	23800	17100	22000	48200	66600	12100
27	25800	22400	---	---		22700	24100	---	23300	53500	65400	14600
28	25500	20900	23200	---		25000	22800	---	23400	59400	60500	17000
29	25300	21100	21400	---		24700	27300	---	---	55500	62400	12800
30	25500	22000	22000	---		26100	29600	---	---	58900	62000	15900
31	25800	---	22200	---		25700	---	---	---	61100	55400	---
MEAN	28500	22600	21100	24000		21300	27100	24400	16900	52000	52000	45600

WTR YR 1978 MEAN 31500 MAX 82000 MIN 7740

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.0	6.5	1.0	---	4.5	18.0	23.0	27.0	---	30.5	---
2	17.5	9.5	5.5	1.5	---	4.5	18.5	18.5	24.5	---	30.0	36.5
3	18.0	13.5	8.5	2.0	---	1.0	18.0	14.5	25.0	---	30.5	36.5
4	19.0	14.0	9.0	5.0	---	3.0	22.0	17.0	24.0	---	34.5	36.0
5	20.0	15.0	7.5	7.5	---	6.5	24.5	17.5	22.5	---	34.5	35.5
6	20.0	17.0	3.0	6.5	---	11.0	24.0	18.5	23.0	---	34.0	35.5
7	22.0	16.5	4.0	8.5	---	4.0	27.0	22.5	27.0	---	33.5	35.5
8	19.5	14.0	4.5	3.5	---	7.0	27.0	23.5	27.5	---	33.0	35.5
9	16.0	7.5	1.0	1.5	---	8.5	27.5	24.5	28.0	---	33.0	35.5
10	17.0	8.5	1.5	.5	---	10.5	19.5	22.5	27.5	---	26.5	36.0
11	14.5	10.5	3.5	1.0	---	11.0	21.5	24.5	29.0	---	25.0	35.5
12	14.0	11.0	10.0	1.5	---	10.0	24.0	22.5	27.5	---	25.0	34.0
13	15.0	13.0	9.0	2.5	4.5	11.0	23.5	23.5	27.0	---	25.5	35.5
14	16.0	12.0	7.0	3.5	2.5	11.5	24.5	25.0	29.0	---	26.0	35.5
15	14.5	13.5	8.0	---	3.5	8.5	26.0	27.0	28.0	---	25.0	35.5
16	13.5	12.5	8.5	---	2.0	9.5	26.5	24.5	28.5	---	25.5	35.5
17	16.5	11.0	7.0	---	1.5	10.5	25.5	23.0	28.5	---	26.0	36.0
18	17.0	10.5	6.5	---	2.5	12.5	23.0	28.0	28.5	---	25.5	35.0
19	17.5	13.5	7.5	---	4.0	12.5	23.0	27.0	28.0	33.5	27.0	35.5
20	18.0	12.0	5.0	---	3.5	14.0	23.0	22.5	29.0	32.0	30.5	---
21	18.5	6.0	2.5	---	4.0	16.0	22.5	23.5	30.0	33.0	31.0	---
22	17.0	8.0	3.5	---	6.5	16.0	24.5	26.0	29.5	31.5	33.5	---
23	18.5	11.0	7.0	---	8.5	11.0	24.5	28.0	30.5	32.0	35.0	---
24	19.0	8.5	8.0	---	10.5	10.0	24.0	27.5	30.5	32.0	34.5	---
25	19.5	9.0	4.0	---	8.5	11.0	24.0	27.5	31.0	32.5	34.5	---
26	19.5	9.5	3.0	---	7.5	13.5	24.0	25.0	31.0	32.0	34.5	---
27	17.0	9.5	3.0	---	9.0	15.5	24.0	19.0	31.5	30.5	35.5	---
28	20.5	8.0	4.5	---	8.5	16.0	25.0	18.0	31.0	30.5	---	---
29	18.5	8.5	7.0	---	---	14.5	26.5	24.0	---	32.0	---	---
30	19.0	7.0	7.0	---	---	16.5	25.5	26.5	---	31.5	---	---
31	17.5	---	8.0	---	---	18.5	---	27.5	---	31.0	---	---
MEAN	17.5	11.0	6.0	3.5	5.5	10.5	23.5	23.5	28.0	32.0	30.5	35.5

WTR YR 1978 MEAN 18.5 MAX 36.5 MIN .5

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

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1800	1800	1700	1800		---	1800	1700	---	---	2400	2400
2	1700	1700	1700	1800		---	1700	1700	---	---	2400	2300
3	1800	1700	1700	1700		---	1700	1700	---	---	2300	2600
4	1900	1700	1700	1600		---	1700	1600	---	---	2100	2400
5	1800	1700	1600	1600		---	1700	1500	---	---	2100	2300
6	1800	1700	1600	1600		---	1700	1600	---	---	2100	2400
7	1800	1700	1600	1600		---	1800	1700	---	---	2100	2400
8	1800	1700	1600	1700		---	1900	1700	---	---	2100	2500
9	1800	1700	---	1900		---	1700	1700	---	---	2000	2400
10	1800	1700	1700	2100		---	---	1700	1400	---	2000	2400
11	1900	1700	1600	---		---	---	1800	1500	---	2000	2400
12	1900	1700	1600	---		---	---	1800	1500	---	1900	2300
13	1900	1700	1700	---		---	1600	1800	1400	---	2100	2200
14	1800	1700	1700	---		---	1900	1900	---	---	2200	2700
15	1800	1700	1700	---		---	1800	1900	---	---	2100	2600
16	1800	1700	1700	---		---	1800	2000	---	---	2100	2700
17	1800	1700	1700	---		---	1800	1900	1500	---	2300	2800
18	1800	1700	1700	---		---	1800	1900	1500	---	2300	2900
19	1800	1700	1600	---		---	1800	1900	1500	2200	2500	2900
20	1800	1700	1600	---		---	1800	1900	1500	2200	2400	2300
21	---	1700	---	---		---	2000	1800	1500	2200	2500	1800
22	---	1700	1700	---		1600	1800	1700	1700	2200	2600	1400
23	---	1700	1700	---		1500	1800	1500	1700	2200	2600	1500
24	---	1700	1700	---		1600	1900	1500	1700	2300	2600	1500
25	---	1700	---	---		1600	1800	1500	1700	2300	2600	1500
26	1800	1700	---	---		1700	1700	1600	1700	2200	2600	1500
27	1800	1700	---	---		1700	1700	---	1700	2300	2600	1500
28	1800	1700	1700	---		1700	1700	---	1700	2500	2500	1600
29	1700	1700	1700	---		1700	1800	---	---	2400	2500	1500
30	1800	1700	1700	---		1800	1800	---	---	2500	2500	1600
31	1800	---	1700	---		1800	---	---	---	2500	2400	---
MEAN	1800	1700	1700	1700		1700	1800	1700	1600	2300	2300	2200

WTR YR 1978 MEAN 1900 MAX 2900 MIN 1400

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39.4	72.9	66.8	40.8		---	58.3	50.5	---	---	240.0	22.7
2	34.4	68.8	73.4	53.5		---	55.1	165.0	---	---	84.2	23.0
3	36.4	64.3	73.4	59.7		---	55.1	771.0	---	---	68.3	26.0
4	51.3	64.3	73.4	69.1		---	59.7	255.0	---	---	113.0	25.3
5	53.5	64.3	69.1	64.8		---	68.8	138.0	---	---	113.0	24.8
6	53.5	59.7	64.8	60.5		---	55.1	117.0	---	---	79.4	24.0
7	58.3	55.1	60.5	60.5		---	53.5	124.0	---	---	68.0	22.0
8	53.5	64.3	69.1	55.1		---	48.7	101.0	---	---	56.7	20.9
9	53.5	68.8	---	49.8		---	50.5	82.6	---	---	54.0	22.0
10	53.5	64.3	64.3	73.7		---	---	78.0	423.0	---	53.5	22.7
11	49.8	64.3	60.5	---		---	---	77.8	377.0	---	48.6	22.0
12	51.3	59.7	60.5	---		---	---	72.9	312.0	---	40.0	23.6
13	56.4	59.7	64.3	---		---	69.1	63.2	790.0	---	38.6	26.1
14	53.5	59.7	64.3	---		---	71.8	61.6	---	---	36.2	29.2
15	58.3	59.7	64.3	---		---	68.0	61.6	---	---	31.2	26.0
16	58.3	59.7	64.3	---		---	68.0	64.8	---	---	27.8	26.2
17	58.3	59.7	64.3	---		---	63.2	61.6	263.0	---	27.3	24.9
18	58.3	59.7	64.3	---		---	68.0	66.7	255.0	---	25.5	25.1
19	58.3	59.7	60.5	---		---	68.0	71.8	231.0	55.8	26.3	28.2
20	58.3	59.7	60.5	---		---	63.2	190.0	162.0	54.6	29.8	6180.0
21	---	55.1	---	---		---	70.2	156.0	154.0	52.3	31.7	2970.0
22	---	59.7	64.3	---		51.8	68.0	252.0	207.0	54.6	30.9	329.0
23	---	64.3	64.3	---		48.6	63.2	227.0	138.0	56.4	30.9	166.0
24	---	64.3	59.7	---		51.8	71.8	81.0	124.0	60.2	28.8	101.0
25	---	64.3	---	---		51.8	63.2	60.7	101.0	58.4	28.1	81.0
26	72.9	64.3	---	---		55.1	55.1	138.0	101.0	56.4	26.0	304.0
27	72.9	64.3	---	---		55.1	55.1	---	101.0	58.4	26.7	227.0
28	72.9	64.3	59.7	---		55.1	55.1	---	91.8	59.4	25.6	130.0
29	68.8	68.8	59.7	---		55.1	58.3	---	---	52.5	25.0	89.1
30	72.9	68.8	59.7	---		58.3	53.5	---	---	50.6	24.3	82.1
31	72.9	---	64.3	---		58.3	---	---	---	837.0	22.7	---
MEAN	57.0	62.9	64.5	58.7		54.1	61.4	138.0	239.0	116.0	50.4	371.0

WTR YR 1978 MEAN 120.0 MAX 6180.0 MIN 20.9

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

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

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9300	8900	7300	9700		---	9600	8900	---	---	23000	24000
2	8800	8500	7000	9100		---	8800	8700	---	---	23000	21000
3	9400	8300	6800	7400		---	8400	7700	---	---	21000	27000
4	13000	8200	6600	4900		---	8200	5800	---	---	17000	25000
5	11000	8300	6400	4700		---	7300	4000	---	---	17000	22000
6	11000	8200	6200	5900		---	8300	5300	---	---	18000	24000
7	11000	8200	6200	6100		---	9600	6700	---	---	17000	24000
8	11000	8000	5900	6800		---	12000	6600	---	---	16000	25000
9	11000	7600	---	12000		---	8600	7300	---	---	15000	23000
10	11000	7100	7500	16000		---	---	8600	1700	---	14000	24000
11	12000	7300	6300	---		---	---	11000	2400	---	14000	24000
12	12000	7600	6300	---		---	---	11000	2400	---	13000	21000
13	11000	7600	6800	---		---	5500	10000	480	---	17000	20000
14	11000	7400	6700	---		---	12000	12000	---	---	19000	30000
15	11000	7400	7100	---		---	11000	13000	---	---	17000	29000
16	11000	7000	7000	---		---	11000	14000	---	---	17000	30000
17	11000	7000	6700	---		---	10000	13000	2900	---	22000	32000
18	11000	7200	6800	---		---	9300	12000	4100	---	22000	34000
19	11000	7400	6500	---		---	11000	12000	4000	20000	26000	36000
20	11000	7400	6600	---		---	10000	11000	4000	19000	24000	22000
21	---	7300	---	---		---	15000	9300	2400	20000	27000	11000
22	---	7500	7500	---		5000	11000	8500	7400	20000	28000	1700
23	---	6800	7300	---		3600	9500	2900	7500	20000	28000	3400
24	---	7100	7000	---		4600	12000	2000	7400	20000	29000	2700
25	---	7400	---	---		6300	11000	3600	7600	21000	29000	2900
26	8900	7900	---	---		7100	8200	5000	7300	20000	29000	2600
27	9100	7500	---	---		7600	8300	---	7900	22000	28000	3800
28	9000	6800	7900	---		8700	7700	---	8000	25000	26000	4900
29	8900	6900	7000	---		8600	9800	---	---	23000	27000	2900
30	9000	7300	7300	---		9300	11000	---	---	25000	26000	4400
31	9100	---	7400	---		9100	---	---	---	26000	23000	---
MEAN	10000	7600	6900	8300		7000	9800	8500	4800	22000	22000	19000

WTR YR 1978 MEAN 12000 MAX 36000 MIN 480

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203.0	360.0	296.0	220.0		---	311.0	264.0	---	---	2300.0	227.0
2	178.0	344.0	302.0	270.0		---	285.0	846.0	---	---	807.0	210.0
3	198.0	314.0	294.0	260.0		---	272.0	3490.0	---	---	624.0	270.0
4	351.0	310.0	285.0	212.0		---	288.0	924.0	---	---	918.0	263.0
5	327.0	314.0	276.0	190.0		---	296.0	367.0	---	---	918.0	238.0
6	327.0	288.0	251.0	223.0		---	269.0	386.0	---	---	680.0	240.0
7	356.0	266.0	234.0	231.0		---	285.0	488.0	---	---	551.0	220.0
8	327.0	302.0	255.0	220.0		---	308.0	392.0	---	---	432.0	209.0
9	327.0	308.0	---	314.0		---	255.0	355.0	---	---	405.0	211.0
10	327.0	268.0	283.0	562.0		---	---	395.0	514.0	---	374.0	227.0
11	314.0	276.0	238.0	---		---	---	475.0	603.0	---	340.0	220.0
12	324.0	267.0	238.0	---		---	---	445.0	499.0	---	274.0	215.0
13	327.0	267.0	257.0	---		---	238.0	351.0	271.0	---	312.0	238.0
14	327.0	260.0	253.0	---		---	454.0	389.0	---	---	313.0	324.0
15	356.0	260.0	268.0	---		---	416.0	421.0	---	---	252.0	290.0
16	356.0	246.0	265.0	---		---	416.0	454.0	---	---	225.0	292.0
17	356.0	246.0	253.0	---		---	351.0	421.0	509.0	---	261.0	285.0
18	356.0	253.0	257.0	---		---	352.0	421.0	697.0	---	244.0	294.0
19	356.0	260.0	246.0	---		---	416.0	454.0	616.0	508.0	274.0	350.0
20	356.0	260.0	249.0	---		---	351.0	1100.0	432.0	472.0	298.0	59100.0
21	---	237.0	---	---		---	526.0	804.0	246.0	475.0	343.0	18200.0
22	---	263.0	283.0	---		162.0	416.0	1260.0	899.0	497.0	333.0	399.0
23	---	257.0	276.0	---		117.0	333.0	438.0	607.0	513.0	333.0	376.0
24	---	268.0	246.0	---		149.0	454.0	108.0	539.0	524.0	321.0	182.0
25	---	280.0	---	---		204.0	386.0	146.0	451.0	533.0	313.0	157.0
26	360.0	299.0	---	---		230.0	266.0	432.0	434.0	513.0	290.0	526.0
27	369.0	283.0	---	---		246.0	269.0	---	469.0	558.0	287.0	575.0
28	364.0	257.0	277.0	---		282.0	249.0	---	432.0	594.0	267.0	397.0
29	360.0	279.0	246.0	---		279.0	318.0	---	---	503.0	270.0	172.0
30	364.0	296.0	256.0	---		301.0	327.0	---	---	506.0	283.0	226.0
31	369.0	---	280.0	---		295.0	---	---	---	8700.0	217.0	---
MEAN	328.0	280.0	264.0	270.0		227.0	337.0	616.0	514.0	1150.0	453.0	2840.0

WTR YR 1978 MEAN 719.0 MAX 59100.0 MIN 108.0

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

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

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18100	17600	14700	18900		---	18700	17500	---	---	41900	42000
2	17400	16900	14300	17900		---	17400	17100	---	---	40800	38400
3	19000	16500	13900	15000		---	16700	15500	---	---	37500	48700
4	24800	16300	13700	10700		---	16300	12300	---	---	31500	43900
5	20500	16400	13400	10500		---	14800	9280	---	---	31000	39500
6	20300	16300	13000	12400		---	16400	11400	---	---	32400	42800
7	21200	16300	13000	12700		---	18800	13800	---	---	31300	42700
8	21000	16000	12400	14000		---	21900	13700	---	---	29500	44800
9	21200	15300	---	21900		---	17100	14700	---	---	27000	41600
10	20800	14500	15100	30200		---	---	17000	5340	---	26600	42200
11	22000	14800	13200	---		---	---	20300	6630	---	26200	43100
12	23400	15300	13200	---		---	---	20500	6630	---	25000	37600
13	21700	15400	14000	---		---	11800	19600	3370	---	30300	36500
14	20200	15100	13900	---		---	22900	22800	---	---	33900	52700
15	20500	15100	14500	---		---	20400	23700	---	---	31400	51000
16	20200	14300	14300	---		---	20800	25400	---	---	31000	53200
17	20500	14300	13900	---		---	19300	24400	7350	---	39900	56700
18	20400	14700	14000	---		---	18200	22400	9440	---	38700	60000
19	20500	15100	13500	---		---	20400	23200	9360	35800	46700	63000
20	20400	15000	13600	---		---	20000	21700	9360	35000	43100	39900
21	---	14700	---	---		---	28200	18200	6630	35900	47300	20600
22	---	15200	15200	---		10900	20400	16900	15100	36400	49200	5340
23	---	14000	14800	---		8560	18600	7430	15100	35400	50300	8230
24	---	14400	14300	---		10300	23000	5990	15000	36800	51500	7030
25	---	15100	---	---		13100	20700	8640	15400	37000	50600	7350
26	17600	15900	---	---		14400	16300	10900	14800	35900	50600	6870
27	17900	15100	---	---		15400	16500	---	15900	40100	49700	8880
28	17600	13900	15800	---		17200	15500	---	15900	44900	45700	10800
29	17500	14100	14300	---		17000	19100	---	---	41700	47300	7430
30	17600	14800	14800	---		18100	20900	---	---	44500	46900	9920
31	17900	---	15000	---		17800	---	---	---	46200	41600	---
MEAN	20000	15300	14100	16400		14300	18900	16700	10700	38900	38900	33800

WTR YR 1978 MEAN 22400 MAX 63000 MIN 3370

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	396.0	713.0	595.0	429.0		---	606.0	520.0	---	---	4190.0	397.0
2	352.0	684.0	618.0	532.0		---	564.0	1660.0	---	---	1430.0	384.0
3	385.0	624.0	600.0	526.0		---	541.0	7030.0	---	---	1110.0	487.0
4	670.0	616.0	592.0	462.0		---	572.0	1960.0	---	---	1700.0	462.0
5	609.0	620.0	579.0	425.0		---	599.0	852.0	---	---	1670.0	427.0
6	603.0	572.0	526.0	469.0		---	531.0	831.0	---	---	1220.0	428.0
7	687.0	528.0	491.0	480.0		---	558.0	1010.0	---	---	1010.0	392.0
8	624.0	605.0	536.0	454.0		---	562.0	814.0	---	---	796.0	375.0
9	630.0	620.0	---	574.0		---	508.0	714.0	---	---	729.0	382.0
10	618.0	548.0	571.0	1060.0		---	---	780.0	1610.0	---	711.0	399.0
11	576.0	559.0	499.0	---		---	---	877.0	1660.0	---	637.0	396.0
12	632.0	537.0	499.0	---		---	---	830.0	1380.0	---	527.0	386.0
13	644.0	541.0	529.0	---		---	510.0	688.0	1900.0	---	556.0	434.0
14	600.0	530.0	525.0	---		---	866.0	739.0	---	---	558.0	569.0
15	664.0	530.0	548.0	---		---	771.0	768.0	---	---	486.0	509.0
16	654.0	502.0	541.0	---		---	786.0	823.0	---	---	410.0	517.0
17	664.0	502.0	525.0	---		---	677.0	791.0	1290.0	---	474.0	505.0
18	661.0	516.0	529.0	---		---	688.0	786.0	1610.0	---	428.0	518.0
19	664.0	530.0	510.0	---		---	771.0	877.0	1440.0	909.0	492.0	612.0
20	661.0	526.0	514.0	---		---	702.0	2170.0	1010.0	869.0	535.0	107000.0
21	---	476.0	---	---		---	990.0	1570.0	680.0	853.0	600.0	34000.0
22	---	534.0	575.0	---		353.0	771.0	2510.0	1830.0	904.0	584.0	1250.0
23	---	529.0	559.0	---		277.0	653.0	1120.0	1220.0	908.0	598.0	911.0
24	---	544.0	502.0	---		334.0	869.0	323.0	1090.0	964.0	570.0	475.0
25	---	571.0	---	---		424.0	727.0	350.0	915.0	939.0	546.0	397.0
26	713.0	601.0	---	---		467.0	528.0	942.0	879.0	921.0	505.0	1390.0
27	725.0	571.0	---	---		499.0	535.0	---	944.0	1020.0	510.0	1340.0
28	713.0	525.0	555.0	---		557.0	502.0	---	859.0	1070.0	469.0	875.0
29	709.0	571.0	502.0	---		551.0	619.0	---	---	912.0	473.0	441.0
30	713.0	599.0	519.0	---		586.0	621.0	---	---	901.0	456.0	509.0
31	725.0	---	567.0	---		577.0	---	---	---	15500.0	393.0	---
MEAN	627.0	564.0	543.0	541.0		463.0	653.0	1240.0	1270.0	2050.0	818.0	5240.0

WTR YR 1978 MEAN 1370.0 MAX 107000.0 MIN 277.0

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

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.--February to September 1978.

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

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, PERIOD FEBRUARY 1978 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
FEB							
02...	0915	--	7600	8.0	1.0	--	--
04...	0813	--	7150	7.7	--	--	--
22...	1030	.46	6500	8.0	4.0	12.0	96
MAR							
06...	1030	--	7170	8.1	--	--	--
21...	1130	.04	8223	7.8	16.0	10.9	116
APR							
04...	1900	--	9750	7.4	--	--	--
26...	1400	.06	9552	8.2	21.0	9.0	106
MAY							
07...	1945	--	5720	7.5	--	--	--
16...	1915	.16	10000	8.4	27.5	9.4	127
JUN							
06...	1540	60	3022	7.2	22.0	8.2	99
07...	1445	--	3460	7.8	--	--	--
JUL							
07...	1720	--	9470	7.4	--	--	--
AUG							
10...	1755	--	5040	7.0	--	--	--
SEP							
27...	1345	1.6	6882	7.9	22.0	7.5	90
29...	1610	--	3500	7.7	--	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	SODIUM, DIS-SOLVED (MG/L AS NA)	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)
FEB							
02...	--	--	--	--	--	--	--
04...	630	910	1800	1400	5460	7.43	--
22...	590	730	1700	1200	4710	6.41	5.89
MAR							
06...	830	860	2000	1500	5640	7.67	--
21...	700	980	2100	1900	6340	8.62	.68
APR							
04...	710	1400	2000	2300	7200	9.79	--
26...	720	1500	2400	2100	7450	10.1	1.21
MAY							
07...	590	630	1800	1000	4450	6.05	--
16...	700	1300	2300	2200	6970	9.48	3.01
JUN							
06...	570	77	1400	240	2700	3.67	437
07...	130	180	1600	310	3140	4.27	--
JUL							
07...	760	1300	2400	2200	7320	9.94	--
AUG							
10...	530	440	2000	300	4330	5.89	--
SEP							
27...	620	470	1400	1500	4990	6.79	22.0
29...	630	210	1700	340	3120	4.24	--

07303402 FISH CREEK NEAR VINSON, OK---Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), PERIOD FEBRUARY 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	6770	9510	---	3330	8310	---	---
2					7150	6970	9540	---	3290	9010	---	---
3					7310	6960	9540	---	3270	9010	---	---
4					7150	6960	9750	4130	---	9010	---	---
5					7140	7110	9860	4080	---	9010	---	---
6					7120	7170	9830	4070	3480	9420	---	---
7					7110	7700	9860	5720	3460	9470	---	---
8					6990	7720	9830	5730	4230	9390	---	---
9					6910	7790	---	6870	4220	9920	---	---
10					6890	7800	---	6890	4200	9890	5040	---
11					6920	7780	4290	7660	4800	10500	5030	---
12					5020	8050	4180	7630	4800	10500	5030	---
13					5010	8090	6050	7640	4480	10800	5050	---
14					5860	8400	6050	9060	4440	10800	---	---
15					5080	8440	6160	8280	5200	10800	---	---
16					---	8140	6720	8270	5240	11700	---	---
17					---	8160	6960	9060	5220	11900	---	---
18					6310	8140	7830	9260	6290	12000	---	---
19					6270	8500	7870	9260	6290	12000	---	---
20					6470	8540	9330	9230	6270	12600	---	---
21					6450	8480	9330	---	6300	12600	---	---
22					6460	8520	9300	---	7090	12600	---	3130
23					6380	8890	9300	---	7050	12600	---	3100
24					6580	8860	9350	---	7030	12900	---	3100
25					6380	8890	9910	3530	7010	12800	---	---
26					6220	9330	9890	3560	7050	13200	---	---
27					6280	9340	10400	---	7710	13300	---	---
28					6780	9310	10400	---	7680	13300	---	3520
29					---	9340	10400	3270	10600	13200	---	3500
30					---	9540	---	3820	8510	13300	---	3500
31					---	9540	---	3800	---	---	---	---

PH (UNITS), PERIOD FEBRUARY 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	7.7	7.6	---	7.7	7.6		---
2					7.8	7.9	7.5	---	7.9	7.6		---
3					7.5	8.0	7.5	---	7.8	7.3		---
4					7.7	7.8	7.4	7.4	---	7.6		---
5					7.8	8.1	7.5	7.4	---	7.6		---
6					7.8	7.8	7.4	7.5	7.8	7.3		---
7					7.6	7.7	7.3	7.5	7.8	7.4		---
8					7.7	7.7	7.4	7.5	7.8	7.4		---
9					7.8	7.8	---	7.2	7.8	7.3		---
10					7.6	7.7	---	7.3	7.9	7.4		---
11					7.8	7.4	7.5	7.5	7.7	7.2		---
12					7.8	7.4	7.3	7.5	7.7	7.3		---
13					7.7	7.5	7.5	7.5	7.8	7.1		---
14					7.8	7.5	7.4	7.3	7.8	7.1		---
15					7.5	7.6	7.3	7.3	7.7	7.1		---
16					---	7.6	7.7	7.5	7.7	7.1		---
17					---	7.7	7.7	7.2	7.7	7.3		---
18					7.8	7.4	7.8	7.5	7.7	7.2		---
19					7.8	7.4	7.8	7.4	7.7	7.3		---
20					7.6	7.8	7.9	7.4	7.7	7.3		---
21					7.6	7.5	7.9	---	7.7	7.3		---
22					7.5	7.4	7.8	---	7.8	7.2		7.9
23					7.7	7.5	7.8	---	7.8	7.3		7.4
24					7.5	7.4	7.7	---	7.8	7.4		7.5
25					7.6	7.6	7.8	7.3	7.8	7.5		---
26					7.5	7.6	7.8	7.2	7.8	7.0		---
27					7.6	7.4	8.0	---	7.8	7.8		---
28					7.6	7.5	8.0	---	7.8	7.8		7.8
29					---	7.4	8.0	7.6	7.7	7.6		7.7
30					---	7.6	---	7.9	7.8	7.7		7.7
31					---	7.6	---	7.9	---	---		---

07303402 FISH CREEK NEAR VINSON, OK---Continued

TEMPERATURE (DEG. C) OF WATER, PERIOD FEBRUARY 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	6.0	20.5	---	25.5	31.0	---	---
2					1.0	2.5	21.0	---	23.0	31.5	---	---
3					3.0	2.0	20.5	---	26.0	32.0	---	---
4					3.5	1.5	22.0	18.0	---	32.0	---	---
5					4.0	8.0	20.5	16.0	---	32.5	---	---
6					2.5	9.0	22.0	18.5	24.0	31.5	---	---
7					3.0	5.5	25.0	24.0	26.0	32.0	---	---
8					3.5	7.0	23.5	23.0	25.0	32.5	---	---
9					2.0	8.0	---	24.0	24.5	31.5	---	---
10					.0	10.0	---	21.5	22.5	26.5	31.0	---
11					3.0	11.0	14.0	21.5	30.0	26.5	30.0	---
12					1.5	10.5	15.5	23.5	28.5	26.0	30.5	---
13					1.5	12.5	19.5	19.0	27.0	32.0	28.0	---
14					.5	11.5	20.5	22.5	29.0	28.5	---	---
15					2.0	10.0	20.0	22.0	26.5	31.5	---	---
16					---	9.0	20.5	23.0	28.0	31.5	---	---
17					---	10.5	22.0	21.0	26.0	31.0	---	---
18					2.0	11.0	21.5	18.0	28.5	31.0	---	---
19					2.5	14.0	20.0	30.0	29.0	31.5	---	---
20					3.0	16.0	22.0	30.5	30.0	31.5	---	---
21					3.5	16.0	20.5	---	30.0	31.0	---	---
22					4.5	17.0	21.0	---	31.0	27.0	---	24.5
23					6.5	9.5	21.5	---	31.0	25.5	---	26.0
24					7.5	10.0	20.0	---	30.5	31.0	---	28.0
25					6.0	13.0	21.5	25.0	30.0	30.5	---	---
26					5.0	15.5	21.0	25.5	31.0	28.0	---	---
27					7.5	16.0	22.0	---	31.0	32.0	---	---
28					6.5	15.5	23.5	---	30.0	31.5	---	26.5
29					---	14.5	22.5	24.5	31.0	27.0	---	26.0
30					---	20.0	---	26.0	30.5	31.0	---	25.0
31					---	21.0	---	27.0	---	---	---	---

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.--February to September 1978.

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

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 dtermined in the field.

WATER QUALITY DATA, PERIOD FEBRUARY 1978 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
FEB							
02...	1000	.30	133000	7.5	.0	--	--
05...	1222	--	137000	7.2	--	--	--
22...	1245	--	>80000	6.9	11.0	9.0	86
MAR							
05...	1130	--	137000	7.5	--	--	--
21...	1215	--	--	7.4	18.0	9.5	106
22...	1215	--	--	7.4	--	--	--
APR							
06...	1915	--	155000	7.6	--	--	--
MAY							
07...	1815	--	151000	7.7	--	--	--
16...	1815	--	170000	7.7	28.5	6.5	90
JUN							
06...	1310	1.0	4800	7.2	24.0	7.9	99
06...	1320	26	5100	6.8	23.0	8.5	104
08...	1930	--	19600	7.9	--	--	--
JUL							
07...	1720	--	81800	7.7	--	--	--
AUG							
28...	1800	--	59800	7.1	--	--	--
SEP							
03...	1625	--	195000	7.1	--	--	--
27...	1230	.22	85000	7.6	29.0	9.6	130

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	SODIUM, DIS-SOLVED (MG/L AS NA)	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)
FEB							
02...	--	--	--	--	--	--	--
05...	2100	62000	4300	4.4	138000	188	--
22...	1900	49000	5000	77000	132000	180	--
MAR							
05...	4000	44000	4700	74000	130000	177	--
21...	--	--	--	--	--	--	--
22...	2500	35000	27	79000	137000	186	--
APR							
06...	2300	66000	4900	100000	17100	23.3	--
MAY							
07...	2100	60000	5200	100000	167000	227	--
16...	2800	70000	5100	100000	172000	234	--
JUN							
06...	680	550	1700	870	4150	5.64	11
06...	660	630	1700	980	4250	5.78	298
08...	200	3500	2700	6100	13700	18.6	--
JUL							
07...	2000	23000	9000	36000	69200	94.1	--
AUG							
28...	1500	15000	4300	24000	47400	64.5	--
SEP							
03...	1100	92000	4100	73000	253000	344	--
27...	1800	21000	4500	36000	66500	90.4	39

07303404 SALT CREEK NEAR VINSON, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), PERIOD FEBRUARY 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	138000	---	---	22400	81800	---	94900
2					146000	142000	---	---	22800	---	---	94900
3					142000	141000	---	---	22900	---	---	180000
4					140000	142000	149000	160000	---	---	---	181000
5					137000	133000	150000	160000	---	---	---	182000
6					132000	132000	155000	160000	10600	---	---	180000
7					132000	132000	156000	155000	10100	---	---	188000
8					140000	132000	155000	154000	19600	---	---	189000
9					136000	133000	---	155000	19800	---	---	188000
10					136000	135000	---	154000	19800	---	---	189000
11					136000	134000	135000	---	30000	---	---	187000
12					134000	133000	135000	---	30000	---	---	189000
13					135000	133000	156000	---	17000	---	---	188000
14					130000	138000	156000	---	16500	---	---	191000
15					133000	139000	156000	---	28300	---	---	193000
16					---	137000	164000	---	28500	---	---	189000
17					---	137000	163000	---	28300	---	---	190000
18					132000	136000	172000	---	57100	---	---	---
19					133000	136000	173000	---	58000	---	---	---
20					134000	137000	---	---	57400	---	---	---
21					134000	---	---	---	56600	---	---	---
22					132000	---	---	---	73100	---	---	86100
23					138000	130000	---	---	74500	---	---	85200
24					138000	130000	---	---	74100	---	---	84400
25					138000	131000	---	36400	73400	---	---	---
26					134000	---	---	36100	73600	---	---	---
27					134000	---	---	---	76300	---	---	---
28					139000	---	---	---	76300	---	59800	91800
29					---	---	---	28500	83000	---	60000	92500
30					---	---	---	51600	82600	---	59600	92300
31					---	---	---	51400	---	---	---	---

PH (UNITS), PERIOD FEBRUARY 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	7.0	---	---	7.0	7.7		7.6
2					7.0	7.4	---	---	7.0	---		7.5
3					6.9	7.4	---	---	7.0	---		7.1
4					6.9	7.4	7.5	7.3	---	---		7.0
5					7.2	7.5	7.5	7.2	---	---		7.2
6					7.2	7.4	7.7	7.2	7.7	---		7.2
7					7.3	7.6	7.7	7.7	7.8	---		7.2
8					7.1	7.4	7.7	7.7	7.9	---		7.1
9					7.3	7.5	---	7.7	7.9	---		7.0
10					7.2	7.5	---	7.7	7.9	---		7.1
11					7.3	7.5	7.2	---	8.0	---		7.0
12					7.4	7.5	7.3	---	7.9	---		7.2
13					7.3	7.3	7.7	---	8.0	---		7.1
14					7.3	7.5	7.7	---	7.9	---		7.0
15					7.2	7.6	7.6	---	7.7	---		7.0
16					---	7.5	7.6	---	7.9	---		7.1
17					---	7.4	7.6	---	8.1	---		7.1
18					7.3	7.6	7.6	---	8.1	---		---
19					7.5	7.6	7.6	---	8.1	---		---
20					7.3	7.3	---	---	8.2	---		---
21					7.5	---	---	---	8.1	---		---
22					7.2	---	---	---	8.0	---		7.6
23					7.5	7.5	---	---	8.0	---		7.6
24					7.3	7.4	---	---	8.0	---		7.6
25					7.5	7.5	---	7.3	8.1	---		---
26					7.5	---	---	7.1	7.9	---		---
27					7.4	---	---	---	8.0	---		---
28					7.3	---	---	---	8.0	---		8.2
29					---	---	---	7.7	8.0	---		8.2
30					---	---	---	7.9	7.3	---		8.2
31					---	---	---	7.9	---	---		---

07303404 SALT CREEK NEAR VINSON, OK--Continued

TEMPERATURE (DEG. C) OF WATER, PERIOD FEBRUARY 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	5.0	---	---	27.5	31.0	---	32.5
2					.0	1.5	---	---	24.0	---	---	29.5
3					4.5	.0	---	---	26.0	---	---	33.5
4					5.0	.0	20.5	19.0	---	---	---	32.0
5					5.5	11.0	19.5	18.0	---	---	---	31.5
6					2.0	12.5	22.5	20.5	29.5	---	---	31.0
7					5.5	6.0	23.5	24.0	27.0	---	---	31.0
8					3.0	7.5	23.0	25.0	25.0	---	---	32.0
9					1.5	9.0	---	23.0	24.5	---	---	31.0
10					1.5	12.0	---	21.5	24.0	---	---	32.0
11					2.5	13.0	17.0	---	31.0	---	---	30.0
12					.0	12.0	18.0	---	27.0	---	---	32.0
13					.5	14.0	22.5	---	30.0	---	---	32.5
14					.0	11.0	21.0	---	32.0	---	---	32.0
15					2.5	9.0	20.5	---	30.5	---	---	32.5
16					---	11.5	20.5	---	32.0	---	---	32.0
17					---	13.0	22.0	---	30.5	---	---	31.5
18					1.5	14.0	22.5	---	30.0	---	---	---
19					2.0	15.0	21.5	---	30.0	---	---	---
20					4.5	17.5	---	---	31.5	---	---	---
21					4.0	---	---	---	32.0	---	---	---
22					11.5	---	---	---	32.0	---	---	24.5
23					11.0	10.0	---	---	31.0	---	---	26.5
24					8.5	11.0	---	---	31.5	---	---	27.5
25					7.5	13.5	---	27.5	31.5	---	---	---
26					5.5	---	---	26.0	32.5	---	---	---
27					8.0	---	---	---	30.5	---	---	---
28					5.5	---	---	---	29.5	---	29.0	28.0
29					---	---	---	26.5	31.5	---	25.0	27.0
30					---	---	---	30.0	30.5	---	32.0	26.0
31					---	---	---	32.0	---	---	---	---

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.--February to September 1978.

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

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 dtermined in the field.

WATER QUALITY DATA, PERIOD FEBRUARY 1978 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
FEB							
02...	1041	--	17800	7.6	.5	13.0	94
05...	1210	--	20000	7.6	--	--	--
MAR							
02...	1030	--	21200	7.7	--	--	--
21...	1410	17	24900	7.6	22.5	10.0	120
APR							
03...	1840	--	24800	7.7	--	--	--
26...	1300	12	27000	7.8	23.5	8.9	110
MAY							
07...	1800	--	23400	7.6	--	--	--
16...	1530	8.8	32500	8.3	31.5	8.0	116
JUN							
07...	1515	--	6220	7.7	--	--	--
JUL							
01...	1820	--	51400	7.5	--	--	--
26...	1140	7.7	53000	7.8	31.5	8.9	127
AUG							
13...	1115	--	38900	7.9	--	--	--
29...	1115	4.0	7000	7.8	27.0	8.8	114
SEP							
04...	1840	--	59600	8.1	--	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	SODIUM, DIS-SOLVED (MG/L AS NA)	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)
FEB							
02...	--	--	--	--	--	--	--
05...	630	4200	1600	6400	13100	17.8	--
MAR							
02...	710	4300	1600	7000	14300	19.4	--
21...	670	5500	37	8300	16000	21.8	739
APR							
03...	600	5500	1700	870	16800	22.8	--
26...	720	4900	550	10000	19700	26.8	638
MAY							
07...	610	4700	1700	8100	15500	21.1	--
16...	760	6600	2100	11000	21500	29.2	511
JUN							
07...	110	780	1400	1400	4460	6.07	--
JUL							
01...	870	6900	2400	11000	21700	29.5	--
26...	930	11000	2600	1800	34300	46.6	713
AUG							
13...	820	9000	1900	12000	27700	37.7	--
29...	1000	11000	2600	27000	47800	65.0	521
SEP							
04...	1000	15000	2600	25000	44900	61.1	--

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), PERIOD FEBRUARY 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	20800	26200	---	4130	23900	---	61000
2					20300	21200	24700	---	4640	28300	---	60800
3					18200	21200	24800	---	4700	28200	---	59800
4					18500	21200	23800	18600	---	28200	---	59600
5					20000	19300	23900	18600	---	28200	---	59600
6					20100	19400	26200	18700	6150	31400	---	59700
7					20000	21500	25900	23400	6220	31200	---	70000
8					22200	21500	26300	23300	9650	31300	---	70000
9					---	21200	---	25800	9760	34100	---	69800
10					---	21200	---	25800	9740	33800	38900	69800
11					17400	21100	13100	27300	11600	38000	39000	69900
12					17500	23200	13000	27000	11700	38000	39000	68700
13					---	23300	26500	27100	6740	37300	38900	68700
14					17200	20800	26500	30300	6580	37200	46100	77600
15					17400	20700	26500	30100	11800	37200	46000	77100
16					---	22300	29200	33800	11900	41900	45900	77500
17					---	22400	28900	33900	11900	41800	56900	76900
18					16400	22300	28400	36400	15500	44900	57200	---
19					16200	23800	28200	36300	15600	44900	56900	---
20					16400	23900	30500	36200	15600	46400	57200	---
21					---	23400	30500	---	15600	46500	---	---
22					---	23500	30500	---	20900	46500	---	---
23					18200	24400	30500	---	21200	46400	---	---
24					18400	24400	30300	---	21200	45900	61600	---
25					18200	24300	---	16100	21100	46000	62000	---
26					20200	24100	---	16000	21200	45900	61600	---
27					20300	23800	32100	---	22400	50300	---	---
28					20700	23900	32400	---	22400	50600	61300	21700
29					---	24100	32100	5100	23500	50700	61500	21400
30					---	26100	---	7160	23500	50600	61200	21400
31					---	25900	---	7210	---	---	---	---

PH (UNITS), PERIOD FEBRUARY 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	7.8	7.6	---	7.3	7.6	---	7.7
2					7.5	7.7	7.5	---	7.3	7.8	---	7.9
3					7.7	8.0	7.6	---	7.3	7.7	---	8.1
4					7.8	7.7	7.5	7.6	---	7.8	---	8.1
5					7.6	7.7	7.5	7.5	---	7.8	---	8.0
6					7.8	7.6	7.7	7.6	7.7	7.5	---	8.1
7					7.7	7.7	7.5	7.6	7.7	7.5	---	8.2
8					7.8	7.7	7.7	7.8	7.7	7.5	---	8.2
9					---	7.7	---	7.6	7.8	7.7	---	8.2
10					---	7.5	---	7.8	7.9	7.6	8.0	8.1
11					7.8	7.7	7.3	7.8	7.6	7.7	7.9	8.2
12					7.7	8.0	7.9	7.8	7.8	7.9	7.9	8.0
13					---	7.6	7.9	7.7	7.4	7.8	7.9	8.1
14					7.7	7.7	7.8	7.8	7.6	7.6	8.3	8.0
15					7.7	7.7	7.7	7.8	7.7	7.5	8.2	8.0
16					---	7.8	7.7	7.8	7.7	7.8	8.0	8.0
17					---	7.8	7.8	7.8	7.7	7.9	7.9	8.0
18					7.7	7.8	7.9	7.9	7.8	8.0	7.9	---
19					7.7	7.8	7.5	8.0	7.8	8.1	7.9	---
20					7.8	7.5	8.0	8.0	7.8	7.9	7.7	---
21					---	7.7	8.0	---	7.8	7.9	---	---
22					---	7.5	8.0	---	7.8	7.9	---	---
23					7.7	7.6	8.0	---	7.9	7.8	---	---
24					7.7	7.4	8.0	---	7.9	8.0	8.0	---
25					7.7	7.5	---	7.7	7.9	7.9	7.6	---
26					7.9	7.7	---	7.5	7.6	7.9	7.9	---
27					7.5	7.5	8.1	---	8.0	7.8	---	---
28					7.8	7.7	8.1	---	7.6	7.8	7.5	8.1
29					---	7.5	8.0	7.5	7.9	7.7	7.6	8.0
30					---	7.8	---	8.0	7.8	7.8	7.6	8.0
31					---	7.8	---	7.9	---	---	---	---

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

TEMPERATURE (DEG. C) OF WATER, PERIOD FEBRUARY 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	4.5	19.0	---	26.0	30.5	---	33.0
2					.0	1.0	---	---	24.5	32.5	---	30.5
3					.0	.5	---	---	25.5	32.0	---	32.5
4					.0	1.0	22.0	18.5	---	33.0	---	30.5
5					3.0	10.5	20.0	17.0	---	33.5	---	32.0
6					1.5	11.5	21.0	19.5	26.5	34.0	---	30.0
7					3.0	6.5	21.5	23.5	28.5	34.0	---	30.0
8					.0	8.0	20.5	25.0	25.0	33.5	---	31.0
9					---	9.0	---	23.0	24.5	33.0	---	30.0
10					---	13.0	---	21.0	24.5	26.0	32.5	31.0
11					.5	14.0	15.5	21.5	31.5	33.0	33.0	29.5
12					.0	13.0	17.0	24.5	28.5	34.5	32.5	31.0
13					---	14.5	20.5	20.0	29.5	33.5	28.5	31.5
14					.0	10.0	21.0	21.5	31.5	32.0	33.5	31.0
15					1.5	8.5	19.5	21.0	31.0	33.0	33.0	31.5
16					---	11.5	20.0	22.0	32.5	34.5	33.0	31.0
17					---	13.5	22.0	19.0	31.0	34.0	33.5	3.0
18					.5	15.0	24.0	35.0	31.5	34.0	34.0	---
19					1.0	17.5	22.5	35.5	31.5	35.0	27.5	---
20					3.0	20.0	21.0	34.0	33.5	33.0	29.0	---
21					---	17.5	20.5	---	33.0	33.5	---	---
22					---	19.5	22.5	---	31.5	29.0	---	---
23					6.0	10.0	23.0	---	31.0	29.0	---	---
24					5.0	11.5	22.0	---	30.5	33.0	33.0	---
25					4.5	13.5	---	27.0	32.0	33.5	34.5	---
26					4.5	19.5	---	27.5	32.0	29.5	32.5	---
27					7.0	18.0	21.0	---	30.5	34.0	---	---
28					5.0	19.0	25.0	---	24.5	33.0	29.5	28.0
29					---	21.5	21.5	25.5	31.5	28.5	25.0	28.0
30					---	20.0	---	28.0	31.0	32.5	31.0	27.5
31					---	21.0	---	29.5	---	---	---	---

07303420 ELM FORK OF NORTH FORK RED RIVER NEAR REED, OK

LOCATION.--Lat 34°57'40", long 99°41'40", on the west line of SW¼NW¼SW¼ sec. 25, T. 6 N., R. 24 W., Greer County, Hydrologic Unit 11120304, at bridge on county road, 4.5 mi (7.2 km) north of Reed.

DRAINAGE AREA.--579 mi^2 (1,500 km^2).

PERIOD OF RECORD.--June to September 1978 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June to August 1978.
WATER TEMPERATURE: June to August 1978.
pH: June to August 1978.

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, PERIOD JUNE 1978 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	CALCIUM DISSOLVED (MG/L AS CA)
JUN								
07...	1315	277	3400	8.0	25.5	7.9	101	400
07...	1900	--	4220	7.6	28.0	--	--	440
JUL								
06...	1830	--	27300	7.6	33.0	--	--	990
26...	1540	--	50000	8.0	37.0	7.9	123	1000
AUG								
10...	1900	--	38000	7.5	31.5	--	--	940
29...	1445	4.9	6900	7.8	31.0	8.4	118	--
SEP								
27...	1640	107	8500	8.1	26.5	7.7	99	440

DATE	SODIUM, DISSOLVED (MG/L AS NA)	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)	STRONTIUM, DISSOLVED (UG/L AS SR)
JUN							
07...	360	1100	580	2640	3.59	1970	--
07...	400	--	690	3040	4.13	--	2800
JUL							
06...	5100	2500	9700	18300	24.9	--	--
26...	9200	2800	1500	30100	40.9	--	--
AUG							
10...	8700	15	15000	27100	36.9	--	--
29...	--	--	--	--	--	--	--
SEP							
27...	1300	1200	2300	5740	7.81	1660	--

07303420 ELM FORK OF NORTH FORK RED RIVER NEAR REED. OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), PERIOD JUNE 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	22800	---	
2									7600	25800	---	
3									7600	25600	---	
4									3730	25700	---	
5									3610	25600	---	
6									4180	27300	---	
7									4220	27300	---	
8									8010	27200	---	
9									8050	28700	---	
10									8160	28900	38000	
11									10700	31300	38200	
12									10800	31500	38100	
13									4780	31400	38000	
14									4580	31300	37700	
15									12500	31800	37700	
16									12700	34900	37600	
17									12700	34800	---	
18									12700	35800	---	
19									15700	35600	---	
20									15700	37800	---	
21									15700	37900	---	
22									20400	37800	---	
23									20500	37700	---	
24									20500	39500	44100	
25									20500	39400	44100	
26									20500	39400	44000	
27									21100	40400	---	
28									21100	40300	44000	
29									22800	40300	43900	
30									23100	40300	44100	
31									---	---	---	

PH (UNITS), PERIOD JUNE 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									7.7	7.6	---	
2									7.7	7.4	---	
3									7.2	7.5	---	
4									7.2	7.5	---	
5									7.6	7.5	---	
6									7.6	7.6	---	
7									7.7	7.5	---	
8									7.6	7.4	---	
9									7.7	7.6	---	
10									7.6	7.5	7.5	
11									7.6	7.7	7.4	
12									7.3	7.6	7.5	
13									7.3	7.4	7.7	
14									7.5	7.5	7.8	
15									7.5	7.5	7.6	
16									7.5	7.7	7.7	
17									7.5	7.5	---	
18									7.7	7.6	---	
19									7.8	7.7	---	
20									7.8	7.8	---	
21									7.8	7.9	---	
22									7.6	7.7	---	
23									7.7	7.8	---	
24									7.8	8.0	7.7	
25									7.7	7.9	7.7	
26									7.6	7.9	7.8	
27									7.4	7.9	---	
28									7.5	7.7	7.9	
29									7.8	7.9	7.8	
30									7.5	8.0	7.9	
31									---	---	---	

07303420 ELM FORK OF NORTH FORK RED RIVER NEAR REED, OK--Continued

TEMPERATURE (DEG. C) OF WATER, PERIOD JUNE 1978 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	31.0	---	
2									24.5	32.5	---	
3									26.0	31.5	---	
4									23.5	33.0	---	
5									22.5	32.5	---	
6									26.0	33.0	---	
7									28.0	33.5	---	
8									26.0	33.5	---	
9									26.5	33.0	---	
10									29.0	27.0	31.5	
11									30.0	32.0	32.0	
12									28.0	33.5	31.5	
13									27.0	33.0	33.5	
14									30.5	32.5	32.0	
15									---	32.5	31.5	
16									---	33.5	32.5	
17									---	32.5	---	
18									---	33.5	---	
19									30.5	34.0	---	
20									34.0	33.0	---	
21									32.0	33.5	---	
22									30.5	29.0	---	
23									30.0	29.0	---	
24									30.5	32.0	33.0	
25									29.0	32.5	34.0	
26									29.5	32.0	32.5	
27									30.0	33.5	---	
28									28.5	33.0	29.0	
29									31.0	31.5	24.0	
30									29.5	32.0	30.0	
31									---	---	---	

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, 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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
OCT 20...	1615	22500	8.0	23.0	1	13.8	168	49	--	951
NOV 29...	1145	22000	8.1	7.5	1	11.9	103	16	--	--
DEC 16...	1045	17000	7.8	8.5	8	10.5	96	--	--	8792
JAN 23...	1520	18700	8.1	1.0	10	12.8	96	16	--	--
FEB 16...	1000	18500	8.0	.5	1	13.9	101	14	--	1884
MAR 28...	1200	20500	8.1	18.5	--	12.0	135	--	--	--
APR 13...	1050	13000	8.0	17.5	7	9.7	106	21	--	1866
MAY 11...	0950	21000	8.0	19.0	1	9.2	104	--	928	--
JUN 26...	1515	15300	7.8	31.5	6	7.8	111	23	--	2435
JUL 18...	0930	19000	7.5	25.0	2	7.0	89	90	--	--
AUG 08...	1000	22000	7.6	24.0	2	8.0	99	78	--	--
SEP 24...	1200	8400	7.9	22.0	83	8.1	93	63	--	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 20...	260	650	73	3300	19	1683	7757	.4	16510	--
NOV 29...	--	--	--	--	--	1664	5607	--	--	10
DEC 16...	734	1835	1690	3200	14	1642	5021	.4	--	7
JAN 23...	--	--	--	--	--	1629	6621	.3	--	20
FEB 16...	564	1410	115	300	16	1723	5321	.3	--	28
MAR 28...	--	--	--	--	--	--	--	--	--	--
APR 13...	512	1280	142	1550	14	302	3572	.1	--	25
MAY 11...	--	--	--	--	--	1498	6297	.3	--	37
JUN 26...	720	1800	154	2150	14	1027	1403	.3	--	20
JUL 18...	--	--	--	--	--	1542	3899	.3	--	6
AUG 08...	730	--	19	390	18	1806	7723	.3	--	21
SEP 24...	--	--	--	--	--	941	2176	.2	--	141

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 20...	1.1	2.1	3.2	14	.03	--	--	--	--
NOV 29...	1.9	1.4	3.3	15	.02	--	--	--	--
DEC 16...	2.3	1.0	3.3	15	.01	--	--	--	--
JAN 23...	2.8	.89	3.6	16	2.7	--	--	--	--
FEB 16...	2.3	1.1	3.4	15	3.2	1	2	16	13
MAR 28...	--	--	--	--	--	--	--	--	--
APR 13...	.90	1.1	2.0	9.3	5.0	--	--	--	--
MAY 11...	.60	1.3	1.9	8.4	6.0	--	--	--	--
JUN 26...	1.2	1.3	2.5	11	4.0	--	--	--	--
JUL 18...	1.1	1.0	2.1	9.6	2.5	--	--	--	--
AUG 08...	.60	2.7	3.3	15	.10	2	8	11	16
SEP 24...	.20	<1.0	1.0	--	.14	--	--	--	--

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 20...	250	--	50	--	--	--	--	--	3.0
NOV 29...	--	--	--	--	--	--	--	--	11
DEC 16...	260	--	30	--	--	--	--	--	1.0
JAN 23...	--	--	--	--	--	--	--	--	21
FEB 16...	450	48	30	<.5	155	6	12	16	13
MAR 28...	--	--	--	--	--	--	--	--	--
APR 13...	710	--	110	--	--	--	--	--	10
MAY 11...	--	--	--	--	--	--	--	--	<2.0
JUN 26...	480	--	40	--	--	--	--	--	<5.0
JUL 18...	--	--	--	--	--	--	--	--	<5.0
AUG 08...	210	14	110	<.5	--	5	14	45	--
SEP 24...	--	--	--	--	--	--	--	--	6.0

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.

AVERAGE DISCHARGE.--32 years (water years 1905-07, 1950-78), 74.5 ft^3/s (2.110 m^3/s), 53,980 acre-ft/yr (66.6 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.
Flood of June 9, 1907, reached a stage of 28.9 ft (8.81 m), datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,690 ft^3/s (218 m^3/s) at 1715 May 28, gage height, 28.85 ft (8.793 m), no other peak above base of 2,200 ft^3/s (62.3 m^3/s); minimum, 1.1 ft^3/s (0.031 m^3/s) Nov. 1,2.

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	17	1.2	19	21	23	27	23	11	12	25	9.6	6.1
2	16	1.6	22	20	23	27	22	19	12	23	9.5	5.7
3	15	1.4	22	24	21	26	19	27	10	23	14	5.6
4	15	1.6	21	23	21	22	17	5.4	16	22	11	5.6
5	16	1.4	20	26	23	22	16	5.4	91	21	10	5.2
6	16	1.5	20	26	23	23	17	5.4	801	20	11	5.2
7	16	1.5	20	25	22	25	16	5.3	135	18	14	5.4
8	16	1.7	20	22	21	25	19	5.3	40	19	12	5.2
9	16	1.8	19	20	20	23	18	5.3	30	19	9.7	5.1
10	15	1.6	19	20	21	22	25	5.3	17	18	9.4	5.3
11	14	1.4	20	19	23	21	22	5.2	15	18	8.7	5.2
12	13	1.6	20	20	32	21	18	5.2	13	16	8.8	5.1
13	14	1.8	21	19	46	22	23	5.2	16	14	8.6	5.1
14	12	2.7	22	20	40	24	25	5.1	13	14	8.0	5.0
15	12	3.9	21	21	38	33	20	4.9	13	14	7.1	5.4
16	13	33	21	21	43	32	16	4.6	16	14	6.9	5.1
17	12	82	20	20	35	30	14	19	16	13	6.7	4.9
18	12	29	19	23	28	26	13	62	15	12	6.6	4.8
19	11	25	19	20	33	22	12	30	14	12	7.0	4.6
20	9.9	24	19	22	32	22	12	7.1	14	12	7.8	7.9
21	2.8	20	26	22	27	22	11	20	46	11	7.8	18
22	4.8	22	25	20	30	21	11	14	57	11	7.2	5.4
23	12	19	25	21	29	21	10	4.8	45	11	7.3	6.1
24	3.2	17	24	21	38	22	10	5.7	53	11	7.4	5.4
25	2.5	23	23	22	37	21	10	5.2	39	10	7.0	5.4
26	1.7	27	21	23	33	20	10	5.5	33	13	6.5	6.0
27	1.6	27	20	24	30	20	10	465	31	11	6.1	6.3
28	1.5	38	20	24	28	20	11	6250	32	9.6	6.0	6.1
29	1.6	24	20	24	---	20	11	3890	28	9.3	6.2	5.8
30	1.5	21	21	21	---	27	11	640	26	9.7	6.3	5.4
31	1.5	---	21	23	---	24	---	30	---	9.4	6.2	---
TOTAL	315.6	457.7	650	677	820	733	472	11572.9	1699	463.0	260.4	177.4
MEAN	10.2	15.3	21.0	21.8	29.3	23.6	15.7	373	56.6	14.9	8.40	5.91
MAX	17	82	26	26	46	33	25	6250	801	25	14	18
MIN	1.5	1.2	19	19	20	20	10	4.6	10	9.3	6.0	4.6
AC-FT	626	908	1290	1340	1630	1450	936	22950	3370	918	517	352

CAL YR 1977	TOTAL	62812.3	MEAN	172	MAX	8400	MIN	1.2	AC-FT 124600
WTR YR 1978	TOTAL	18298.0	MEAN	50.1	MAX	6250	MIN	1.2	AC-FT 36290

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 months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,360 micromhos Jan. 20, Apr. 26, May 1; minimum daily, 205 micromhos June 6.
WATER TEMPERATURE: Maximum daily, 28.0°C July 8, 13, Sept. 16; minimum daily, -0.5°C Jan. 17, 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	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)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
05...	0810	16	2120	8.3	16.0	--	--	--	--	900	620
11...	0830	13	2240	8.2	13.0	--	--	--	--	990	670
21...	1215	3.0	2200	8.2	17.5	10	7.7	84	13	--	--
24...	0730	1.6	2020	8.3	15.0	--	--	--	--	860	580
NOV											
07...	0805	1.5	1630	8.0	14.0	--	--	--	--	620	310
17...	0740	15	2060	7.9	9.5	--	--	--	--	950	610
26...	0745	27	2240	8.0	7.0	--	--	--	--	980	580
29...	0945	23	2200	8.1	6.5	19	11.8	98	15	--	--
DEC											
01...	0810	19	1880	8.3	5.0	--	--	--	--	820	440
11...	0840	20	2260	8.2	1.0	--	--	--	--	1000	630
28...	1200	20	1790	8.3	3.5	--	13.8	106	12	--	--
28...	1215	20	2035	8.3	3.5	--	13.8	106	--	900	550
30...	0845	20	2090	8.5	5.5	--	--	--	--	930	560
JAN											
01...	0915	20	2170	8.1	3.0	--	--	--	--	950	570
07...	0905	25	1990	8.1	4.5	--	--	--	--	890	520
20...	0820	22	2360	8.1	-1.0	--	--	--	--	1000	630
24...	1000	21	2290	8.2	.5	--	13.4	98	--	1000	660
24...	1001	21	2290	8.2	.5	2	13.4	98	15	--	--
FEB											
23...	1410	25	2150	8.0	6.5	--	11.7	98	--	990	650
23...	1415	25	2150	8.0	6.5	0	11.7	98	13	--	--
MAR											
01...	0820	28	2180	8.1	5.0	--	--	--	--	1000	660
14...	0835	22	2290	8.1	9.5	--	--	--	--	1000	630
19...	0855	22	1880	8.3	10.0	--	--	--	--	820	540
22...	1245	21	2180	8.5	15.5	--	12.2	128	--	950	570
APR											
10...	0845	24	1320	7.5	12.0	--	--	--	--	530	340
16...	0855	16	2120	7.8	19.0	--	--	--	--	980	610
26...	0725	10	2360	8.2	15.0	--	--	--	--	1100	720
26...	1545	10	2200	8.3	20.0	--	12.0	136	--	1000	650
MAY											
01...	0755	11	2360	7.9	18.0	--	--	--	--	1000	610
07...	0820	5.3	1650	7.8	17.0	--	--	--	--	590	350
17...	0925	4.4	2000	8.3	20.0	--	5.0	58	--	820	510
17...	0926	4.4	2000	8.3	20.0	1	5.0	58	32	900	--
28...	0755	5560	256	7.5	22.0	--	--	--	--	100	27

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	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)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
JUN											
06...	0810	456	205	7.2	19.0	--	--	--	--	87	17
07...	1545	45	422	7.4	26.0	--	6.3	81	--	260	0
07...	1550	45	422	7.4	26.0	100	6.3	81	53	--	--
12...	0705	13	1440	7.8	23.5	--	--	--	--	550	370
24...	0700	57	2160	7.8	24.5	--	--	--	--	950	760
JUL											
03...	0655	24	2123	7.6	27.0	--	--	--	--	800	540
09...	0700	19	2080	7.6	26.0	--	--	--	--	830	580
22...	0745	11	2260	7.8	25.0	--	--	--	--	890	630
27...	1415	11	2168	8.3	28.0	--	10.2	136	--	920	660
27...	1416	11	2168	8.3	28.0	13	10.2	136	29	--	--
AUG											
06...	0810	11	2280	8.1	23.0	--	--	--	--	940	690
19...	0825	6.2	1320	7.3	21.0	--	--	--	--	480	320
23...	0745	7.2	2160	8.0	25.0	--	--	--	--	860	610
30...	1230	6.4	3000	8.4	22.5	--	8.9	106	--	930	660
30...	1231	6.4	3000	8.4	22.5	22	8.9	106	21	--	--
SEP											
02...	0835	5.6	2260	7.8	23.0	--	--	--	--	940	670
21...	0810	17	1940	7.7	17.0	--	--	--	--	770	540
27...	0805	6.4	891	7.6	19.5	--	--	--	--	310	190
28...	1420	6.4	1390	7.8	20.5	--	7.8	90	--	460	300

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM TOTAL RECOVERABLE (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	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	POTASSIUM, DISSOLVED (MG/L AS K)
OCT										
05...	--	--	--	110	--	170	29	2.5	--	5.5
11...	--	--	--	120	--	180	28	2.5	--	5.4
21...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	100	--	150	27	2.2	--	5.4
NOV										
07...	--	--	--	72	--	130	31	2.3	--	4.7
17...	--	--	--	110	--	140	28	2.6	--	5.7
26...	--	--	--	110	--	160	26	2.2	--	5.0
29...	162	405	101	--	--	--	--	--	--	--
DEC										
01...	--	--	--	96	--	140	27	2.1	--	4.2
11...	--	--	--	120	--	160	25	2.2	--	3.9
28...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	110	--	150	26	2.2	--	4.4
30...	--	--	--	110	--	160	27	2.3	--	4.0
JAN										
01...	--	--	--	110	--	160	27	2.3	--	4.3
07...	--	--	--	100	--	140	25	2.0	--	3.8
20...	--	--	--	120	--	170	26	2.3	--	4.3
24...	--	--	--	120	--	160	25	2.2	--	4.1
24...	45	113	23	--	140	--	--	--	3.7	--
FEB										
23...	--	--	--	120	--	150	25	2.1	--	4.4
23...	--	--	--	--	--	--	--	--	--	--
MAR										
01...	--	--	--	120	--	140	23	1.9	--	4.6
14...	--	--	--	110	--	160	26	2.2	--	4.4
19...	--	--	--	95	--	130	26	2.0	--	4.3
22...	--	--	--	110	--	150	25	2.1	--	4.3
APR										
10...	--	--	--	57	--	94	27	1.8	--	7.6
16...	--	--	--	110	--	160	26	2.2	--	7.1
26...	--	--	--	130	--	180	26	2.4	--	6.4
26...	--	--	--	120	--	170	26	2.3	--	5.8
MAY										
01...	--	--	--	110	--	190	29	2.6	--	5.3
07...	--	--	--	70	--	150	35	2.7	--	5.8
17...	--	--	--	97	--	140	27	2.1	--	6.6
17...	190	--	103	--	--	--	--	--	--	--
28...	--	--	--	7.1	--	10	17	.4	--	4.9
JUN										
06...	--	--	--	6.5	--	14	25	.7	--	3.9
07...	--	--	--	17	--	64	34	1.7	--	6.9
07...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	60	--	110	30	2.0	--	6.6
24...	--	--	--	110	--	150	25	2.1	--	5.5
JUL										
03...	--	--	--	110	--	180	33	2.8	--	4.9
09...	--	--	--	110	--	180	32	2.7	--	5.1
22...	--	--	--	120	--	190	31	2.8	--	5.1
27...	--	--	--	120	--	190	31	2.7	--	5.5
27...	90	226	120	--	188	--	--	--	5.4	--
AUG										
06...	--	--	--	120	--	190	30	2.7	--	4.9
19...	--	--	--	57	--	110	33	2.2	--	6.0
23...	--	--	--	110	--	180	31	2.6	--	5.7
30...	--	--	--	110	--	180	30	2.6	--	6.5
30...	--	--	--	--	--	--	--	--	--	--
SEP										
02...	--	--	--	120	--	180	29	2.6	--	5.6
21...	--	--	--	85	--	160	31	2.5	--	6.1
27...	--	--	--	33	--	65	31	1.6	--	4.8
28...	--	--	--	50	--	97	31	2.0	--	6.8

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)
OCT										
05...	350	0	290	2.8	670	160	--	--	--	1540
11...	390	0	320	3.9	720	170	--	--	--	1600
21...	--	--	--	--	--	--	.5	--	--	--
24...	340	0	280	2.7	630	160	--	--	--	1500
NOV										
07...	380	0	310	6.1	390	130	--	--	--	1110
17...	420	0	340	8.5	650	140	--	--	--	1550
26...	480	0	390	7.7	720	150	--	--	--	1710
29...	--	--	--	--	--	--	.5	--	--	--
DEC										
01...	460	0	380	3.7	500	130	--	--	--	1340
11...	470	0	390	4.7	690	160	--	--	--	1690
28...	--	--	--	--	--	--	.4	--	--	--
28...	430	0	350	3.4	660	140	--	.8	8.9	1510
30...	450	0	370	2.3	590	150	--	--	--	1570
JAN										
01...	470	0	390	6.0	640	150	--	--	--	1570
07...	450	0	370	5.7	660	130	--	--	--	1440
20...	500	0	410	6.4	740	160	--	--	--	1800
24...	470	0	390	4.7	760	130	--	.5	14	1720
24...	--	--	--	--	--	--	.5	--	--	--
FEB										
23...	420	0	340	6.7	700	140	--	.6	15	1670
23...	--	--	--	--	--	--	.4	--	--	--
MAR										
01...	440	0	360	5.6	700	130	--	--	--	1700
14...	450	0	370	5.7	750	150	--	--	--	1790
19...	340	0	280	2.7	560	120	--	--	--	1400
22...	450	6	380	2.3	630	140	--	.6	6.9	1620
APR										
10...	240	0	200	12	360	92	--	--	--	914
16...	450	0	370	11	630	150	--	--	--	1590
26...	480	0	390	4.8	720	250	--	--	--	1810
26...	480	0	390	3.8	740	140	--	.6	13	1800
MAY										
01...	480	0	390	9.7	720	170	--	--	--	1830
07...	290	0	240	7.4	400	170	--	--	--	1120
17...	380	0	310	3.0	580	170	--	1.8	13	1410
17...	--	--	--	--	--	--	.6	--	--	--
28...	91	0	75	4.6	30	13	--	--	--	159
JUN										
06...	85	0	70	8.6	19	23	--	--	--	136
07...	420	0	340	27	70	42	--	--	--	254
07...	--	--	--	--	--	--	.1	--	--	--
12...	220	0	180	5.6	320	120	--	--	--	943
24...	230	0	190	5.8	660	180	--	--	--	1510
JUL										
03...	320	0	260	15	670	170	--	--	--	1550
09...	300	0	250	12	680	170	--	--	--	1560
22...	320	0	260	8.1	750	190	--	--	--	1730
27...	310	0	250	2.5	710	210	--	.4	5.7	1710
27...	--	--	--	--	--	--	.4	--	--	--
AUG										
08...	310	0	250	3.9	810	180	--	--	--	1720
19...	200	0	160	16	410	94	--	--	--	897
23...	330	0	270	5.3	690	180	--	--	--	1610
30...	330	0	270	2.1	750	180	--	.5	7.0	1670
30...	--	--	--	--	--	--	.4	--	--	--
SEP										
02...	330	0	270	8.4	760	190	--	--	--	1710
21...	290	0	240	9.3	590	160	--	--	--	1440
27...	150	0	120	6.0	240	69	--	--	--	583
28...	190	0	160	4.8	400	87	--	.2	11	880

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 105 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, 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)
OCT										
05...	--	--	2.09	66.5	--	--	--	--	--	--
11...	--	--	2.18	56.2	--	--	--	--	--	--
21...	1740	--	--	--	--	2.4	2.8	5.2	23	.64
24...	--	--	2.04	6.4	--	--	--	--	--	--
NOV										
07...	--	--	1.51	4.5	--	--	--	--	--	--
17...	--	--	2.11	62.8	--	--	--	--	--	--
26...	--	--	2.53	125	--	--	--	--	--	--
29...	--	--	--	--	35	1.3	1.6	2.9	13	.48
DEC										
01...	--	--	1.82	68.7	--	--	--	--	--	--
11...	--	--	2.30	91.3	--	--	--	--	--	--
28...	--	--	--	--	6	2.0	1.2	3.2	14	.52
28...	--	1470	2.05	81.5	--	--	--	--	--	--
30...	--	--	2.14	94.6	--	--	--	--	--	--
JAN										
01...	--	--	2.14	84.8	--	--	--	--	--	--
07...	--	--	1.96	97.2	--	--	--	--	--	--
20...	--	--	2.45	107	--	--	--	--	--	--
24...	--	1640	2.34	97.5	--	--	--	--	--	--
24...	--	--	--	--	2	2.8	2.2	5.0	22	1.1
FEB										
23...	--	1540	2.27	113	--	--	--	--	--	--
23...	--	--	--	--	20	2.4	2.4	4.8	21	.67
MAR										
01...	--	--	2.31	129	--	--	--	--	--	--
14...	--	--	2.43	106	--	--	--	--	--	--
19...	--	--	1.90	83.2	--	--	--	--	--	--
22...	--	1470	2.20	91.9	--	--	--	--	--	--
APR										
10...	--	--	1.24	59.2	--	--	--	--	--	--
16...	--	--	2.16	68.7	--	--	--	--	--	--
26...	--	--	2.46	46.9	--	--	--	--	--	--
26...	--	1650	2.45	48.6	--	--	--	--	--	--
MAY										
01...	--	--	2.49	54.4	--	--	--	--	--	--
07...	--	--	1.52	10.0	--	--	--	--	--	--
17...	--	1370	1.92	16.8	--	--	--	--	--	--
17...	--	--	--	--	79	.60	2.0	2.6	12	.89
28...	--	--	.22	2390	--	--	--	--	--	--
JUN										
06...	--	--	.19	147	--	--	--	--	--	--
07...	--	--	.35	30	--	--	--	--	--	--
07...	--	--	--	--	513	.30	3.8	4.1	18	.14
12...	--	--	1.28	33	--	--	--	--	--	--
24...	--	--	2.05	232	--	--	--	--	--	--
JUL										
03...	--	--	2.11	100	--	--	--	--	--	--
09...	--	--	2.12	89	--	--	--	--	--	--
22...	--	--	2.35	51	--	--	--	--	--	--
27...	--	1560	2.33	50	--	--	--	--	--	--
27...	--	--	--	--	43	.60	1.5	2.1	9.5	.82
AUG										
06...	--	--	2.34	51	--	--	--	--	--	--
19...	--	--	1.22	15	--	--	--	--	--	--
23...	--	--	2.19	31	--	--	--	--	--	--
30...	--	1590	2.27	28	--	--	--	--	--	--
30...	--	--	--	--	67	.90	2.4	3.3	15	.36
SEP										
02...	--	--	2.33	25	--	--	--	--	--	--
21...	--	--	1.96	66	--	--	--	--	--	--
27...	--	--	.79	10	--	--	--	--	--	--
28...	--	846	1.20	15	--	--	--	--	--	--

07304500 ELK CREEK NEAR HOBART, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BORON, DISSOLVED (UG/L AS B)	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)
OCT 21...	1215	--	--	--	--	--	--	--	--
NOV 29...	0945	--	--	--	--	--	--	--	--
DEC 28...	1200	--	--	--	--	--	--	--	--
JAN 24...	1001	--	2	--	--	<1	--	6	--
FEB 23...	1410	0	--	5	590	--	2	--	0
MAY 17...	0925	0	--	8	430	--	1	--	5
17...	0926	--	--	--	--	--	--	--	--
JUN 07...	1550	--	--	--	--	--	--	--	--
JUL 27...	1416	--	5	--	--	3	--	9	--
AUG 30...	1230	20	--	8	600	--	0	--	0
30...	1231	--	--	--	--	--	--	--	--

DATE	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)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	TIME	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 21...	--	--	--	--	--	--	0.4	--	--
NOV 29...	--	--	7800	--	--	--	--	320	--
DEC 28...	--	--	--	--	--	--	120	--	--
JAN 24...	10	--	200	--	22	--	0810	130	--
FEB 23...	--	1	--	20	--	6	--	--	180
MAY 17...	--	1	--	60	--	5	--	--	340
17...	--	--	530	--	--	--	--	460	--
JUN 07...	--	--	--	--	--	--	87	--	--
JUL 27...	7	--	490	--	49	--	--	410	--
AUG 30...	--	5	--	40	--	0	21	--	80
30...	--	--	--	--	--	--	700	--	--

DATE	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)	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)
OCT 21...	--	--	--	--	--	--	--	--	7.0
NOV 29...	--	--	--	--	--	--	--	--	17
DEC 28...	--	--	--	--	--	--	--	--	17
JAN 24...	<.5	--	11	--	3	5	14	--	22
FEB 23...	--	.0	--	5	--	--	--	10	--
MAY 17...	--	.0	--	2	--	--	--	5	10
17...	--	--	--	--	--	--	--	--	14
JUN 07...	--	--	--	--	--	--	--	--	24
JUL 27...	<.5	--	7	--	3	<2	12	--	11
AUG 30...	--	.0	--	0	--	--	--	140	--
30...	--	--	--	--	--	--	--	--	6.0

07304500 ELK CREEK NEAR HOBART, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2160	2080	1880	2170	2100	2180	2250	2360	742	1990	2280	2220
2	2180	1980	2000	2220	2110	2130	2130	2340	753	2050	2280	2260
3	2220	2060	2120	2240	2140	2130	2070	813	1000	1910	2200	2250
4	2180	1940	2150	2210	2120	2100	2340	1580	1120	2100	2220	2200
5	2120	1980	2170	2190	2120	2100	2160	1850	234	2160	2250	2180
6	2060	1940	2210	2180	2180	2120	2230	1700	205	2180	2280	2140
7	2130	1630	2200	1990	2140	2140	2280	1650	390	2210	2190	2160
8	2180	1830	2190	2020	2120	2240	2320	1800	406	2160	2100	2170
9	2210	1940	2180	2060	2120	2240	2320	2000	709	2080	2200	2190
10	2210	1920	2250	2080	2120	2250	1320	2020	928	2100	2160	2190
11	2240	1990	2260	2130	2110	2190	2030	2030	1140	2110	2090	2220
12	2200	2020	2200	2170	2130	2220	2040	2030	1440	2090	2080	2230
13	2170	1840	2200	2160	1940	2270	2090	2050	1540	2120	2080	2220
14	2190	1960	2230	2190	1900	2290	2220	1980	972	2120	2080	2140
15	2220	2060	2230	2230	2020	2260	2260	1970	1510	2140	2180	2170
16	2200	2120	2240	2240	2140	2290	2120	1920	1740	2160	2080	2210
17	2190	2060	2210	2280	2120	2170	2100	1890	1730	2170	2080	2230
18	2200	2080	2250	2310	2140	1800	2140	1890	1770	2180	2090	2250
19	2220	2140	2230	2340	2230	1880	2180	1980	1810	2170	1320	2250
20	2210	2150	2210	2360	2070	1940	2220	2030	1840	2210	2120	2150
21	2200	2200	2260	2280	2110	2050	2250	2030	1910	2220	2160	1940
22	2150	2210	2240	2340	2130	2110	2300	2090	2100	2260	2130	2110
23	2060	2230	2260	2260	2150	2140	2300	2120	2120	2230	2160	2100
24	2020	2230	2200	2210	2210	2210	2320	2170	2160	2200	2210	2120
25	2100	2220	1900	2210	2130	2210	2300	2200	2150	2230	2180	1710
26	2150	2240	1940	2160	2170	2280	2360	2050	2130	2200	2180	1400
27	2100	2240	1960	2140	2150	2270	2330	1720	2110	2130	2270	891
28	2070	2230	1980	2130	2130	2260	2320	256	2110	2180	2280	1120
29	2050	2160	2000	2110	---	2250	2330	306	2080	2220	2220	1260
30	2080	1890	2090	2140	---	2250	2340	456	2080	2260	2210	1300
31	2080	---	2160	2100	---	2260	---	535	---	2220	2190	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	15.0	5.0	3.0	1.5	5.0	17.0	18.0	22.0	25.0	24.0	22.0
2	19.0	11.0	6.0	.5	.0	4.5	17.0	15.5	21.0	25.5	25.0	23.0
3	17.0	11.0	6.0	.0	1.0	2.5	18.0	7.5	19.5	27.0	25.0	24.0
4	17.0	11.0	7.0	1.5	2.0	.0	17.0	9.5	20.0	25.0	23.0	23.0
5	16.0	12.0	7.0	3.0	2.0	1.0	18.5	13.5	19.0	26.0	21.0	23.5
6	17.0	16.0	4.0	3.0	2.0	5.0	16.0	15.0	19.0	25.0	23.0	22.5
7	18.0	14.0	2.0	4.5	1.5	5.0	18.0	17.0	21.0	25.5	23.5	23.5
8	17.5	14.0	4.0	3.0	.0	4.0	19.0	17.5	21.0	28.0	23.0	22.5
9	15.0	10.0	1.0	.5	.0	4.0	19.5	18.0	21.0	26.0	24.0	21.5
10	15.0	7.0	1.0	.0	.5	6.5	12.0	18.5	21.0	26.0	23.5	22.5
11	13.0	8.0	1.0	.0	1.5	9.0	12.0	19.0	22.0	26.0	24.0	24.0
12	12.0	8.0	5.0	.0	2.0	8.0	14.0	20.0	23.5	23.5	24.5	23.5
13	12.0	9.5	6.0	.0	.0	9.0	16.0	18.0	23.0	28.0	26.0	24.0
14	12.0	10.0	5.5	1.5	.0	9.5	17.0	18.0	22.5	27.0	26.0	23.0
15	12.5	11.5	6.0	.5	.5	10.0	17.0	20.5	24.0	27.0	25.5	24.0
16	11.0	11.0	7.0	2.0	1.0	7.0	19.0	21.0	24.0	25.5	25.0	28.0
17	12.0	9.5	8.0	-0.5	.0	8.0	19.0	21.0	24.0	26.5	25.0	25.0
18	13.0	10.0	5.0	.0	2.0	9.0	15.0	21.0	25.0	26.5	25.0	24.0
19	13.0	12.0	6.0	.5	.0	10.0	14.0	22.0	24.0	27.0	21.0	23.5
20	14.0	14.0	5.0	1.0	.5	12.0	14.5	21.0	24.5	26.5	21.0	23.0
21	16.0	8.0	2.0	.0	.0	13.0	13.5	21.5	25.0	25.5	23.0	17.0
22	18.0	7.0	3.0	.5	1.0	13.0	14.0	21.0	24.0	25.0	24.5	16.5
23	16.0	8.0	4.0	1.0	3.0	15.0	14.0	22.5	24.0	25.0	24.5	19.0
24	15.0	7.5	7.0	1.0	4.5	9.0	16.0	24.0	24.5	23.0	25.0	21.0
25	15.0	7.0	3.0	.0	5.5	8.0	15.0	23.5	25.0	25.0	25.0	21.0
26	16.0	7.0	2.0	-0.5	4.5	9.0	15.0	22.0	25.0	26.0	25.5	20.5
27	16.0	8.0	2.0	.0	6.0	10.0	15.5	23.0	25.0	25.0	25.5	19.5
28	17.0	8.0	3.0	2.0	7.0	12.0	16.0	22.0	25.0	24.0	24.0	20.0
29	17.0	7.0	4.0	.0	---	15.0	17.0	19.5	25.0	25.0	23.0	20.0
30	18.0	5.0	5.5	1.0	---	14.0	19.0	21.5	25.0	25.5	21.0	19.0
31	16.0	---	6.0	4.0	---	15.0	---	21.0	---	26.0	20.0	---

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) Bureau of Reclamation datum. 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 good except for period of backwater Apr. 6 to May 19 which is 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) 34 years (water years 1945-78), 276 ft^3/s (7.816 m^3/s), 200,000 acre-ft/yr (247 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, 26,400 ft^3/s (748 m^3/s) May 30, gage height, 15.70 ft (4.785 m); minimum daily, 32 ft^3/s (0.91 m^3/s) Sept. 19.

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	65	70	73	60	78	81	70	55	2170	136	53	63
2	62	75	72	58	77	81	68	100	1470	131	53	52
3	60	77	71	68	76	82	69	612	1180	122	52	50
4	59	79	70	67	75	72	70	599	1020	117	71	48
5	59	71	73	65	74	87	67	350	2200	113	74	45
6	59	67	70	63	74	79	66	404	6820	106	67	39
7	59	66	72	66	75	77	66	467	9870	99	62	38
8	57	75	73	65	75	76	66	178	4560	95	60	38
9	56	75	64	66	70	76	66	93	1910	89	62	39
10	56	78	60	54	70	78	85	65	1490	85	63	39
11	55	78	74	57	70	76	136	60	1100	82	59	38
12	54	73	80	65	70	76	100	52	921	78	53	36
13	54	69	72	65	70	75	80	45	1240	75	49	36
14	53	68	69	65	70	74	75	46	1060	72	49	35
15	52	67	73	65	70	74	70	53	835	74	46	34
16	51	65	72	65	70	75	70	58	615	70	45	34
17	51	65	68	65	70	76	65	62	405	69	41	33
18	51	89	67	60	65	76	65	57	338	67	38	33
19	51	96	65	60	70	74	60	71	302	65	40	32
20	51	80	63	60	80	72	60	502	263	63	50	33
21	50	76	61	60	84	74	60	779	253	62	51	55
22	55	74	62	60	86	74	60	170	243	63	46	1100
23	95	72	63	60	85	74	55	326	254	65	45	916
24	228	73	63	60	85	73	55	135	212	65	43	302
25	127	72	62	60	83	74	55	76	209	62	40	166
26	100	71	62	60	85	74	55	58	189	62	39	117
27	88	76	64	65	84	73	55	254	172	66	38	108
28	81	73	64	70	84	72	55	6370	161	61	38	143
29	77	75	63	75	---	70	55	16800	153	59	37	138
30	74	79	64	77	---	70	55	18900	143	56	41	112
31	72	---	65	78	---	70	---	5110	---	53	92	---
TOTAL	2162	2224	2094	1984	2125	2335	2034	52907	41758	2482	1597	3952
MEAN	69.7	74.1	67.5	64.0	75.9	75.3	67.8	1707	1392	80.1	51.5	132
MAX	228	96	80	78	86	87	136	18900	9870	136	92	1100
MIN	50	65	60	54	65	70	55	45	143	53	37	32
AC-FT	4290	4410	4150	3940	4210	4630	4030	104900	82830	4920	3170	7840

CAL YR 1977 TOTAL 237336 MEAN 650 MAX 25100 MIN 17 AC-FT 470800
WTR YR 1978 TOTAL 117654 MEAN 322 MAX 18900 MIN 32 AC-FT 233400

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 Aug. 1959.

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 tables, 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 months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 12,200 micromhos Apr. 15; minimum 1,020 micromhos May 29.
WATER TEMPERATURE: Maximum daily, 33.0°C July 29, Aug. 11, 24; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	TURBIDITY (NTU)	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)
OCT											
05	1230	59	8330	7.9	20.0	--	--	--	--	--	--
15	1015	53	9650	7.9	17.0	--	--	--	--	--	--
21	0900	50	9000	8.0	10.0	7	--	9.1	96	36	83
24	0915	265	6210	7.9	10.0	--	--	--	--	--	--
NOV											
05	0740	71	10100	8.1	12.0	--	--	--	--	--	--
10	0800	65	10600	8.1	12.0	--	--	--	--	--	--
20	0930	71	9280	7.9	6.0	--	--	--	--	--	--
28	1500	73	9500	8.4	9.0	4	--	12.0	108	K11	K125
DEC											
05	0930	73	9170	8.1	8.0	--	--	--	--	--	--
10	0900	72	9080	8.1	6.0	--	--	--	--	--	--
25	0845	68	8980	8.1	2.0	--	--	--	--	--	--
27	1445	64	8930	8.3	5.5	3	--	15.8	130	K11	K21
JAN											
05	0930	65	9340	8.2	4.0	--	--	--	--	--	--
15	0900	65	8730	8.1	.0	--	--	--	--	--	--
23	1430	65	8600	8.3	-1.0	6	--	15.2	109	K4	52
25	1000	65	8410	8.1	.0	--	--	--	--	--	--
FEB											
05	0930	70	8990	8.1	2.0	--	--	--	--	--	--
13	0900	70	7520	8.2	.0	--	--	--	--	--	--
23	1130	75	7920	8.1	7.0	4	--	13.0	110	K18	24
25	0900	75	8490	8.2	5.0	--	--	--	--	--	--
MAR											
05	0830	101	8540	7.8	.0	--	--	--	--	--	--
15	1030	86	8830	8.1	10.0	--	--	--	--	--	--
20	1400	79	9160	7.9	21.0	5	--	12.3	137	22	K15
25	1100	74	8860	8.3	10.0	--	--	--	--	--	--
APR											
05	0800	67	9210	8.1	18.0	--	--	--	--	--	--
14	0700	81	7500	7.3	16.0	--	--	--	--	--	--
25	1400	49	8500	8.2	24.5	2	--	10.8	133	--	94
MAY											
05	0908	328	6170	7.5	15.0	--	--	--	--	--	--
15	0922	54	11200	7.4	22.0	--	--	--	--	--	--
15	1630	54	10100	8.5	34.0	35	--	11.0	162	K67	170
25	0945	81	3900	7.5	24.0	--	--	--	--	--	--
JUN											
05	0745	1420	3900	7.6	23.0	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	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)
JUN											
05...	1330	1850	3400	7.9	19.5	--	330	7.6	86	52	38
15...	0700	921	3200	7.7	25.0	--	--	--	--	--	--
25...	0835	212	6180	7.3	24.0	--	--	--	--	--	--
JUL											
05...	0845	113	7000	8.3	27.0	--	--	--	--	--	--
15...	0709	74	7980	7.6	25.0	--	--	--	--	--	--
25...	0830	62	7640	7.9	26.0	--	--	--	--	--	--
27...	1100	66	6700	8.0	26.5	--	4.4	7.8	100	94	160
AUG											
05...	0955	74	9580	7.6	23.0	--	--	--	--	--	--
14...	1230	49	9910	7.8	30.0	--	--	--	--	--	--
25...	0845	40	8550	7.5	24.0	--	--	--	--	--	--
28...	1615	38	8850	8.1	29.0	--	3.1	8.6	116	120	220
SEP											
05...	1145	40	6300	8.1	29.0	--	--	--	--	--	--
15...	1300	34	8200	7.8	31.0	--	--	--	--	--	--
25...	1247	147	5250	7.8	25.0	--	--	--	--	--	--
28...	1115	147	8000	7.9	22.5	--	36	8.7	102	140	240

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)
OCT										
05...	1200	1000	300	100	1400	72	18	10	190	0
15...	1300	1100	320	110	1400	76	22	11	150	0
21...	1200	1100	290	120	1700	75	21	9.8	200	0
24...	710	620	200	52	1100	77	18	10	110	0
NOV										
05...	1200	1100	320	100	1800	76	23	11	180	0
16...	1300	1200	330	120	2000	77	24	11	150	0
26...	830	680	310	14	1600	81	24	9.2	190	0
28...	1400	1100	320	120	1500	71	18	9.1	220	0
DEC										
05...	1200	1100	300	110	1600	74	20	10	170	0
18...	1300	1100	320	120	1600	73	19	9.8	140	0
25...	1300	1100	320	120	1600	73	19	9.6	200	0
27...	1300	1100	300	130	1600	73	19	9.4	240	0
JAN										
05...	1300	1200	330	120	1600	72	19	9.2	200	0
19...	1300	1100	340	120	1500	71	18	8.7	270	0
23...	1300	1100	340	120	1500	71	18	8.5	310	0
25...	1200	1000	310	110	1400	71	17	8.2	220	0
FEB										
05...	1300	1100	330	120	1600	72	19	9.2	230	0
13...	1100	910	290	97	1300	71	17	7.8	260	0
23...	1300	1000	320	110	1400	71	17	8.9	270	0
25...	1300	1100	320	120	1600	73	19	9.4	220	0
MAR										
05...	1200	1100	300	120	1600	74	20	10	220	0
15...	1300	1100	330	120	1500	71	18	9.6	240	0
20...	1300	1100	310	120	1600	73	20	9.6	190	0
25...	1200	1100	300	120	1600	74	20	10	170	0
APR										
05...	1300	1100	310	130	1600	72	19	13	200	0
14...	1000	870	250	92	1300	74	18	8.9	160	0
25...	1400	1200	330	130	1500	70	18	14	230	0
MAY										
05...	820	690	210	71	1100	74	17	8.0	160	0
15...	1400	1200	360	120	2100	76	24	12	190	0
15...	1300	1200	340	120	2000	76	24	14	150	0
25...	560	470	160	44	610	69	11	10	130	0
JUN										
05...	870	730	260	54	490	55	7.2	8.1	170	0
05...	800	740	240	49	420	53	6.5	8.2	--	--
15...	800	660	230	54	370	50	5.7	7.6	170	0
25...	1100	960	300	85	890	64	12	9.6	170	0
JUL										
05...	1100	930	290	85	1200	71	16	9.3	180	0
15...	1100	980	310	89	1400	73	18	10	190	0
25...	1100	940	290	91	1300	72	17	9.9	190	0
27...	1100	920	270	94	1200	71	16	11	--	--
AUG										
05...	1300	1200	340	110	1700	74	21	11	180	0
14...	1300	1100	320	110	1800	76	22	11	170	0
25...	1200	1000	300	98	1500	74	19	10	170	0
28...	1200	1000	300	100	1600	75	20	11	--	--
SEP										
05...	970	840	260	77	1100	71	15	11	150	0
15...	1100	970	280	96	1500	75	20	12	150	0
25...	740	670	250	29	430	55	8.9	8.8	87	0
28...	1200	1100	390	61	1200	68	15	9.8	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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, 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)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
OCT										
05...	160	5.8	990	2200	--	--	5240	--	7.13	835
15...	120	5.0	1100	2700	--	--	6090	--	8.28	871
21...	160	3.2	1000	2700	.4	2.4	6010	5920	8.17	811
24...	90	2.2	520	1800	--	--	3730	--	5.07	2670
NOV										
05...	150	2.3	970	3000	--	--	6200	--	8.43	1190
16...	120	1.9	1000	3200	--	--	6510	--	8.85	1140
26...	160	3.6	800	2500	--	--	5820	--	7.92	1120
28...	180	1.4	1100	2300	.1	2.0	5570	5460	7.58	1100
DEC										
05...	140	2.2	960	2500	--	--	5590	--	7.60	1100
18...	160	2.4	1100	2500	--	--	5750	--	7.82	1120
25...	160	2.5	1100	2400	--	--	5700	--	7.75	1050
27...	200	1.9	1000	2400	.5	2.9	5680	5560	7.72	982
JAN										
05...	160	2.0	1100	2600	--	--	5710	--	7.77	1000
15...	220	3.4	1000	2400	--	--	5380	--	7.32	944
23...	250	2.5	1000	2400	.4	7.4	5570	5530	7.58	978
25...	180	2.8	950	2300	--	--	5140	--	6.99	902
FEB										
05...	190	2.9	1000	2400	--	--	5350	--	7.28	1010
13...	210	2.6	840	2000	--	--	4460	--	6.07	843
23...	220	3.4	970	2100	.4	7.4	5080	5050	6.91	1030
25...	180	2.2	1000	2400	--	--	5550	--	7.55	1120
MAR										
05...	160	8.8	990	2500	--	--	5660	--	7.70	1540
15...	200	3.1	1000	2400	--	--	5440	--	7.40	1260
20...	160	3.8	--	2400	.4	.5	5530	--	7.52	1180
25...	140	1.4	980	2600	--	--	5350	--	7.28	1070
APR										
05...	160	2.5	1000	2600	--	--	5860	--	7.97	1060
14...	130	13	760	2000	--	--	4590	--	6.24	1000
25...	190	2.3	1000	2500	.5	2.0	6080	5590	8.27	804
MAY										
05...	130	8.1	600	1700	--	--	3880	--	5.28	3440
15...	160	12	1100	5300	--	--	7200	--	9.79	1050
15...	120	.6	1100	3300	.4	3.4	6560	6950	8.92	956
25...	110	6.6	370	1000	--	--	2390	--	3.25	523
JUN										
05...	140	6.8	700	810	--	--	2560	--	3.48	9820
05...	66	--	610	670	.3	8.9	2090	2050	2.84	10400
15...	140	5.4	590	570	--	--	2030	--	2.76	5050
25...	140	14	980	1400	--	--	4020	--	5.47	2500
JUL										
05...	150	1.4	1000	1800	--	--	4590	--	6.24	1400
15...	160	7.6	1000	2100	--	--	5140	--	6.99	1030
25...	160	3.8	1000	1900	--	--	4900	--	6.66	820
27...	140	--	930	1900	.4	4.0	4460	4500	6.07	795
AUG										
05...	150	7.2	1000	2600	--	--	6110	--	8.31	1220
14...	140	4.3	1200	2900	--	--	6400	--	8.70	847
25...	140	8.6	990	2300	--	--	5430	--	7.38	586
28...	130	--	1000	2400	.4	8.8	5310	5500	7.22	545
SEP										
05...	120	1.9	880	1700	--	--	3980	--	5.41	430
15...	120	3.8	1000	2200	--	--	5200	--	7.07	477
25...	71	2.2	620	670	--	--	2100	--	2.86	833
28...	110	--	910	2000	.3	8.5	4930	4850	6.70	1960

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (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)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
OCT										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
21...	.01	.05	--	--	--	.35	--	--	.07	.05
24...	--	--	--	--	--	--	--	--	--	--
NOV										
05...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
28...	.25	.09	--	--	--	.48	--	--	.02	.00
DEC										
05...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
27...	.87	.09	--	--	--	.59	--	--	.06	.04
JAN										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
23...	1.7	.20	.39	.59	.46	.13	2.3	10	.20	.17
25...	--	--	--	--	--	--	--	--	--	--
FEB										
05...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
23...	1.5	.29	.37	.66	.13	.53	2.2	9.6	.21	.15
25...	--	--	--	--	--	--	--	--	--	--
MAR										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
20...	.02	.28	.56	.84	.13	.71	.86	3.8	.14	.06
25...	--	--	--	--	--	--	--	--	--	--
APR										
05...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
25...	.01	.23	1.3	1.5	1.2	.35	1.5	6.7	.16	.06
MAY										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
15...	.02	.04	.96	1.0	.66	.34	1.0	4.5	.17	.01
25...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	--	--	--	--	--	--	--	--	--	--
05...	2.9	.34	1.4	1.7	.95	.75	4.6	20	.31	.04
15...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
JUL										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
27...	.05	.01	.72	.73	.21	.52	.78	3.5	.03	.00
AUG										
05...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
28...	.02	.02	1.1	1.1	.61	.49	1.1	5.0	.06	.04
SEP										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
28...	.28	.05	.95	1.0	.57	.43	1.3	5.7	.14	.00

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS-PENDED 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)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
OCT 21...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 28...	3	1	2	500	100	400	16	13	3	10	10	0
DEC 27...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 23...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	3	1	2	200	0	200	0	0	1	10	10	0
MAR 20...	--	--	--	--	--	--	--	--	--	--	--	--
APR 25...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 15...	3	0	3	0	0	0	1	0	1	10	0	10
JUN 05...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 27...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 28...	5	0	4	100	0	100	0	0	0	0	0	0
SEP 28...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)
OCT 21...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 28...	1	1	0	12	10	2	300	--	20	28	15	13
DEC 27...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 23...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	0	0	0	13	13	0	350	--	10	18	0	19
MAR 20...	--	--	--	--	--	--	--	--	--	--	--	--
APR 25...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 15...	3	0	3	7	7	0	1400	--	20	12	8	4
JUN 05...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 27...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 28...	1	0	1	9	7	2	210	190	20	7	7	0
SEP 28...	--	--	--	--	--	--	--	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 21...	--	--	--	--	--	--	--	--	--	--	--
NOV 28...	40	20	20	.7	.6	.1	5	1	4	0	0
DEC 27...	--	--	--	--	--	--	--	--	--	--	--
JAN 23...	--	--	--	--	--	--	--	--	--	--	--
FEB 23...	60	20	40	.0	.0	.0	5	0	5	1	1
MAR 20...	--	--	--	--	--	--	--	--	--	--	--
APR 25...	--	--	--	--	--	--	--	--	--	--	--
MAY 15...	100	60	40	.0	.0	.0	0	0	1	0	0
JUN 05...	--	--	--	--	--	--	--	--	--	--	--
JUL 27...	--	--	--	--	--	--	--	--	--	--	--
AUG 28...	60	30	30	.0	.0	.0	3	2	1	0	0
SEP 28...	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)	PHYTOPLANKTON, TOTAL (CELLS PER ML)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 21...	--	--	--	--	--	--	--	--	410	55	100
NOV 28...	0	50	0	50	--	4.2	.3	1700	189	37	99
DEC 27...	--	--	--	--	3.0	--	--	--	--	--	--
JAN 23...	--	--	--	--	3.5	--	--	--	147	26	97
FEB 23...	0	30	10	20	--	3.9	1.3	--	291	59	68
MAR 20...	--	--	--	--	4.9	--	--	1400	167	36	92
APR 25...	--	--	--	--	5.1	--	--	--	226	30	98
MAY 15...	0	50	30	20	--	5.0	1.5	79000	282	41	95
JUN 05...	--	--	--	--	12	--	--	1200	697	3480	99
JUL 27...	--	--	--	--	4.9	--	--	--	79	14	87
AUG 28...	0	30	10	20	--	6.9	1.5	11000	139	14	99
SEP 28...	--	--	--	--	6.0	--	--	--	332	132	100

07305000 NORTH FORK RED RIVER NEAR HEADRICK, OK--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO AUGUST 1978

DATE	NOV 28,77		MAR 20,78		MAY 15,78		JUN 5,78		AUG 28,78	
TIME	1500		1330		1630		1330		1615	
TOTAL CELLS/ML	1700		1400		79000		1200		11000	
DIVERSITY: DIVISION	1.5		0.4		0.5		1.1		0.9	
.CLASS	1.5		0.4		0.5		1.1		0.9	
..ORDER	2.2		1.7		1.3		1.6		0.9	
...FAMILY	2.9		2.1		1.5		2.8		1.1	
....GENUS	3.0		2.2		1.7		3.2		2.0	
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										
...CHARACIACEAE										
....SCHROEDERIA	33	2	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	96	7	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	160	14	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	50	3	32	2	1400	2	14	1	600	6
....DICTYOSPHAERIUM	--	-	--	-	--	-	170	15	140	1
....KIRCHNERIELLA	--	-	210	15	720	1	--	-	--	-
....OOCYSTIS	130	8	--	-	2200	3	200#	17	140	1
....TETRAEDRON	--	-	--	-	--	-	--	-	180	2
....TREUBARIA	--	-	--	-	--	-	--	-	71	1
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	--	-	140	1
....SCENEDESMUS	230	14	64	5	2500	3	220#	19	780	7
..TETRASPORALES										
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	180	13	--	-	--	-	--	-
...TETRASPORACEAE										
....TETRASPORA	--	-	--	-	--	-	--	-	140	1
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	66	4	--	-	--	-	14	1	--	-
....CHLAMYDOMONAS	--	-	730#	52	2900	4	100	9	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	580#	35	--	-	54000#	68	14	1	140	1
....MELOSIRA	--	-	--	-	1400	2	--	-	--	-
..PENNALES										
...CYMBELLACEAE										
....AMPHORA	--	-	--	-	--	-	29	2	--	-
....CYMBELLA	17	1	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....SYNEDRA	--	-	--	-	--	-	14	1	--	-
..NAVICULACEAE										
....NAVICULA	170	10	32	2	12000#	16	14	1	--	-

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

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO AUGUST 1978

...NITZSCHIACEAE												
....HANTZSCHIA	--	-	--	-	*	0	--	-	--	-		
....NITZSCHIA	--	-	32	2	1100	1	100	9	--	-		
...SURIRELLACEAE												
....CYMATOPLEURA	170	10	--	-	--	-	--	-	--	-		
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONIDALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	99	6	--	-	--	-	14	1	--	-		
...CRYPTOMONODACEAE												
....CRYPTOMONAS	50	3	--	-	--	-	--	-	--	-		
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	--	-	--	-	--	-	--	-	6200#	58		
....ANACYSTIS	--	-	--	-	--	-	--	-	2100#	20		
..HORMOGONALES												
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	--	-	72	6	--	-		
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	17	1	32	2	--	-	14	1	--	-		
....TRACHELOMONAS	50	3	--	-	--	-	--	-	--	-		
PYRRHOPHYTA (FIRE ALGAE)												
.DINOPHYCEAE												
..PERIDINIALES												
...GLENODINIACEAE												
....GLENODINIUM	--	-	--	-	--	-	--	-	*	0		

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 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7860	9600	7640	9290	8470	8590	9110	9890	2260	6670	7750	6960
2	8370	9740	9040	9700	8710	8560	8880	10000	2690	6580	7870	5550
3	8560	9680	9150	9200	9110	8650	9020	4090	3070	6840	7880	5680
4	8480	10200	8940	7630	8850	8560	9180	4750	3220	7120	7910	6060
5	8330	10100	9170	8660	8990	8540	9210	6170	3900	7000	9580	6300
6	8560	9970	8870	7730	9020	8480	9210	9610	1050	7420	10300	6700
7	8610	9770	9040	7970	8810	8930	9380	6960	1080	7380	10400	7300
8	8600	9230	9040	7720	8810	8950	9430	6820	1320	7590	8690	7250
9	8600	9970	9450	8770	8880	8810	9640	6640	1870	7600	8260	7340
10	8600	10400	9650	9650	8710	8760	9010	7280	2500	7680	8160	7370
11	8980	10900	9590	9200	8210	8950	8550	8340	2820	7630	8910	7570
12	9230	11100	8720	9650	7970	9050	9640	9530	3500	7560	9400	7720
13	9180	10600	9100	8730	7520	9570	7050	10600	3280	7640	9560	7940
14	9500	10100	9050	8520	8100	9020	7500	10900	2860	7390	9910	8050
15	9650	10000	8740	8190	6210	8830	12200	11200	3200	7980	9910	8200
16	9700	10600	9080	8160	7520	8860	9280	10600	4770	7700	9770	8300
17	9400	10900	9430	8900	7950	8560	7530	10600	5220	7640	9610	8390
18	9550	10800	9500	5260	9100	8510	8000	10500	4800	7680	9320	8510
19	9520	6990	10000	8010	7810	8860	8520	9690	5040	7750	8940	8620
20	9450	6870	9780	8460	8640	8900	8690	2150	5860	7800	8740	7980
21	9550	8840	9360	8940	9360	9020	9300	1090	5710	7780	8490	7300
22	9400	9030	9280	9440	8360	9250	9090	1260	6180	7810	8330	9480
23	8170	8940	9370	9780	8070	8930	9910	6840	5610	7030	8750	2320
24	6210	9180	8920	8430	8270	8860	9530	2550	5560	7640	8700	2400
25	2230	8910	8980	8410	8890	8860	9750	3900	6180	7640	8550	3250
26	3730	9280	9130	8560	8890	8880	9800	5630	6060	7660	8580	4080
27	5300	9490	8980	8840	8420	9020	9860	7100	6320	7090	8500	5160
28	6130	8750	8510	10600	8120	9170	10100	1820	6480	7660	8120	7440
29	7810	8940	8670	10200	---	9220	10100	1110	6620	7620	8270	4720
30	9120	8950	8720	9700	---	9230	10000	1360	6560	7520	8550	6010
31	9050	---	8610	8800	---	9300	---	1820	---	7820	11600	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

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

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7840	8520	7570	6670	8510	8150	9110	7900	2350	6270	---	7450
2	8270	9410	9020	10800	9190	8430	9530	10800	2790	3990	---	5640
3	8250	8240	9120	9870	8660	8130	9320	4080	3090	---	---	5680
4	8290	10200	9050	7320	8710	8690	10300	4950	3350	---	---	6030
5	8350	10100	9150	7580	---	8250	9320	4250	3120	---	---	6280
6	8580	9760	8840	8700	9760	8310	9280	10300	1110	---	---	6710
7	8720	9790	9030	---	9130	8880	9440	6980	1180	---	---	7100
8	8620	9290	9000	---	8940	9220	9460	6880	1410	---	---	7270
9	8580	9960	9480	8040	8990	8920	9720	---	1940	---	---	7290
10	8560	10800	9670	9710	8750	8750	8870	7480	2480	---	8920	7390
11	8960	10800	9640	---	8360	9130	7670	8550	2880	---	7130	7650
12	9220	10900	8700	9420	8180	9000	8770	9760	3590	---	9990	7570
13	9180	10600	9160	---	7270	9760	6500	10600	3550	---	10700	6960
14	9560	10000	9100	9540	7890	8610	9090	11600	2780	---	9090	---
15	9680	9970	8770	8250	6230	8770	12000	11400	3500	---	10100	---
16	9720	10500	9090	8560	6330	---	8740	10700	4990	---	9240	---
17	9440	10800	---	9860	7770	---	7600	10600	4770	---	7350	---
18	9530	10900	---	5070	9290	---	8100	10200	---	---	9000	---
19	9490	6940	---	6010	7910	---	8660	8420	---	7350	8390	---
20	9420	6870	---	8360	8850	---	8940	2230	---	7100	8260	7790
21	9530	8840	---	8870	9100	7740	9360	1240	6040	8380	10400	6320
22	9410	8990	---	9490	8210	8790	9730	1730	6290	7410	8370	3650
23	8430	8870	---	10600	7940	8400	9720	7110	5830	7130	9260	2390
24	5370	9160	---	8550	8270	9050	9540	2260	7210	8040	6720	2490
25	2440	8810	---	8540	8770	7610	8570	---	7550	7040	9990	3220
26	3910	9210	---	8650	9590	8010	9800	---	5960	7260	8190	4300
27	5330	9460	---	8600	9330	8050	9760	---	5220	6490	9850	5310
28	6290	8710	7740	10500	7240	9200	10100	1790	6370	7660	9650	8030
29	8060	8790	8640	10300	---	9210	10100	1020	6820	8320	9270	5170
30	9100	8920	8780	10200	---	8180	10000	1410	6560	7980	9420	5900
31	9150	---	9590	8700	---	10500	---	1930	---	---	11400	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	16.0	8.0	3.5	2.0	8.5	20.0	11.5	25.0	29.5	---	27.0
2	21.5	11.0	8.0	5.5	1.5	5.0	20.5	11.0	23.0	---	---	---
3	21.0	14.0	9.5	7.0	.5	6.5	19.0	15.0	23.5	---	---	---
4	17.5	16.0	9.0	8.0	---	8.5	21.5	16.5	24.0	---	---	---
5	18.5	17.0	4.5	6.5	.5	11.5	20.0	19.0	23.0	---	---	26.5
6	21.0	17.5	3.0	2.0	1.0	12.0	20.0	22.5	22.5	---	---	26.5
7	21.5	17.5	6.0	.5	1.0	11.5	22.0	23.5	23.5	---	---	26.5
8	19.5	15.5	4.0	.5	2.5	21.5	21.5	23.5	24.0	---	---	26.5
9	17.0	10.0	2.0	1.5	2.5	13.0	21.5	---	25.0	---	---	26.0
10	17.5	11.0	2.5	1.0	1.5	10.5	16.0	---	25.0	---	28.5	27.0
11	14.5	12.0	6.5	1.5	2.0	11.0	16.5	23.5	26.0	---	28.5	27.0
12	15.0	12.5	10.0	2.5	2.0	12.5	18.5	22.5	26.5	---	28.0	26.0
13	15.5	13.5	8.5	.0	.5	14.0	19.5	22.0	25.5	---	29.0	25.5
14	16.0	14.5	9.0	---	1.5	14.5	20.0	25.0	27.0	---	28.5	---
15	15.5	15.0	9.5	.0	2.5	17.0	22.0	27.0	27.0	---	28.0	---
16	14.5	14.5	9.5	.0	2.5	---	22.5	24.0	27.0	---	28.5	23.5
17	16.0	13.0	---	.0	5.5	---	21.5	23.0	27.0	---	28.0	23.5
18	17.5	13.5	---	.0	8.5	---	18.0	25.5	26.5	---	26.5	23.0
19	18.5	15.5	---	.0	10.0	---	17.0	26.0	27.5	29.5	24.0	26.0
20	19.0	13.5	---	.5	8.5	---	18.5	23.0	28.0	29.0	24.0	---
21	19.5	9.5	---	1.0	6.5	---	16.5	23.0	28.0	29.0	27.0	20.0
22	19.5	10.5	---	1.5	8.0	17.0	18.5	27.0	26.5	26.5	27.5	---
23	18.0	11.0	---	1.5	8.0	14.0	19.5	27.0	27.0	27.5	27.0	---
24	18.5	10.0	---	2.0	5.0	9.5	19.0	26.0	29.5	29.0	26.5	---
25	19.5	10.5	---	1.5	5.0	10.0	17.5	26.0	27.5	30.0	25.5	---
26	20.5	10.5	---	1.5	1.0	13.5	18.5	25.5	27.5	29.5	25.5	23.0
27	19.5	10.5	---	1.5	2.5	16.5	19.5	22.0	28.0	28.5	25.0	24.0
28	20.0	7.5	5.5	2.0	5.5	17.5	23.0	20.0	28.5	29.0	25.0	25.0
29	20.5	8.0	7.0	2.5	---	16.0	24.0	22.5	28.0	29.5	25.0	23.0
30	20.5	8.0	7.0	3.0	---	17.0	21.0	24.5	28.0	27.5	25.5	23.5
31	20.0	---	6.5	3.0	---	18.5	---	25.0	---	---	27.0	---

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

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	920	970	900	830	970	940	1000	920	510	800	---	890
2	950	1000	1000	1100	1000	960	1000	1100	540	630	---	750
3	950	950	1000	1100	980	940	1000	640	560	---	---	760
4	950	1100	1000	880	980	980	1100	700	580	---	---	780
5	960	1100	1000	900	---	950	1000	650	560	---	---	800
6	970	1100	990	980	1100	950	1000	1100	410	---	---	830
7	980	1100	1000	---	1000	1000	1000	850	420	---	---	860
8	980	1000	1000	---	1000	1000	1000	850	440	---	---	870
9	970	1100	1000	930	1000	1000	1100	---	480	---	---	880
10	970	1100	1100	1100	990	990	990	890	520	---	1000	880
11	1000	1100	1100	---	960	1000	900	970	550	---	860	900
12	1000	1100	980	1000	940	1000	990	1100	600	---	1100	900
13	1000	1100	1000	---	870	1100	820	1100	600	---	1100	850
14	1000	1100	1000	1000	920	980	1000	1200	540	---	1000	---
15	1100	1100	990	950	800	990	1200	1200	590	---	1100	---
16	1100	1100	1000	970	800	---	980	1100	700	---	1000	---
17	1000	1100	---	1100	910	---	900	1100	690	---	880	---
18	1000	1100	---	710	1000	---	940	1100	---	---	1000	---
19	1000	850	---	780	920	---	980	960	---	880	960	---
20	1000	840	---	960	990	---	1000	500	---	860	950	910
21	1000	990	---	990	1000	910	1000	420	780	960	1100	800
22	1000	1000	---	1000	950	990	1100	460	800	890	960	600
23	960	990	---	1100	930	960	1100	860	770	860	1000	510
24	730	1000	---	970	950	1000	1000	500	870	930	830	520
25	510	990	---	970	990	900	970	---	900	860	1100	570
26	620	1000	---	980	1000	930	1100	---	780	870	940	650
27	730	1000	---	970	1000	930	1100	---	720	820	1100	730
28	800	980	910	1100	870	1000	1100	460	810	900	1100	930
29	930	990	980	1100	---	1000	1100	410	840	950	1000	720
30	1000	1000	990	1100	---	940	1100	440	820	930	1000	770
31	1000	---	1000	980	---	1100	---	470	---	---	1200	---

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161.0	183.0	177.0	134.0	204.0	206.0	189.0	137.0	2990.0	294.0	---	151.0
2	159.0	202.0	194.0	172.0	208.0	210.0	184.0	297.0	2140.0	223.0	---	105.0
3	154.0	198.0	192.0	202.0	201.0	208.0	186.0	1060.0	1780.0	---	---	103.0
4	151.0	235.0	189.0	159.0	198.0	191.0	208.0	1130.0	1600.0	---	---	101.0
5	153.0	211.0	197.0	158.0	---	223.0	181.0	614.0	3330.0	---	---	97.2
6	155.0	199.0	187.0	167.0	220.0	203.0	178.0	1200.0	7550.0	---	---	87.4
7	156.0	196.0	194.0	---	202.0	208.0	178.0	1070.0	11200.0	---	---	88.2
8	151.0	202.0	197.0	---	202.0	205.0	178.0	409.0	5420.0	---	---	89.3
9	147.0	223.0	173.0	166.0	189.0	205.0	196.0	---	2480.0	---	---	92.7
10	147.0	232.0	178.0	160.0	187.0	208.0	227.0	156.0	2090.0	---	170.0	92.7
11	148.0	232.0	220.0	---	181.0	205.0	330.0	157.0	1630.0	---	137.0	92.3
12	146.0	217.0	212.0	175.0	178.0	205.0	267.0	154.0	1490.0	---	157.0	87.5
13	146.0	205.0	194.0	---	164.0	223.0	177.0	134.0	2010.0	---	146.0	82.6
14	143.0	202.0	186.0	175.0	174.0	196.0	202.0	149.0	1550.0	---	132.0	---
15	154.0	199.0	195.0	167.0	151.0	198.0	227.0	172.0	1330.0	---	137.0	---
16	151.0	193.0	194.0	170.0	151.0	---	185.0	172.0	1160.0	---	121.0	---
17	138.0	193.0	---	193.0	172.0	---	158.0	184.0	755.0	---	97.4	---
18	138.0	264.0	---	115.0	175.0	---	165.0	169.0	---	---	103.0	---
19	138.0	220.0	---	126.0	174.0	---	159.0	184.0	---	154.0	104.0	---
20	138.0	181.0	---	156.0	214.0	---	162.0	678.0	---	146.0	128.0	81.1
21	135.0	203.0	---	160.0	227.0	182.0	162.0	883.0	533.0	161.0	151.0	119.0
22	148.0	200.0	---	162.0	221.0	198.0	178.0	211.0	525.0	151.0	119.0	1780.0
23	246.0	192.0	---	178.0	213.0	192.0	163.0	757.0	528.0	151.0	121.0	1260.0
24	449.0	197.0	---	157.0	218.0	197.0	148.0	182.0	498.0	163.0	96.4	424.0
25	175.0	192.0	---	157.0	222.0	180.0	144.0	---	508.0	144.0	119.0	255.0
26	167.0	192.0	---	159.0	229.0	186.0	163.0	---	398.0	146.0	99.0	205.0
27	173.0	205.0	---	170.0	227.0	183.0	163.0	---	334.0	146.0	113.0	213.0
28	175.0	193.0	157.0	208.0	197.0	194.0	163.0	7910.0	352.0	148.0	113.0	359.0
29	193.0	200.0	167.0	223.0	---	189.0	163.0	18600.0	347.0	151.0	99.9	268.0
30	200.0	213.0	171.0	229.0	---	178.0	163.0	22500.0	317.0	141.0	111.0	233.0
31	194.0	---	175.0	206.0	---	208.0	---	6480.0	---	---	296.0	---

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

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2100	2400	2100	1800	2400	2200	2600	2200	460	1600	---	2000
2	2300	2600	2500	3100	2600	2300	2700	3100	540	890	---	1400
3	2300	2300	2600	2800	2400	2200	2600	920	600	---	---	1400
4	2300	2900	2500	2000	2400	2400	2900	1200	680	---	---	1600
5	2300	2900	2600	2100	---	2300	2600	970	610	---	---	1600
6	2400	2800	2500	2400	2800	2300	2600	2900	220	---	---	1800
7	2400	2800	2500	---	2600	2500	2700	1900	230	---	---	1900
8	2400	2600	2500	---	2500	2600	2700	1800	270	---	---	2000
9	2400	2800	2700	2200	2500	2500	2700	---	380	---	---	2000
10	2400	3100	2700	2700	2400	2400	2500	2000	480	---	2500	2000
11	2500	3100	2700	---	2300	2600	2100	2400	560	---	1900	2100
12	2600	3100	2400	2700	2200	2500	2400	2800	760	---	2600	2100
13	2600	3000	2600	---	2000	2800	1700	3000	750	---	3100	1900
14	2700	2800	2500	2700	2200	2400	2500	3400	540	---	2500	---
15	2700	2800	2400	2300	1600	2400	3500	3300	730	---	2900	---
16	2700	3000	2500	2400	1600	---	2400	3100	1200	---	2600	---
17	2700	3100	---	2800	2100	---	2100	3000	1100	---	2000	---
18	2700	3100	---	1200	2600	---	2200	2900	---	---	2500	---
19	2700	1800	---	1500	2200	---	2400	2300	---	2000	2300	---
20	2700	1800	---	2300	2500	---	2500	430	---	1900	2300	2100
21	2700	2500	---	2500	2500	2100	2600	240	1600	2300	3000	1600
22	2600	2500	---	2700	2300	2400	2800	340	1600	2000	2300	780
23	2300	2500	---	3000	2200	2300	2700	1900	1500	1900	2600	460
24	1300	2600	---	2400	2300	2500	2700	440	1900	2200	1800	480
25	470	2500	---	2400	2400	2100	2400	---	2000	1900	2800	640
26	860	2600	---	2400	2700	2200	2800	---	1500	2000	2300	990
27	1300	2700	---	2400	2600	2200	2800	---	1300	1700	2800	1300
28	1600	2400	2100	3000	1900	2600	2900	350	1700	2100	2700	2200
29	2200	2400	2400	2900	---	2600	2900	200	1800	2300	2600	1300
30	2500	2500	2400	2900	---	2200	2800	270	1700	2200	2700	1500
31	2600	---	2700	2400	---	3000	---	370	---	---	3300	---

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	369.0	454.0	414.0	292.0	505.0	481.0	491.0	327.0	2700.0	588.0	---	340.0
2	385.0	526.0	486.0	485.0	541.0	503.0	496.0	837.0	2140.0	315.0	---	197.0
3	373.0	478.0	498.0	514.0	492.0	487.0	484.0	1520.0	1910.0	---	---	169.0
4	366.0	619.0	472.0	362.0	486.0	467.0	548.0	1940.0	1870.0	---	---	207.0
5	366.0	556.0	512.0	369.0	---	540.0	470.0	917.0	3620.0	---	---	194.0
6	382.0	507.0	472.0	408.0	559.0	491.0	463.0	3160.0	4050.0	---	---	190.0
7	382.0	499.0	486.0	---	526.0	520.0	481.0	2400.0	6130.0	---	---	195.0
8	369.0	526.0	493.0	---	506.0	534.0	481.0	865.0	3320.0	---	---	205.0
9	363.0	567.0	467.0	392.0	472.0	513.0	481.0	---	1960.0	---	---	211.0
10	363.0	653.0	437.0	394.0	454.0	505.0	574.0	351.0	1930.0	---	425.0	211.0
11	371.0	653.0	539.0	---	435.0	534.0	771.0	389.0	1660.0	---	303.0	215.0
12	379.0	611.0	518.0	474.0	416.0	513.0	648.0	393.0	1890.0	---	401.0	204.0
13	379.0	559.0	505.0	---	378.0	567.0	367.0	364.0	2510.0	---	410.0	165.0
14	386.0	514.0	466.0	474.0	416.0	480.0	506.0	422.0	1550.0	---	331.0	---
15	379.0	507.0	473.0	404.0	302.0	480.0	661.0	472.0	1650.0	---	360.0	---
16	372.0	526.0	486.0	421.0	302.0	---	454.0	485.0	1990.0	---	316.0	---
17	372.0	544.0	---	491.0	397.0	---	369.0	502.0	1200.0	---	221.0	---
18	372.0	745.0	---	194.0	456.0	---	386.0	446.0	---	---	256.0	---
19	372.0	467.0	---	243.0	416.0	---	389.0	441.0	---	351.0	248.0	---
20	372.0	389.0	---	373.0	540.0	---	405.0	583.0	---	323.0	310.0	187.0
21	364.0	513.0	---	405.0	567.0	420.0	421.0	505.0	1090.0	385.0	413.0	238.0
22	386.0	499.0	---	437.0	534.0	480.0	454.0	156.0	1050.0	340.0	286.0	2320.0
23	590.0	486.0	---	486.0	505.0	460.0	401.0	1670.0	1030.0	333.0	316.0	1140.0
24	800.0	512.0	---	389.0	528.0	493.0	401.0	160.0	1090.0	386.0	209.0	391.0
25	161.0	486.0	---	389.0	538.0	420.0	356.0	---	1130.0	318.0	302.0	287.0
26	232.0	498.0	---	389.0	620.0	440.0	416.0	---	765.0	335.0	242.0	313.0
27	309.0	554.0	---	421.0	590.0	434.0	416.0	---	604.0	303.0	287.0	379.0
28	350.0	473.0	363.0	567.0	431.0	505.0	431.0	6020.0	739.0	346.0	277.0	849.0
29	457.0	486.0	408.0	587.0	---	491.0	431.0	9070.0	744.0	366.0	260.0	484.0
30	499.0	533.0	415.0	603.0	---	416.0	416.0	13800.0	656.0	333.0	299.0	454.0
31	505.0	---	474.0	505.0	---	567.0	---	5100.0	---	---	820.0	---

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

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4940	5360	4770	4210	5360	5130	5730	4980	1520	3960	---	4690
2	5210	5920	5670	6780	5780	5310	5990	6780	1790	2540	---	3570
3	5190	5190	5740	6200	5450	5120	5860	2600	1980	---	---	3590
4	5220	6410	5690	4610	5480	5470	6470	3140	2140	---	---	3810
5	5260	6350	5750	4760	---	5190	5860	2700	2000	---	---	3970
6	5400	6130	5560	5470	6130	5230	5640	6470	745	---	---	4230
7	5490	6150	5680	---	5740	5590	5930	4400	788	---	---	4480
8	5420	5840	5660	---	5620	5800	5950	4340	931	---	---	4580
9	5400	6260	5960	5060	5650	5610	6110	---	1260	---	---	4600
10	5390	6780	6080	6100	5500	5500	5580	4710	1600	---	5610	4660
11	5640	6780	6060	---	5260	5740	4830	5360	1650	---	4500	4820
12	5800	6840	5470	5920	5150	5660	5520	6130	2290	---	6280	4770
13	5770	6660	5760	---	4580	6130	4100	6660	2260	---	6720	4390
14	6010	6280	5720	6000	4970	5420	5720	7280	1790	---	5720	---
15	6080	6260	5520	5190	5930	5520	7530	7160	2230	---	6350	---
16	6110	6600	5720	5390	4000	---	5500	6720	3160	---	5810	---
17	5930	6780	---	6200	4690	---	4790	6660	3020	---	4630	---
18	5990	6840	---	3210	5040	---	5100	6410	---	---	5660	---
19	5970	4380	---	3800	4980	---	5450	5300	---	4630	5280	---
20	5920	4350	---	5260	5570	---	5620	1440	---	4480	5200	4910
21	5990	5560	---	5560	5720	4880	5880	826	3620	5270	6530	5990
22	5920	5650	---	5970	5170	5530	6120	1130	3970	4670	5270	2330
23	5310	5580	---	6660	5000	5290	6110	4480	3690	4500	5820	1540
24	3400	5760	---	5380	5210	5690	6000	1466	4550	5060	4240	1600
25	1570	5540	---	5370	5520	4790	5390	---	4760	4440	6280	2060
26	2490	5790	---	5440	6030	5040	6160	---	3770	4580	5160	2730
27	3370	5950	---	5410	5670	5070	6130	---	3310	4100	6190	3360
28	3970	5480	4880	6660	4560	5790	6350	1170	4020	4830	6070	5060
29	5070	5530	5440	6470	---	5790	6350	668	4300	5240	5850	3270
30	5720	5610	5520	6410	---	5150	6280	931	4140	5030	5920	3730
31	5750	---	6030	5470	---	6660	---	1260	---	---	7160	---

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	867.0	1010.0	940.0	682.0	1130.0	1120.0	1080.0	740.0	8910.0	1450.0	---	798.0
2	872.0	1200.0	1100.0	1060.0	1200.0	1160.0	1100.0	1850.0	7100.0	898.0	---	501.0
3	841.0	1080.0	1130.0	1140.0	1120.0	1150.0	1090.0	4300.0	6310.0	---	---	485.0
4	832.0	1370.0	1080.0	854.0	1110.0	1060.0	1220.0	5040.0	5890.0	---	---	494.0
5	838.0	1220.0	1130.0	839.0	---	1220.0	1060.0	2550.0	11900.0	---	---	482.0
6	860.0	1110.0	1050.0	930.0	1220.0	1120.0	1040.0	7060.0	13700.0	---	---	445.0
7	875.0	1100.0	1100.0	---	1160.0	1160.0	1060.0	5550.0	21000.0	---	---	460.0
8	834.0	1180.0	1120.0	---	1140.0	1190.0	1060.0	2090.0	11500.0	---	---	470.0
9	816.0	1270.0	1030.0	902.0	1070.0	1150.0	1090.0	---	6500.0	---	---	484.0
10	815.0	1430.0	985.0	889.0	1040.0	1160.0	1280.0	827.0	6440.0	---	954.0	491.0
11	838.0	1430.0	1210.0	---	994.0	1180.0	1770.0	872.0	5490.0	---	717.0	495.0
12	846.0	1350.0	1180.0	1040.0	973.0	1160.0	1490.0	861.0	5690.0	---	899.0	464.0
13	841.0	1240.0	1120.0	---	866.0	1240.0	886.0	809.0	7570.0	---	889.0	427.0
14	860.0	1150.0	1070.0	1050.0	939.0	1080.0	1160.0	904.0	5120.0	---	757.0	---
15	854.0	1130.0	1090.0	911.0	745.0	1100.0	1420.0	1020.0	5030.0	---	789.0	---
16	841.0	1160.0	1110.0	946.0	756.0	---	1040.0	1050.0	5250.0	---	706.0	---
17	817.0	1190.0	---	1090.0	924.0	---	841.0	1110.0	3300.0	---	513.0	---
18	825.0	1640.0	---	520.0	1020.0	---	895.0	986.0	---	---	581.0	---
19	822.0	1140.0	---	616.0	941.0	---	883.0	1020.0	---	813.0	570.0	---
20	815.0	935.0	---	852.0	1200.0	---	910.0	1950.0	---	762.0	702.0	437.0
21	809.0	1140.0	---	904.0	1300.0	975.0	953.0	1740.0	2610.0	882.0	899.0	593.0
22	879.0	1130.0	---	967.0	1200.0	1100.0	991.0	519.0	2600.0	794.0	655.0	6920.0
23	1360.0	1080.0	---	1080.0	1150.0	1060.0	907.0	3940.0	2530.0	790.0	707.0	3810.0
24	2090.0	1140.0	---	872.0	1200.0	1120.0	891.0	532.0	2600.0	888.0	492.0	1300.0
25	538.0	1080.0	---	870.0	1240.0	957.0	800.0	---	2690.0	743.0	678.0	923.0
26	672.0	1110.0	---	881.0	1380.0	1010.0	915.0	---	1920.0	767.0	543.0	862.0
27	801.0	1220.0	---	949.0	1330.0	999.0	910.0	---	1540.0	731.0	635.0	980.0
28	868.0	1080.0	843.0	1250.0	1030.0	1130.0	943.0	20100.0	1750.0	796.0	623.0	1950.0
29	1050.0	1120.0	925.0	1310.0	---	1090.0	943.0	31200.0	1780.0	835.0	582.0	1220.0
30	1140.0	1200.0	954.0	1330.0	---	973.0	933.0	47500.0	1600.0	761.0	655.0	1130.0
31	1120.0	---	1060.0	1150.0	---	1250.0	---	17400.0	---	---	1780.0	---

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, 84 ft^3/s (2.38 m^3/s) May 27, gage height, 12.48 ft (3.804 m); no flow most of year.

REVISIONS.--The maximum discharge for water year 1977 has been revised to 56 ft^3/s (1.59 m^3/s) May 26, 1977, gage height, 12.38 ft (3.775 m); revised daily discharges, in cubic feet per second, for period of flow in 1977 are given below. These figures supersede those published in the report for 1977.

May	20	.22	May	24	.30	May	28	.74	June	1	.19
	21	2.4		25	.24		29	.49		2	.15
	22	.74		26	.28		30	.30		3	.08
	23	.49		27	2.4		31	.22		4	.01

Month	Total	Mean	Max	Min	Acre-ft
May 1977	8.82	.28	2.4	0	17
June 1977	.43	.014	.19	0	.9
Wtr Yr 1977	9.25	.025	2.4	0	18

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	.00	.00	.00	.00	.00	.00	.00	.00	.24	.00	.00	.19
2	.00	.00	.00	.00	.00	.00	.00	.00	.19	.00	.00	.19
3	.00	.00	.00	.00	.00	.00	.00	.00	.17	.00	.00	.20
4	.00	.00	.00	.00	.00	.00	.00	.00	.13	.00	.00	.20
5	.00	.00	.00	.00	.00	.00	.00	.00	.16	.00	.00	.22
6	.00	.00	.00	.00	.00	.00	.00	.00	.90	.00	.00	.26
7	.00	.00	.00	.00	.00	.00	.00	.00	.74	.00	.00	.28
8	.00	.00	.00	.00	.00	.00	.00	.00	.28	.00	.00	.28
9	.00	.00	.00	.00	.00	.00	.00	.00	.26	.00	.24	.28
10	.00	.00	.00	.00	.00	.00	.00	.00	.22	.00	.49	.28
11	.00	.00	.00	.00	.00	.00	.00	.00	.17	.00	.40	.30
12	.00	.00	.00	.00	.00	.00	.00	.00	.12	.00	.30	.30
13	.00	.00	.00	.00	.00	.00	.00	.00	.30	.00	.30	.28
14	.00	.00	.00	.00	.00	.00	.00	.00	1.5	.00	.30	.28
15	.00	.00	.00	.00	.00	.00	.00	.00	.40	.00	.30	.28
16	.00	.00	.00	.00	.00	.00	.00	.00	.24	.00	.30	.28
17	.00	.00	.00	.00	.00	.00	.00	.00	.17	.00	.26	.28
18	.12	.00	.00	.00	.00	.00	.00	.00	.11	.00	.26	.24
19	.60	.00	.00	.00	.00	.00	.00	.00	.07	.00	.19	.24
20	.26	.00	.00	.00	.00	.00	.00	.15	.05	.00	.22	.22
21	.19	.00	.00	.00	.00	.00	.00	1.5	.03	.00	.26	.16
22	.17	.00	.00	.00	.00	.00	.00	.60	.00	.00	.28	.15
23	.19	.00	.00	.00	.00	.00	.00	.40	.00	.00	.30	.15
24	.16	.00	.00	.00	.00	.00	.00	.26	.00	.00	.74	.17
25	.12	.00	.00	.00	.00	.00	.00	.19	.00	.00	.40	.20
26	.08	.00	.00	.00	.00	.00	.00	.16	.00	.00	.30	.28
27	.04	.00	.00	.00	.00	.00	.00	.49	.00	.00	.30	.26
28	.01	.00	.00	.00	.00	.00	.00	2.4	.00	.00	.24	.28
29	.00	.00	.00	.00	---	.00	.00	.74	.00	.00	.20	.26
30	.00	.00	.00	.00	---	.00	.00	.49	.00	.00	.19	.22
31	.00	---	.00	.00	---	.00	---	.28	---	.00	.19	---
TOTAL	1.94	.00	.00	.00	.00	.00	.00	7.66	6.45	.00	6.98	7.17
MEAN	.063	.000	.000	.000	.000	.000	.000	.25	.22	.000	.23	.24
MAX	.60	.00	.00	.00	.00	.00	.00	2.4	1.5	.00	.74	.30
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15
AC-FT	3.8	.00	.00	.00	.00	.00	.00	15	13	.00	14	14

CAL YR 1977 TOTAL 11.19 MEAN .031 MAX 2.4 MIN .00 AC-FT 22
WTR YR 1978 TOTAL 30.20 MEAN .083 MAX 2.4 MIN .00 AC-FT 60

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

LOCATION.--Lat 34°06'36", long 98°31'53", Cotton County, OK, 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 mi^2 (53,280 km^2), of which 5,936 mi^2 (15,374 km^2) probably is noncontributing.

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.--18 years (water years 1961-78), 884 ft^3/s (25.03 m^3/s), 640,500 acre-ft/yr (790 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,800 ft^3/s (1,780 m^3/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 ft^3/s (255 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 22	1200	9,920	281	8.49	2.588	May 31	0030	*44,700	1,270	11.10	3.383
May 30	2000	39,800	1,130	*11.14	3.395	June 8	1530	26,500	750	10.65	3.246

Minimum discharge, 39 ft^3/s (1.10 m^3/s) Oct. 18.

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	104	149	146	125	232	307	175	87	29700	360	161	413
2	106	141	162	126	224	269	179	108	17700	352	155	272
3	106	149	162	129	215	258	169	274	7090	363	164	245
4	111	160	158	136	235	251	169	2000	9400	357	209	221
5	109	168	156	158	204	244	164	1570	6540	367	269	195
6	103	185	145	181	189	236	175	1120	17000	345	308	179
7	98	186	136	167	186	380	172	930	23300	312	288	165
8	87	244	134	122	179	450	169	760	24600	287	257	147
9	85	213	122	100	171	298	148	775	16000	274	218	139
10	85	195	136	90	205	246	130	582	5320	268	190	132
11	69	204	129	90	192	232	133	461	5110	264	203	129
12	64	195	132	100	239	216	296	403	4360	253	201	125
13	65	190	139	150	281	208	330	335	3920	243	277	123
14	59	182	174	200	295	187	279	281	3670	234	282	119
15	52	178	169	222	315	190	265	231	4490	232	200	108
16	54	162	176	119	331	190	233	187	4040	224	1130	103
17	44	158	199	110	347	190	223	166	3200	219	465	95
18	42	154	176	100	337	182	202	158	2790	218	229	86
19	49	154	174	100	358	179	155	151	1970	203	227	98
20	58	146	169	130	431	193	128	246	1740	208	370	398
21	59	146	150	170	403	199	116	487	1580	201	717	245
22	69	178	143	213	401	199	114	7380	1230	193	933	3010
23	135	174	138	199	376	201	111	4540	1030	224	496	2510
24	183	158	136	195	380	195	106	2990	844	242	302	1780
25	317	154	127	195	329	201	98	2050	808	261	229	1580
26	421	154	128	195	315	200	95	1640	641	251	192	1200
27	450	146	132	199	308	199	91	1620	562	219	168	2260
28	304	139	130	199	345	201	97	2200	485	205	150	1810
29	240	139	135	208	---	196	111	17700	451	203	150	1810
30	199	146	139	213	---	198	93	34400	394	197	248	1430
31	172	---	142	222	---	195	---	37000	---	185	803	---
TOTAL	4099	5047	4599	4863	7973	7110	4933	122632	199965	7964	10191	21127
MEAN	132	168	148	157	285	229	164	3956	6666	257	329	704
MAX	450	244	199	222	431	450	330	37000	29700	367	1130	3010
MIN	42	139	122	90	171	179	91	87	394	185	150	86
AC-FT	8130	10010	9120	9650	15810	14100	9780	243200	396600	15800	20210	41910

CAL YR 1977 TOTAL 614993 MEAN 1685 MAX 34400 MIN 42 AC-FT 1220000
WTR YR 1978 TOTAL 400503 MEAN 1097 MAX 37000 MIN 42 AC-FT 794400

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	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)
OCT										
20...	0930	640	7.8	14.0	14	5.0	50	17	147	27
NOV										
17...	0930	660	7.8	9.0	4	6.1	54	14	--	--
DEC										
22...	0945	645	7.9	3.5	2	12.5	96	13	224	62
JAN										
31...	0900	609	7.6	3.0	10	6.9	52	11	--	--
FEB										
28...	0845	632	7.5	7.0	7	7.6	65	14	243	67
MAR										
15...	0810	730	7.6	9.0	2	6.4	57	17	--	--
APR										
20...	1230	810	7.8	21.0	21	5.3	61	22	290	77
MAY										
04...	1830	690	8.1	18.0	11	9.7	108	16	--	--
JUN										
13...	1200	452	8.1	24.0	51	8.5	104	13	194	52

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT									
20...	67	19	40	7.4	111	41	.4	362	--
NOV									
17...	--	--	--	--	106	37	--	--	12
DEC									
22...	156	16	44	8.7	110	42	.3	--	8
JAN									
31...	--	--	--	--	105	36	.2	--	17
FEB									
28...	168	18	37	7.5	130	37	.2	--	59
MAR									
15...	--	--	--	--	150	43	.2	--	31
APR									
20...	195	22	46	8.8	139	52	.2	--	45
MAY									
04...	--	--	--	--	125	47	.2	--	16
JUN									
13...	130	15	28	5.7	75	29	.1	--	19

07309000 EAST CACHE CREEK NEAR ELGIN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 20...	.10	2.4	2.5	11	.06	--	--	--	--
NOV 17...	<.10	1.8	1.8	--	.05	--	--	--	--
DEC 22...	<.10	1.3	1.3	--	.03	--	--	--	--
JAN 31...	.10	2.0	2.1	9.5	4.0	--	--	--	--
FEB 28...	<.10	1.4	1.4	--	4.0	<1	<1	22	3
MAR 15...	<.10	1.7	1.7	--	8.0	--	--	--	--
APR 20...	.10	2.0	2.1	9.7	--	--	--	--	--
MAY 04...	.10	1.5	1.6	7.1	--	--	--	--	--
JUN 13...	.10	2.3	2.4	11	.21	--	--	--	--

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 20...	710	--	80	--	--	--	--	--	5.0
NOV 17...	--	--	--	--	--	--	--	--	--
DEC 22...	90	--	20	--	--	--	--	--	3.0
JAN 31...	--	--	--	--	--	--	--	--	2.0
FEB 28...	500	14	40	<.5	11	<1	<2	5	1.0
MAR 15...	--	--	--	--	--	--	--	--	7.0
APR 20...	1860	--	270	--	--	--	--	--	9.0
MAY 04...	--	--	--	--	--	--	--	--	6.0
JUN 13...	1150	--	50	--	--	--	--	--	5.0

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) prior to late 1953, and 63,000 acre-ft (77.7 hm^3) thereafter on Medicine Creek, 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.--34 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.-Peak discharge above base of 2,400 ft^3/s (68.0 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)
May29	1230	*8,120	230	*28.07	8.556	June 7	1915	4,030	114	25.35	7.727

Minimum daily discharge, 9.0 ft^3/s (0.25 m^3/s) Oct.14.

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	20	22	19	30	31	35	33	28	1450	55	19	19
2	18	25	21	29	32	34	42	38	658	54	20	16
3	14	21	20	26	33	35	41	148	1030	51	24	16
4	14	23	25	25	31	42	40	209	1130	49	26	16
5	14	26	26	26	29	42	53	61	1160	48	26	16
6	14	20	25	23	26	41	37	42	2330	59	27	16
7	14	15	23	22	25	160	85	37	3430	48	27	17
8	15	14	23	22	24	549	55	29	2560	46	26	18
9	14	18	26	20	26	271	34	25	1320	45	25	16
10	13	55	22	19	27	118	32	22	1030	40	24	16
11	12	32	19	21	29	82	43	21	1050	38	23	17
12	11	17	18	23	36	70	55	21	975	36	22	16
13	9.5	15	22	27	235	63	35	21	1620	33	23	17
14	9.0	14	22	30	179	56	31	20	2200	31	23	18
15	9.5	17	21	30	90	49	31	20	1900	30	22	18
16	10	16	21	31	71	46	30	20	1120	29	23	18
17	11	16	18	29	63	44	29	20	366	28	40	18
18	13	17	17	39	50	40	28	20	247	27	34	17
19	15	17	19	30	45	35	28	20	191	26	27	16
20	19	17	24	27	52	34	28	47	153	25	76	18
21	18	16	29	25	60	34	28	44	127	24	99	19
22	17	17	28	27	53	33	28	85	109	24	31	25
23	17	18	24	29	49	33	28	107	94	23	30	31
24	36	16	17	30	46	47	28	42	83	22	28	19
25	35	14	22	29	43	47	27	31	78	21	25	18
26	20	15	27	26	43	42	26	232	69	22	25	18
27	17	15	32	25	40	40	27	602	64	22	25	19
28	16	16	31	25	37	38	29	3620	60	23	24	18
29	17	16	30	28	---	38	30	6800	58	22	24	18
30	18	15	29	28	---	35	29	4180	56	23	23	18
31	18	---	30	29	---	32	---	3480	---	21	23	---
TOTAL	498.0	575	730	830	1505	2265	1070	20092	26718	1045	914	542
MEAN	16.1	19.2	23.5	26.8	53.8	73.1	35.7	648	891	33.7	29.5	18.1
MAX	36	55	32	39	235	549	85	6800	3430	59	99	31
MIN	9.0	14	17	19	24	32	26	20	56	21	19	16
AC-FT	988	1140	1450	1650	2990	4490	2120	39850	53000	2070	1810	1080

CAL YR 1977 TOTAL 29798.0 MEAN 81.6 MAX 4710 MIN 9.0 AC-FT 59100
WTR YR 1978 TOTAL 56784.0 MEAN 156 MAX 6800 MIN 9.0 AC-FT 112600

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	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)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
07...	1535	13	669	7.8	19.0	--	--	--	--	210	25
19...	1700	15	487	7.9	16.0	32	7.1	74	17	130	35
NOV											
10...	1100	58	649	7.5	10.5	--	--	--	--	190	30
16...	1700	16	644	7.7	14.0	26	6.0	60	26	210	41
DEC											
09...	0930	27	690	7.6	4.0	--	11.1	85	--	210	54
21...	1630	30	760	7.9	5.0	--	10.8	86	--	210	35
21...	1631	30	760	7.9	5.0	3	10.8	86	27	--	--
JAN											
26...	1400	28	715	8.1	1.0	--	12.5	90	--	210	56
30...	1530	28	763	8.0	1.5	--	12.9	94	--	220	58
30...	1531	28	763	8.0	1.5	3	12.9	94	22	--	--
FEB											
16...	1230	71	536	7.8	2.0	--	12.2	90	--	160	40
27...	1445	40	617	7.9	7.0	--	10.2	86	--	180	44
27...	1446	40	617	7.9	7.0	4	10.2	86	18	--	--
MAR											
14...	1430	56	669	7.9	12.0	--	8.9	86	--	180	41
14...	1431	56	669	7.9	12.0	7	8.9	86	27	--	--
24...	1230	47	730	7.3	13.0	--	--	--	--	220	58
APR											
19...	1630	29	730	7.6	17.5	--	6.5	70	--	230	36
20...	0930	28	760	7.8	15.5	--	6.2	64	--	220	40
20...	0931	28	760	7.8	15.5	11	6.2	64	20	263	--
MAY											
05...	0930	66	385	7.8	12.0	35	7.2	70	59	160	62
17...	1630	21	735	7.0	25.0	--	7.5	90	--	230	34
JUN											
13...	0910	1450	522	7.2	23.0	--	7.0	82	--	170	52
13...	0911	1450	522	7.2	23.0	86	7.0	82	58	--	--
JUL											
25...	0900	22	885	8.0	25.5	--	5.4	68	--	270	39
25...	0901	22	885	8.0	25.5	33	5.4	68	19	--	--
AUG											
14...	1530	28	750	7.8	28.0	--	5.7	75	--	210	16
14...	1531	28	750	7.8	28.0	11	5.7	75	14	--	--
SEP											
22...	1045	20	600	7.9	19.0	--	7.2	80	--	220	21
26...	1400	19	578	7.6	21.0	--	5.2	59	--	150	11
26...	1401	19	578	7.6	21.0	49	5.2	59	20	--	--

07311000 EAST CACHE CREEK NEAR WALTERS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)
OCT										
07...	--	63	--	--	12	--	61	38	1.8	--
19...	--	43	--	--	6.4	--	41	38	1.5	--
NOV										
10...	--	58	--	--	12	--	50	35	1.6	--
16...	56	64	142	12	11	--	58	37	1.8	--
DEC										
09...	--	61	--	--	14	--	78	43	2.3	--
21...	--	60	--	--	14	--	74	42	2.2	--
21...	--	--	--	--	--	--	--	--	--	--
JAN										
26...	--	60	--	--	15	--	72	41	2.2	--
30...	--	64	--	--	15	--	71	40	2.1	--
30...	--	--	--	--	--	--	--	--	--	--
FEB										
16...	--	47	--	--	11	--	45	37	1.5	--
27...	--	52	--	--	11	--	48	36	1.6	--
27...	--	--	--	--	--	--	--	--	--	--
MAR										
14...	--	54	--	--	11	--	53	38	1.7	--
14...	51	--	129	12	--	--	--	--	--	--
24...	--	69	--	--	12	--	60	36	1.8	--
APR										
19...	--	67	--	--	14	--	62	36	1.8	--
20...	--	67	--	--	13	--	61	36	1.8	--
20...	78	--	195	16	--	59	--	--	--	9.1
MAY										
05...	46	51	115	8.4	8.1	--	30	28	1.0	--
17...	--	66	--	--	16	--	69	38	2.0	--
JUN										
13...	--	47	--	--	12	--	42	34	1.4	--
13...	--	--	--	--	--	--	--	--	--	--
JUL										
25...	--	83	--	--	15	--	70	35	1.9	--
25...	74	--	187	17	--	70	--	--	--	6.3
AUG										
14...	--	64	--	--	13	--	65	39	1.9	--
14...	--	--	--	--	--	--	--	--	--	--
SEP										
22...	--	66	--	--	13	--	80	43	2.4	--
28...	--	45	--	--	9.3	--	55	42	2.0	--
28...	44	--	16	9.5	--	--	--	--	--	--

07311000 EAST CACHE CREEK NEAR WALTERS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	SOLIDS, RESIDUE AT 180 DEG, C DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG, C, DISSOLVED (MG/L)
OCT										
07...	8.8	220	1	180	5.6	56	65	--	405	--
19...	7.8	120	0	98	2.4	48	34	.7	304	398
NOV										
10...	9.1	200	0	160	10	56	57	--	384	--
16...	8.8	200	0	160	6.4	54	55	1.0	542	--
DEC										
09...	11	190	0	160	7.6	81	76	--	454	--
21...	9.5	210	0	170	4.2	82	78	--	508	--
21...	--	--	--	--	--	--	--	1.0	--	--
JAN										
26...	9.0	190	0	160	2.4	82	75	--	452	--
30...	8.8	200	0	160	3.2	78	73	--	446	--
30...	--	--	--	--	--	--	--	.8	--	--
FEB										
16...	4.8	150	0	120	3.8	65	44	--	316	--
27...	5.8	160	0	130	3.2	66	53	--	321	--
27...	--	--	--	--	--	--	--	.5	--	--
MAR										
14...	8.1	170	0	140	3.4	66	53	--	352	--
14...	--	--	--	--	--	--	--	.5	--	--
24...	7.6	200	0	160	16	61	56	--	385	--
APR										
19...	9.8	230	0	190	9.2	67	63	--	419	--
20...	9.8	220	0	180	5.6	70	62	--	429	--
20...	--	--	--	--	--	66	69	.6	--	--
MAY										
05...	5.6	120	0	98	3.0	33	25	.3	202	--
17...	8.8	240	0	200	38	100	63	--	436	--
JUN										
13...	5.5	140	0	110	14	49	62	--	300	--
13...	--	--	--	--	--	--	--	.1	--	--
JUL										
25...	7.0	280	0	230	4.5	75	73	--	465	--
25...	--	--	--	--	--	--	--	.7	--	--
AUG										
14...	8.7	240	0	200	6.1	69	75	--	446	--
14...	--	--	--	--	--	--	--	.5	--	--
SEP										
22...	9.4	240	0	200	4.8	80	82	--	487	--
26...	9.0	170	0	140	6.8	54	58	--	339	--
26...	--	--	--	--	--	--	--	.7	--	--

07311000 EAST CACHE CREEK NEAR WALTERS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC 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										
07...	.55	14	--	--	--	--	--	--	--	--
19...	.41	12	--	3.2	--	--	3.0	6.2	28	1.3
NOV										
10...	.52	60	--	--	--	--	--	--	--	3.8
18...	.74	23	51	4.2	--	--	2.7	6.9	31	2.2
DEC										
09...	.62	33	--	--	--	--	--	--	--	--
21...	.69	41	--	--	--	--	--	--	--	--
21...	--	--	3	3.3	--	--	2.4	5.7	26	.82
JAN										
26...	.61	34	--	--	--	--	--	--	--	--
30...	.61	34	--	--	--	--	--	--	--	--
30...	--	--	6	4.0	--	--	4.2	8.2	37	1.9
FEB										
16...	.43	60	--	--	--	--	--	--	--	--
27...	.44	34	--	--	--	--	--	--	--	--
27...	--	--	36	1.7	--	--	2.6	4.3	19	.76
MAR										
14...	.48	53	--	--	--	--	--	--	--	--
14...	--	--	82	4.5	--	--	3.4	7.9	35	21
24...	.52	48	--	--	--	--	--	--	--	--
APR										
19...	.57	32	--	--	--	--	--	--	--	--
20...	.58	32	--	--	--	--	--	--	--	--
20...	--	--	31	5.1	--	--	2.8	7.9	35	--
MAY										
05...	.27	36	1782	1.1	--	--	3.9	5.0	22	.67
17...	.59	24	--	--	--	--	--	--	--	--
JUN										
13...	.41	1170	--	--	--	--	--	--	--	--
13...	--	--	869	.50	--	--	2.1	2.6	12	.70
JUL										
25...	.63	27	--	--	--	--	--	--	--	--
25...	--	--	8	1.3	--	--	2.0	3.3	15	.79
AUG										
14...	.61	33	--	--	--	--	--	--	--	--
14...	--	--	29	2.7	--	--	2.4	4.4	23	.20
SEP										
22...	.66	26	--	--	--	--	--	--	--	--
28...	.48	17	--	--	--	--	--	--	--	--
28...	--	--	101	2.9	--	--	1.2	4.1	18	1.0

07311000 EAST CACHE CREEK NEAR WALTERS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	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 19...	1700	--	--	--	--	--	--
NOV 16...	1700	--	--	--	--	1300	--
DEC 21...	1631	--	--	--	--	--	--
JAN 30...	1551	--	--	--	--	--	--
FEB 27...	1446	--	--	--	--	--	--
MAR 14...	1431	--	--	--	--	1770	--
APR 20...	0931	--	--	--	--	870	--
MAY 05...	0930	--	--	--	--	6400	--
JUN 13...	0911	--	--	--	--	--	--
JUL 25...	0901	<1	<1	<5	5	810	18
AUG 14...	1531	--	--	--	--	--	--
SEP 26...	1401	--	--	--	--	990	--

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)
OCT 19...	--	--	--	--	--	--	4.0
NOV 16...	60	--	--	--	--	--	--
DEC 21...	--	--	--	--	--	--	7.0
JAN 30...	--	--	--	--	--	--	7.0
FEB 27...	--	--	--	--	--	--	1.0
MAR 14...	80	--	--	--	--	--	7.0
APR 20...	60	--	--	--	--	--	7.0
MAY 05...	500	--	--	--	--	--	19
JUN 13...	--	--	--	--	--	--	19
JUL 25...	160	<.5	9	<1	2	13	8.0
AUG 14...	--	--	--	--	--	--	64
SEP 26...	130	--	--	--	--	--	8.0

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

AVERAGE DISCHARGE.--14 years, 9.30 ft^3/s (0.263 m^3/s), 6,740 acre-ft/yr (8.31 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 tolocal 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 27	2200	*9,490	269	*16.86	5.139	June 6	0700	1,430	40.5	11.19	3.411

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	.00	.90	1.1	1.0	1.1	16	3.6	1.1	47	1.7	.00	.00
2	.00	1.2	1.0	1.1	1.1	18	3.6	9.4	39	1.7	.00	.00
3	.00	1.0	1.0	1.1	1.0	16	3.2	22	32	1.4	.00	.00
4	.00	1.1	1.0	1.1	1.0	15	3.2	17	25	1.4	.00	.00
5	.00	1.4	1.0	1.1	1.0	15	3.2	13	57	1.1	.00	.00
6	.00	1.1	1.1	1.1	1.0	15	3.6	15	453	1.0	.00	.00
7	.00	.90	1.3	1.1	8.2	40	2.9	13	171	.90	.00	.00
8	.00	.80	1.5	1.0	28	48	2.6	7.9	101	.80	.00	.00
9	.00	11	1.0	1.0	32	43	2.6	5.2	69	.90	.00	.00
10	.00	7.0	1.1	1.0	30	41	2.6	4.3	55	.80	.00	.00
11	.00	5.0	1.1	1.0	4.8	39	2.6	3.8	45	.80	.00	.00
12	.00	4.0	1.1	1.0	44	36	2.6	4.7	37	.70	.00	.00
13	.00	3.5	1.1	1.1	65	36	2.3	5.2	101	.61	.00	.00
14	.00	3.0	1.4	1.0	59	32	2.3	5.4	102	.46	.00	.00
15	.00	2.9	1.3	1.0	55	25	1.9	5.1	65	.40	.00	.00
16	.00	2.6	1.2	1.3	51	20	1.9	5.3	50	.34	.00	.00
17	.00	2.4	1.1	1.0	39	17	1.9	5.3	41	.34	.00	.00
18	.00	2.2	1.1	1.0	20	16	1.5	5.0	31	.25	.00	.00
19	.00	2.0	1.1	1.0	9.6	15	1.4	5.2	25	.14	.00	.00
20	.00	1.8	1.0	1.0	15	13	1.4	5.4	19	.07	.00	.00
21	.00	1.7	1.0	1.0	7.2	11	1.4	7.8	15	.00	.00	.00
22	.00	1.6	1.1	1.1	5.5	9.4	1.4	7.0	50	.00	.00	.00
23	1.0	1.5	1.1	1.1	6.4	8.0	1.4	5.6	26	.00	.00	.00
24	3.0	1.4	1.0	1.1	5.9	6.8	1.4	5.0	11	.07	.00	.00
25	2.0	1.4	1.0	1.1	4.4	6.8	1.4	4.5	6.1	.04	.00	.00
26	1.0	1.3	1.1	1.1	3.2	6.1	1.3	8.8	4.0	.00	.00	.00
27	.90	1.3	1.1	1.0	2.9	6.1	1.3	1370	2.9	.00	.00	.00
28	.80	1.2	1.1	.98	11	5.0	1.1	1510	2.6	.00	.00	.00
29	.80	1.2	1.1	.93	---	4.5	1.1	190	2.3	.00	.00	.00
30	.80	1.1	1.1	.97	---	4.5	1.1	100	1.9	.00	.00	.00
31	.80	---	1.1	1.0	---	4.0	---	64	---	.00	.00	---
TOTAL	11.10	69.50	34.4	32.38	513.3	588.2	63.8	3431.0	1686.8	15.92	.00	.00
MEAN	.36	2.32	1.11	1.04	18.3	19.0	2.13	111	56.2	.51	.000	.000
MAX	3.0	11	1.5	1.3	65	48	3.6	1510	453	1.7	.00	.00
MIN	.00	.80	1.0	.93	1.0	4.0	1.1	1.1	1.9	.00	.00	.00
AC-FT	22	138	68	64	1020	1170	127	6810	3350	32	.00	.00

CAL YR 1977 TOTAL 2523.11 MEAN 6.91 MAX 779 MIN .00 AC-FT 5000
WTR YR 1978 TOTAL 6446.40 MEAN 17.7 MAX 1510 MIN .00 AC-FT 12790

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (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
FEB 15...	1302	54	100	7.5	3.0	32	7	8.3	2.7	6.3	29	.5

DATE	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	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)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	PHOSPHORUS, TOTAL (MG/L AS P)
FEB 15...	1.1	30	25	13	4.8	.3	11	58	62	.08	8.5	.06

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 prior to July and poor thereafter.

AVERAGE DISCHARGE.--29 years, 115 ft^3/s (3.257 m^3/s), 83,320 acre-ft/yr (103 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 29	1730	*4,160	118	*22.22	6.775	June 8	0230	2,580	73.1	20.59	6.276

Minimum daily discharge, 0.09 ft^3/s (0.003 m^3/s) Sept. 25-28.

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	1.5	3.5	1.6	1.7	2.1	6.0	2.1	1.9	189	1.9	.37	.70
2	1.6	2.8	1.6	1.6	2.1	5.1	2.2	2.0	416	1.7	.35	.50
3	1.3	2.2	1.6	2.1	2.1	4.6	2.0	15	1260	1.6	.60	.36
4	1.5	1.6	1.7	1.9	2.1	4.0	1.9	372	996	1.4	2.5	.25
5	1.9	1.4	1.6	1.8	2.1	3.7	1.8	777	318	1.3	2.0	.22
6	1.9	1.3	1.6	2.0	2.1	3.6	1.6	79	1660	1.2	1.5	.20
7	1.9	1.2	1.6	2.0	2.3	7.4	1.9	33	2460	1.1	1.2	.18
8	2.5	1.7	1.6	1.8	2.3	90	2.0	23	2190	1.0	.90	.17
9	2.8	1.7	1.6	1.8	2.5	196	2.0	16	622	1.0	.70	.16
10	2.6	1.4	1.6	1.8	2.5	48	2.1	11	159	.90	.52	.16
11	3.2	2.6	1.6	1.8	2.6	21	2.3	8.0	75	.85	.40	.15
12	3.1	3.5	1.6	2.2	4.2	13	2.4	6.1	51	.80	.30	.15
13	2.6	3.7	1.6	2.0	5.5	8.4	2.3	4.9	39	.77	.23	.13
14	2.3	3.3	1.6	1.8	45	6.0	2.2	4.0	49	.72	.17	.13
15	2.7	2.8	1.6	1.8	51	4.8	2.3	3.6	36	.68	.14	.12
16	2.8	2.2	1.6	1.9	25	4.0	2.1	3.3	39	.62	859	.12
17	2.9	2.0	1.4	1.8	16	3.7	1.9	3.4	16	.58	337	.12
18	3.1	1.7	1.3	1.8	12	3.3	1.5	3.1	12	.54	120	.11
19	3.1	1.6	1.3	2.0	8.2	3.0	1.1	2.7	8.7	.50	35	.11
20	2.8	1.6	1.3	2.1	6.6	2.7	1.2	25	6.8	.45	350	.10
21	2.7	1.6	1.2	2.1	5.3	2.5	1.3	88	6.0	.45	150	.10
22	2.9	1.3	1.1	2.1	4.9	2.3	1.3	123	5.0	.70	65	.10
23	3.6	1.4	1.1	2.1	5.0	2.1	1.3	183	4.5	1.2	35	.10
24	338	1.4	1.2	2.1	5.3	2.4	1.3	80	4.0	1.0	20	.10
25	164	1.6	1.1	2.1	5.5	2.4	1.3	27	3.5	.90	10	.09
26	32	1.6	1.1	2.1	5.8	2.5	1.3	54	3.1	.75	5.0	.09
27	18	1.6	1.2	2.1	6.2	2.4	1.3	870	2.7	.60	2.0	.09
28	12	1.6	1.3	2.1	6.5	2.5	1.6	1450	2.5	.55	1.0	.09
29	8.3	1.4	1.3	2.1	---	2.4	2.2	3630	2.2	.50	.50	.10
30	5.9	1.4	1.5	2.1	---	2.3	3.2	3550	2.0	.45	2.0	.10
31	4.4	---	1.7	2.1	---	2.2	---	1660	---	.40	1.0	---
TOTAL	639.9	58.7	44.8	60.8	240.8	464.3	55.2	13109.0	10638.0	27.11	2004.38	5.10
MEAN	20.6	1.96	1.45	1.96	8.60	15.0	1.84	423	355	.87	64.7	.17
MAX	338	3.7	1.7	2.2	51	196	3.2	3630	2460	1.9	859	.70
MIN	1.3	1.2	1.1	1.6	2.1	2.1	1.1	1.9	2.0	.40	.14	.09
AC-FT	1270	116	89	121	478	921	109	26000	21100	54	3980	10

CAL YR 1977 TOTAL 47546.50 MEAN 130 MAX 5760 MIN 1.1 AC-FT 94310
WTR YR 1978 TOTAL 27348.09 MEAN 74.9 MAX 3630 MIN .09 AC-FT 54240

07311505 DEEP RED RUN NEAR TAYLOR, OK

LOCATION.--Lat 34°12'32", long 98°19'48", on 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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	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 19...	1545	1250	7.9	18.0	5	7.8	85	18	306	85	213	22
NOV 16...	1230	590	7.9	15.0	15	9.3	94	11	--	--	--	--
DEC 21...	1530	1250	7.9	5.5	6	11.5	93	14	254	77	193	14
JAN 30...	1430	1880	8.3	2.0	3	13.5	99	11	--	--	--	--
FEB 27...	1345	609	8.1	8.0	--	11.0	96	--	--	--	--	--
MAR 14...	1315	329	7.9	12.5	15	10.0	96	12	--	--	--	--
APR 19...	1900	1150	8.3	19.5	6	8.3	93	10	129	33	84	10
MAY 05...	1045	510	8.0	10.5	40	7.8	73	--	--	--	--	--
JUN 12...	1740	495	8.2	27.5	100	6.6	85	20	161	38	95	13
JUL 24...	1500	1930	8.2	31.0	6	9.6	132	20	--	--	--	--
AUG 14...	1345	1250	8.1	30.0	23	7.9	105	10	260	68	170	21

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, DISSOLVED (MG/L)	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)
OCT 19...	110	5.5	45	161	.3	655	--	<.10	2.1	2.1	--	.09
NOV 16...	--	--	23	61	--	--	24	<.10	1.5	1.5	--	.12
DEC 21...	137	4.9	47	186	.2	--	<1	<.10	1.1	1.1	--	.12
JAN 30...	--	--	108	357	.2	--	16	.20	1.8	2.0	9.2	.10
FEB 27...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 14...	--	--	25	34	.2	--	56	.20	1.4	1.6	7.3	.12
APR 19...	125	5.2	64	216	.2	--	15	.10	1.4	1.5	7.0	--
MAY 05...	--	--	43	64	.2	--	134	.80	6.6	7.4	33	.69
JUN 12...	38	4.8	33	50	.2	--	201	.20	1.6	1.8	8.1	.28
JUL 24...	--	--	77	292	.3	--	21	.10	1.6	1.7	7.7	.10
AUG 14...	151	5.3	61	255	.2	--	38	.40	1.7	2.1	9.6	.24

RED RIVER BASIN

07311505 DEEP RED RUN NEAR TAYLOR, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	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...	--	--	--	--	510	--	450	--	--	--	--	4.0
NOV 16...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 21...	--	--	--	--	340	--	270	--	--	--	--	18
JAN 30...	--	--	--	--	--	--	--	--	--	--	--	3.0
FEB 27...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 14...	--	--	--	--	--	--	--	--	--	--	--	1.0
APR 19...	--	--	--	--	150	--	80	--	--	--	--	1.0
MAY 05...	--	--	--	--	--	--	--	--	--	--	--	4.0
JUN 12...	--	--	--	--	7000	--	210	--	--	--	--	8.0
JUL 24...	--	--	--	--	--	--	--	--	--	--	--	6.0
AUG 14...	4	<1	11	10	540	9	250	5.0	<1	<2	11	--

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.--October 1977 to September 1978.

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	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 19...	1430	7300	8.9	20.0	--	14.3	161	--	--	--	--	--
NOV 16...	1330	6800	8.5	17.0	--	11.6	123	--	--	--	--	--
DEC 21...	1430	6650	8.4	6.5	--	14.0	114	--	--	--	--	--
JAN 30...	1345	6980	8.3	1.0	5	14.0	100	12	--	--	--	--
FEB 27...	1255	8100	8.5	7.5	0	12.4	106	20	1205	317	792	100
MAR 14...	1220	5320	8.4	12.5	1	11.1	107	32	--	--	--	--
APR 19...	1745	7350	8.9	21.0	10	12.3	141	39	1112	261	652	111
MAY 05...	1140	2450	7.9	14.0	28	8.0	80	75	--	--	--	--
JUN 12...	1230	3050	8.1	27.0	72	7.6	96	37	976	252	630	71
JUL 24...	1130	7650	8.5	28.5	65	8.7	114	30	--	--	--	--
AUG 14...	1045	5400	8.1	28.0	64	8.1	105	25	1061	280	700	87
SEP 26...	1130	52000	7.9	21.5	>1000	7.7	88	185	--	--	--	--

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 19...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 16...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 21...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	--	--	1186	433	.4	11	3.4	2.5	5.9	26	.62	--
FEB 27...	1030	10	841	1914	.5	15	.80	1.4	2.2	9.8	.30	4
MAR 14...	--	--	852	1140	.3	124	.60	2.3	2.9	13	.42	--
APR 19...	880	12	892	1796	.4	31	.10	2.0	2.1	9.7	--	--
MAY 05...	--	--	304	587	.4	1689	1.0	5.8	6.8	30	.77	--
JUN 12...	319	11	293	225	.3	1079	.40	2.7	3.1	14	.49	--
JUL 24...	--	--	1039	1268	.5	140	.10	2.4	2.5	11	.29	--
AUG 14...	660	10	640	1132	.2	136	.40	2.1	2.5	11	.46	3
SEP 26...	--	--	802	1109	.4	3316	2.7	1.3	4.0	18	2.4	--

07312720 RED RIVER NEAR WAURIKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	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...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 16...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 21...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	--	--	--	--	--	--	--	--	--	--	--	9.0
FEB 27...	<1	16	9	730	40	60	<.5	83	2	12	6	1.0
MAR 14...	--	--	--	--	--	--	--	--	--	--	--	6.0
APR 19...	--	--	--	750	--	900	--	--	--	--	--	15
MAY 05...	--	--	--	--	--	--	--	--	--	--	--	28
JUN 12...	--	--	--	29000	--	740	--	--	--	--	--	15
JUL 24...	--	--	--	--	--	--	--	--	--	--	--	11
AUG 14...	<1	27	28	1250	47	160	<.5	--	<1	8	47	--
SEP 26...	--	--	--	--	--	--	--	--	--	--	--	23

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 Nation 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 CURRENT PERIOD.--August to September 1977: Maximum contents during period, 2,330 acre-ft (2.87 hm^3) Sept. 9, elevation, 908.52 ft (276.917 m).

Water year 1978: Maximum contents, 70,650 acre-ft (87.1 hm^3) June 18, elevation, 933.91 ft (284.656 m); minimum, 1,710 acre-ft (2.11 hm^3) Jan. 28 to Feb. 4, elevation, 907.42 ft (276.582 m).

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

900	155	913	6,550
902	289	923	26,480
906	1,070	934	71,100

CONTENTS, IN ACRE-FEET, PERIOD AUGUST 1977 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1											387	2080
2											375	2090
3											391	2080
4											405	2070
5											412	2230
6											412	2270
7											412	2310
8											412	2320
9											412	2320
10											412	2320
11											412	2300
12											412	2320
13											398	2300
14											398	2270
15											398	2250
16											398	2230
17											398	2230
18											398	2230
19											531	2270
20											920	2160
21											1300	2200
22											1610	2200
23											1390	2170
24											1390	2100
25											1470	2110
26											1510	2070
27											1530	2040
28											1610	2030
29											1940	2020
30											2000	2020
31											2060	---
MAX	---	---	---	---	---	---	---	---	---	---	2060	2320
MIN	---	---	---	---	---	---	---	---	---	---	375	2020
†											908.13	908.17
‡												-40

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

073134 WAURIKA LAKE NEAR WAURIKA, OK.--Continued

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2020	1830	1750	1730	1710	2730	3530	3710	42750	70010	66040	64410
2	2010	1800	1760	1730	1710	2730	3540	3910	43090	69910	65900	64410
3	2000	1790	1760	1720	1710	2730	3560	4050	43250	69860	65900	64410
4	2000	1790	1760	1720	1710	2730	3560	4480	43440	69610	66000	64410
5	1990	1790	1770	1720	1720	2730	3590	4630	44390	69660	66000	64410
6	1980	1790	1770	1720	1720	2890	3600	4700	52720	69660	65850	64360
7	1970	1790	1770	1720	1720	2960	3630	4760	61240	69460	65750	64310
8	1960	1800	1770	1720	1720	3100	3660	4780	65200	69360	65650	64260
9	1960	1790	1770	1720	1720	3120	3720	4800	65550	69220	65650	64260
10	1940	1780	1770	1720	1720	3150	3780	4780	65800	69120	65500	64210
11	1940	1780	1760	1720	1720	3230	3770	4800	65950	68920	65500	64110
12	1920	1770	1760	1720	1890	3320	3770	4810	66140	68720	65400	64010
13	1920	1760	1760	1730	2000	3360	3760	4790	66180	68670	65300	64010
14	1910	1760	1760	1730	1990	3350	3760	4780	69660	68570	65100	63910
15	1900	1760	1750	1730	2000	3330	3760	4780	70160	68520	65250	63860
16	1890	1760	1750	1730	2000	3340	3760	4740	70360	66320	65700	63810
17	1880	1730	1750	1730	2000	3340	3800	4700	70410	66080	65550	63470
18	1870	1730	1750	1730	2020	3340	3780	4710	70550	67930	65500	63370
19	1860	1730	1750	1730	2370	3340	3760	4720	70450	67730	65600	63270
20	1850	1740	1750	1730	2680	3380	3760	4700	70410	67530	65600	63270
21	1840	1740	1750	1730	2680	3380	3700	4740	70160	67380	65450	63270
22	1870	1740	1740	1730	2710	3360	3720	4780	70210	67230	65450	63070
23	1870	1740	1740	1730	2730	3480	3720	4810	70410	67230	65450	63020
24	1860	1740	1740	1730	2730	3480	3710	4810	70450	67130	65400	63020
25	1860	1740	1740	1720	2730	3450	3710	4810	70360	67040	65350	63020
26	1850	1740	1740	1720	2730	3460	3710	5150	70310	66840	65250	63020
27	1840	1740	1740	1720	2730	3470	3620	7360	70210	66840	65050	62970
28	1840	1740	1740	1710	2730	3480	3670	13410	70210	66640	65100	62920
29	1840	1750	1740	1710	---	3480	3670	30940	70110	66590	64910	62870
30	1830	1750	1740	1710	---	3500	3670	40840	70110	66490	64760	62720
31	1830	---	1730	1710	---	3500	---	42290	---	66090	64610	---
MAX	2020	1830	1770	1730	2730	3500	3800	42290	70550	70010	66040	64410
MIN	1830	1730	1730	1710	1710	2730	3530	3710	42750	66090	64610	62720
†	907.70	907.51	907.47	907.42	909.10	910.15	910.32	927.66	933.80	932.89	932.69	932.31
‡	-190	-80	-20	-20	+1,020	+770	+170	+38,620	+27,820	-4,020	-1,480	-1,890

WTR YR 1978 MAX 70550 MIN 1710 ‡ +60,700

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

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, 334 ft^3/s (9.46 m^3/s) June 6, gage height, 10.41 ft (3.173 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	.00	.35	.62	.31	.18	.13	.04	.00	.00	.00	.00	.00
2	.00	.25	.62	.29	.20	.15	.15	.95	.00	.00	.00	.00
3	.00	.25	.56	.25	.15	.11	.10	.80	.00	.00	.00	.00
4	.00	.35	.56	.25	.15	.15	.05	.03	.00	.00	.00	.00
5	.00	.40	.56	.25	.15	.16	.00	.22	29	.00	.00	.00
6	.00	.92	.56	.25	.11	.15	.00	.10	121	.00	.00	.00
7	.00	.92	.50	.25	.10	1.1	.00	.00	.34	.00	.00	.00
8	.00	1.0	.50	.22	.13	.57	.00	.00	.00	.00	.00	.00
9	.00	1.3	.47	.19	.15	.19	.00	.00	.00	.00	.00	.00
10	.00	1.0	.45	.15	.15	.10	.03	.00	.00	.00	.00	.00
11	.00	.92	.45	.15	.15	.06	.00	.00	.00	.00	.00	.00
12	.00	.86	.45	.15	.30	.04	.00	.00	.00	.00	.00	.00
13	.00	.80	.45	.11	.48	.01	.00	.00	.51	.00	.00	.00
14	.00	.80	.45	.10	.30	.00	.00	.00	.00	.00	.00	.00
15	.00	.74	.40	.10	.20	.00	.00	.00	.00	.00	.00	.00
16	.00	.68	.40	.10	.20	.00	.00	.00	.00	.00	.00	.00
17	.00	.68	.38	.10	.15	.00	.00	.00	.00	.00	.00	.00
18	.00	.62	.35	.10	.15	.03	.00	.00	.00	.00	.00	.00
19	.00	.68	.35	.10	.11	.04	.00	.00	.00	.00	.00	.00
20	.00	.68	.35	.09	.10	.05	.00	.00	.00	.00	.00	.00
21	.00	.68	.35	.05	.10	.10	.00	.00	.00	.00	.00	.00
22	.00	.68	.35	.05	.10	.10	.00	.00	.00	.00	.00	.00
23	.00	.68	.35	.05	.14	.26	.00	.00	.00	.00	.00	.00
24	.00	.68	.38	.05	.19	.35	.00	.00	.00	.00	.00	.00
25	.00	.68	.39	.05	.13	.20	.00	.00	.00	.00	.00	.00
26	.00	.68	.35	.05	.10	.13	.00	.27	.00	.00	.00	.00
27	.15	.68	.35	.05	.10	.10	.00	3.5	.00	.00	.00	.00
28	.25	.62	.35	.05	.11	.10	.00	89	.00	.00	.00	.00
29	.40	.62	.35	.00	---	.10	.00	.50	.00	.00	.00	.00
30	.40	.62	.35	.04	---	.10	.00	.00	.00	.00	.00	.00
31	.40	---	.35	.14	---	.09	---	.00	---	.00	.00	---
TOTAL	1.60	20.82	13.35	4.09	4.58	4.67	.37	95.37	150.85	.00	.00	.00
MEAN	.052	.69	.43	.13	.16	.15	.012	3.08	5.03	.000	.000	.000
MAX	.40	1.3	.62	.31	.48	1.1	.15	89	121	.00	.00	.00
MIN	.00	.25	.35	.00	.10	.00	.00	.00	.00	.00	.00	.00
AC-FT	3.2	41	26	8.1	9.1	9.3	.7	189	299	.00	.00	.00

CAL YR 1977 TOTAL 20051.68 MEAN 54.9 MAX 2580 MIN .00 AC-FT 39770
WTR YR 1978 TOTAL 295.70 MEAN .81 MAX 121 MIN .00 AC-FT 587

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
NOV										
16...	1515	.68	1100	7.7	16.5	17	1.5	16	38	--
DEC										
21...	1300	.35	1300	7.7	6.5	7	5.6	46	51	318
FEB										
27...	1200	.10	1110	7.8	8.0	1	7.2	62	14	300
MAR										
29...	0915	.10	--	--	15.5	--	--	--	--	--
MAY										
05...	1230	.30	620	7.7	14.0	74	3.2	32	30	--

DATE	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 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
NOV										
16...	--	--	--	--	--	52	69	--	14	<.10
DEC										
21...	66	166	36	180	7.4	93	100	.5	5	<.10
FEB										
27...	58	145	37	130	3.0	165	91	.3	3	<.10
MAR										
29...	--	--	--	--	--	--	--	--	--	--
MAY										
05...	--	--	--	--	--	79	31	.3	137	.30

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)
NOV										
16...	2.0	2.0	--	.23	--	--	--	--	--	--
DEC										
21...	1.3	1.3	--	.32	--	--	--	--	1500	--
FEB										
27...	1.1	1.1	--	8.0	2	<1	18	6	580	20
MAR										
29...	--	--	--	--	--	--	--	--	--	--
MAY										
05...	2.7	3.0	13	.28	--	--	--	--	--	--

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)
NOV									
16...	--	--	--	--	--	--	--	--	--
DEC									
21...	630	--	--	--	--	--	33	--	--
FEB									
27...	180	<.5	19	<1	2	13	1.0	--	--
MAR									
29...	--	--	--	--	--	--	--	160	.04
MAY									
05...	--	--	--	--	--	--	12	--	--

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, October 1977 to September 1978.

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	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 19...	1300	1700	8.0	16.0	--	7.3	76	--	--	--	--	--
NOV 16...	1415	2000	7.6	15.5	--	4.5	47	--	--	--	--	--
DEC 21...	1145	1700	7.9	5.5	--	9.9	79	--	--	--	--	--
JAN 30...	1130	1530	7.8	.5	4	13.2	93	46	--	--	--	--
FEB 27...	1110	1940	7.8	7.0	4	8.5	72	59	471	94	235	56
MAR 14...	1035	1780	7.6	10.0	5	6.1	55	66	--	--	--	--
APR 19...	1415	1800	8.1	19.0	55	7.0	78	64	356	90	227	28
MAY 05...	1310	915	7.7	13.5	40	6.7	67	62	--	--	--	--
JUN 12...	1430	2650	7.8	25.0	82	5.8	71	34	110	22	55	13
JUL 24...	1245	2530	8.0	26.5	25	4.5	56	37	--	--	--	--
AUG 14...	1200	1800	7.8	27.5	9	3.1	40	64	474	95	238	55
SEP 26...	1215	13500	7.8	21.5	76	5.5	63	56	--	--	--	--

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 19...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 16...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 21...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	--	--	178	257	2.5	12	5.0	12	17	79	9.0	--
FEB 27...	205	11	163	367	1.4	13	2.2	11	14	63	3.9	11
MAR 14...	--	--	123	351	.9	73	1.7	7.5	9.2	41	4.0	--
APR 19...	203	15	173	334	3.2	169	.10	4.1	4.2	19	--	--
MAY 05...	--	--	49	163	.6	760	1.4	6.9	8.3	37	.48	--
JUN 12...	258	6.5	109	236	.6	131	1.0	2.3	3.3	15	.90	--
JUL 24...	--	--	137	436	1.2	49	.30	2.5	2.8	13	1.4	--
AUG 14...	179	14	32	33	.3	20	2.1	.13	2.2	9.9	.25	18
SEP 26...	--	--	208	212	2.3	82	1.0	1.5	3.6	11	4.7	--

07313600 COW CREEK AT WAURIKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT												
19...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
16...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
21...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
30...	--	--	--	--	--	--	--	--	--	--	--	18
FEB												
27...	<1	23	8	760	25	470	<.5	90	11	3	15	7.0
MAR												
14...	--	--	--	--	--	--	--	--	--	--	--	24
APR												
19...	--	--	--	6000	--	850	--	--	--	--	--	23
MAY												
05...	--	--	--	--	--	--	--	--	--	--	--	21
JUN												
12...	--	--	--	800	--	70	--	--	--	--	--	13
JUL												
24...	--	--	--	--	--	--	--	--	--	--	--	14
AUG												
14...	1	27	37	5500	25	280	<.5	--	39	20	42	55
SEP												
26...	--	--	--	--	--	--	--	--	--	--	--	15

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.

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.--40 years (water years 1939-78), 2,180 ft^3/s (61.74 m^3/s), 1,579,000 acre-ft/yr (1.95 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1891, that of June 8, 1941. 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.--Peak discharges above base of 21,000 ft^3/s (595 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 31	2300	32,500	920	18.16	5.535	June 8	1000	*35,500	1,010	*18.62	5.675

Minimum discharge, 169 ft^3/s (4.79 m^3/s) Sept. 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	302	413	225	239	282	451	302	302	31100	716	342	289
2	285	373	227	243	294	452	294	343	16500	685	322	549
3	273	361	225	239	298	420	289	583	5770	660	314	474
4	271	355	224	239	293	394	282	578	8700	643	324	367
5	268	343	222	235	285	389	297	1620	9520	636	376	329
6	275	339	223	230	279	389	284	2160	14900	608	489	323
7	271	336	218	228	283	761	288	1520	29300	584	962	299
8	277	365	224	222	279	1350	288	1080	34500	578	1150	284
9	273	364	218	190	284	3230	298	912	31300	572	711	311
10	273	370	210	185	281	2500	699	790	13800	566	527	268
11	258	383	215	180	321	1490	866	768	4960	549	470	261
12	250	347	221	180	361	941	559	661	4560	511	440	270
13	244	393	226	180	448	727	369	570	4270	502	421	234
14	247	374	221	195	559	610	405	536	4470	490	402	222
15	243	354	217	210	1040	539	448	500	8040	471	375	213
16	241	331	211	241	1140	488	400	473	7360	438	416	219
17	248	320	243	230	984	458	377	443	5130	422	806	215
18	258	309	244	180	791	422	352	419	3770	415	1530	208
19	264	304	227	180	720	403	338	385	2500	393	949	198
20	275	300	219	180	729	386	342	373	2030	388	658	191
21	268	286	219	200	626	370	333	479	1720	379	714	178
22	272	273	220	230	593	353	331	765	1470	355	1380	253
23	288	260	223	270	616	379	333	4730	1290	356	1770	2580
24	306	257	226	317	618	501	315	3320	1160	364	1030	3040
25	365	262	230	254	572	503	308	2220	1070	378	613	1900
26	567	252	233	315	522	565	303	1710	982	416	465	2000
27	617	245	232	377	482	426	302	1840	914	437	400	1390
28	616	238	234	332	465	373	303	9810	852	432	347	1310
29	596	231	237	302	---	337	291	22100	795	401	312	2570
30	529	229	241	290	---	322	296	30600	752	396	285	1630
31	457	---	238	283	---	310	---	30900	---	367	273	---
TOTAL	10177	9567	6993	7376	14445	21239	10892	123490	253485	15108	19573	22575
MEAN	328	319	226	238	516	685	363	3984	8450	487	631	753
MAX	617	413	244	377	1140	3230	866	30900	34500	716	1770	3040
MIN	241	229	210	180	279	310	282	302	752	355	273	178
AC-FT	20190	18980	13870	14630	28650	42130	21600	244900	502800	29970	38820	44780

CAL YR 1977 TOTAL 837851 MEAN 2295 MAX 33700 MIN 210 AC-FT 1662000
WTR YR 1978 TOTAL 514920 MEAN 1411 MAX 34500 MIN 178 AC-FT 1021000

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 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.--18 years, 116 ft^3/s (3.285 m^3/s), 84,040 acre-ft/yr (104 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.--Peak discharge above base of 1,300 ft^3/s (36.8 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 29	1915	*9,640	273	*27.68	8.437	June 8	0430	8,240	233	27.27	8.312

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	.00	.00	.00	.04	.07	.49	5.3	5.3	1700	7.7	.69	.07
2	.00	.00	.00	.03	.07	.42	4.2	5.4	323	7.1	.40	.00
3	.00	.00	.00	.02	.07	.33	3.6	89	469	6.6	.31	.00
4	.00	.00	.00	.04	.03	.28	3.1	134	236	6.1	.24	.00
5	.00	.00	.00	.07	.03	.26	2.7	116	86	5.5	.20	.00
6	.00	.00	.00	.05	.03	.24	2.4	51	1420	4.9	.20	.00
7	.00	.00	.00	.06	.14	87	2.2	27	6120	4.3	.24	.00
8	.00	.00	.00	.02	.14	210	2.0	18	6610	4.0	.20	.00
9	.00	.00	.00	.00	.20	336	3.6	12	3510	3.5	.20	.00
10	.00	.00	.00	.00	.17	184	446	8.2	1700	3.1	.31	.00
11	.00	.00	.00	.05	.17	47	816	5.6	235	2.7	.31	.00
12	.00	.00	.00	.08	5.3	19	287	3.8	97	2.3	.27	.00
13	.00	.00	.00	.09	9.4	10	43	2.5	70	1.9	.24	.00
14	.00	.00	.00	.08	8.3	6.8	16	1.7	161	1.7	.17	.00
15	.00	.00	.00	.05	5.0	4.4	8.5	1.4	570	1.5	.10	.00
16	.00	.00	.00	.12	1.5	2.9	5.3	1.1	505	1.3	.10	.00
17	.00	.00	.00	.04	1.1	1.9	3.8	.89	106	1.1	57	.00
18	.00	.00	.02	.01	3.8	1.3	2.3	.82	56	.88	74	.00
19	.00	.00	.01	.03	5.0	.95	1.6	.74	42	.74	17	.00
20	.00	.00	.00	.02	3.3	.80	1.4	.72	33	.63	7.5	.00
21	.00	.00	.00	.00	2.2	.69	1.1	1.0	27	.54	3.8	.00
22	.00	.00	.00	.00	1.8	.55	.90	65	23	.49	2.1	.00
23	.00	.00	.00	.03	1.5	17	.80	230	19	.46	1.4	.00
24	.00	.00	.00	.04	1.4	345	.73	125	18	.43	3.1	.00
25	.00	.00	.00	.08	1.0	178	.65	28	17	.43	2.2	.00
26	.00	.00	.01	.05	.75	87	.61	16	13	.44	1.3	.00
27	.00	.00	.02	.02	.61	35	.56	864	12	.37	.81	.00
28	.00	.00	.04	.03	.55	20	.51	3970	10	.49	.35	.00
29	.00	.00	.06	.03	---	14	.56	8470	9.4	2.0	.24	.00
30	.00	.00	.07	.03	---	9.9	4.3	6070	8.5	2.7	.14	.00
31	.00	---	.07	.07	---	7.2	---	3530	---	1.2	.17	---
TOTAL	.00	.00	.30	1.28	49.63	1634.41	1670.72	23850.17	24205.9	77.10	175.29	.07
MEAN	.000	.000	.010	.041	1.77	52.7	55.7	769	807	2.49	5.65	.002
MAX	.00	.00	.07	.12	9.4	345	816	8470	6610	7.7	74	.07
MIN	.00	.00	.00	.00	.03	.24	.51	.72	8.5	.37	.10	.00
AC-FT	.00	.00	.6	2.5	98	3240	3310	47310	48010	153	348	.1

CAL YR 1977 TOTAL 14221.10 MEAN 39.0 MAX 2340 MIN .00 AC-FT 28210
WTR YR 1978 TOTAL 51664.87 MEAN 142 MAX 8470 MIN .00 AC-FT 102500

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
JAN 03...	1230	.03	1260	7.6	4.5	15	8.4	66	52	--
FEB 09...	1040	.24	1900	7.7	2.0	14	6.9	50	26	453
MAR 14...	0915	7.2	538	7.4	9.5	70	8.2	74	51	--
APR 06...	1245	2.4	520	--	21.0	73	6.0	68	50	139
MAY 18...	0920	.81	730	7.3	22.0	17	3.2	38	34	--
JUN 06...	1015	987	230	7.6	22.0	200	5.7	66	31	138
JUL 06...	1030	5.1	2500	8.1	28.5	23	6.2	82	23	--
AUG 16...	1545	.10	2760	8.2	32.0	11	7.6	104	31	673

DATE	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 105 DEG. C, SUSPENDED (MG/L)
JAN 03...	--	--	--	--	--	53	150	.3	17
FEB 09...	80	230	438	250	7.8	88	273	.3	16
MAR 14...	--	--	--	--	--	42	107	.1	420
APR 06...	31	79	10	50	9.3	31	67	.2	198
MAY 18...	--	--	--	--	--	28	113	.3	160
JUN 06...	20	51	12	30	5.1	21	37	.1	1028
JUL 06...	--	--	--	--	--	128	370	.4	59
AUG 16...	116	290	91	410	7.0	103	550	.2	114

07315700 MUD CREEK NEAR COURTNEY, OK--Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
JAN 03...	<.10	1.8	1.8	--	.11	--	--	--	--
FEB 09...	<.10	1.8	1.8	--	2.5	3	1	16	4
MAR 14...	.40	2.5	2.9	13	.35	--	--	--	--
APR 06...	1.5	3.2	4.7	21	.29	--	--	--	--
MAY 18...	<.10	2.4	2.4	--	.25	--	--	--	--
JUN 06...	.10	2.4	2.5	11	.49	--	--	--	--
JUL 06...	.10	2.3	2.4	11	9.0	--	--	--	--
AUG 10...	.20	1.2	1.4	6.3	.13	26	<1	16	17

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)
JAN 03...	--	--	--	--	--	--	--	--	24
FEB 09...	740	17	2900	<.5	33	<1	4	14	21
MAR 14...	--	--	--	--	--	--	--	--	17
APR 06...	7700	--	930	--	--	--	--	--	15
MAY 18...	--	--	--	--	--	--	--	--	9.0
JUN 06...	20000	--	500	--	--	--	--	--	25
JUL 06...	--	--	--	--	--	--	--	--	13
AUG 10...	1400	21	1200	<.5	--	<1	2	17	--

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	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)
NOV										
02...	1145	1125	8.4	13.0	14	10.2	99	23	--	--
DEC										
07...	1000	1095	8.5	3.5	7	13.2	101	18	347	84
JAN										
03...	1345	1200	7.9	5.0	20	14.2	112	20	--	--
FEB										
09...	0925	820	8.0	.0	10	13.7	95	23	280	66
MAR										
14...	0815	1220	8.0	10.0	5	9.8	89	36	--	--
APR										
06...	1330	990	--	24.0	23	9.7	117	29	247	78
MAY										
18...	1050	1300	8.0	23.0	0	9.2	108	26	--	--
JUN										
06...	0845	410	7.6	21.0	298	6.8	77	39	164	40
JUL										
06...	0900	1200	7.8	27.0	4	7.7	97	17	--	--
AUG										
16...	1445	1300	8.1	32.5	12	9.1	125	16	376	83
SEP										
14...	1030	2600	7.8	25.0	26	6.7	82	34	--	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
NOV									
02...	--	--	--	--	67	269	--	798	--
DEC									
07...	212	32	101	4.7	130	161	.5	--	14
JAN									
03...	--	--	--	--	137	150	.3	--	5
FEB									
09...	176	11	80	2.6	88	109	.2	--	18
MAR									
14...	--	--	--	--	78	239	.3	--	194
APR									
06...	197	11	95	5.6	59	168	.3	--	54
MAY									
18...	--	--	--	--	92	270	.5	--	17
JUN									
06...	100	11	24	4.9	26	63	.1	--	1609
JUL									
06...	--	--	--	--	93	239	.3	--	10
AUG									
16...	208	40	116	5.3	192	159	.2	--	33
SEP									
14...	--	--	--	--	141	567	.4	--	55

07315900 WALNUT BAYOU NEAR BURNEYVILLE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
NOV 02...	.01	3.5	3.5	16	.11	--	--	--	--
DEC 07...	<.10	1.3	1.3	--	.16	--	--	--	--
JAN 03...	<.10	1.4	1.4	--	.03	--	--	--	--
FEB 09...	<.10	1.5	1.5	--	.12	1	1	21	4
MAR 14...	<.10	2.0	2.0	--	.18	--	--	--	--
APR 06...	.50	2.2	2.7	12	.10	--	--	--	--
MAY 18...	<.10	14	14	--	6.5	--	--	--	--
JUN 06...	.20	2.2	2.4	11	.53	--	--	--	--
JUL 06...	.10	1.9	2.0	9.0	4.0	--	--	--	--
AUG 16...	.10	1.1	1.2	5.4	8.0	<1	<1	13	12
SEP 14...	<.10	.70	.70	--	.10	--	--	--	--

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)
NOV 02...	--	--	--	--	--	--	--	--	4.0
DEC 07...	790	--	630	--	--	--	--	--	--
JAN 03...	--	--	--	--	--	--	--	--	3.0
FEB 09...	730	18	300	<.5	25	<1	3	14	12
MAR 14...	--	--	--	--	--	--	--	--	5.0
APR 06...	1820	--	170	--	--	--	--	--	11
MAY 18...	--	--	--	--	--	--	--	--	6.0
JUN 06...	9300	--	1000	--	--	--	--	--	33
JUL 06...	--	--	--	--	--	--	--	--	7.0
AUG 16...	420	18	240	<.5	<5	<1	<2	9	--
SEP 14...	--	--	--	--	--	--	--	--	--

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 good. 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 27 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--42 years, 2,728 ft^3/s (77.26 m^3/s), 1,976,000 acre-ft/yr (2.44 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.--Peak discharge above base of 24,000 ft^3/s (680 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 31	0145	44,200	1,250	18.64	5.681	June 9	0530	*48,600	1,380	*19.66	5.992

Minimum daily discharge, 205 ft^3/s (5.81 m^3/s) Oct. 21.

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	292	441	235	223	320	465	390	247	39400	933	408	367
2	289	402	234	233	314	450	370	220	36800	872	408	348
3	277	374	231	241	310	427	353	223	17200	818	390	340
4	274	346	229	245	300	417	354	249	10600	794	422	403
5	274	323	227	245	300	400	351	412	12500	747	430	533
6	271	308	223	249	300	393	344	509	19700	730	435	487
7	263	296	221	249	290	447	339	999	33000	715	430	434
8	259	293	217	252	290	545	330	1550	45200	693	426	385
9	256	296	217	252	280	934	327	1160	47700	666	602	373
10	244	296	217	252	280	1310	1000	840	37400	646	991	357
11	238	296	217	256	300	2380	1530	766	15200	643	878	344
12	238	296	217	256	378	1910	2800	690	8440	618	645	339
13	235	296	217	272	517	1180	1750	639	7270	596	555	313
14	229	296	217	296	578	835	942	504	6820	561	509	308
15	226	296	216	295	536	685	585	471	6630	534	461	297
16	225	296	216	296	524	637	482	482	9760	523	440	275
17	222	296	216	289	621	585	450	498	10700	501	430	255
18	215	296	216	279	807	535	420	451	6960	475	451	241
19	211	295	215	227	789	505	400	417	5760	452	515	234
20	211	287	215	232	691	518	382	395	3760	445	1310	226
21	205	276	215	236	636	572	338	407	2950	435	1230	216
22	275	269	215	248	615	491	320	393	2470	421	983	209
23	347	262	215	280	580	528	314	414	2090	418	814	211
24	341	259	215	330	536	1230	308	1100	1790	436	1070	211
25	313	256	214	350	511	2580	297	4740	1570	438	1590	1110
26	293	245	214	350	504	1380	288	3180	1400	420	1110	2030
27	285	238	214	350	501	750	273	2460	1260	397	752	1620
28	280	238	213	350	490	600	257	3350	1150	394	578	1650
29	414	238	213	340	---	500	266	16100	1060	411	482	1290
30	436	236	213	330	---	440	260	38000	995	432	422	1250
31	445	---	219	330	---	410	---	43000	---	425	388	---
TOTAL	8583	8842	6773	8633	13098	25039	16820	124866	397535	17589	20555	16656
MEAN	277	295	218	278	468	808	561	4028	13250	567	663	555
MAX	445	441	235	350	807	2580	2800	43000	47700	933	1590	2030
MIN	205	236	213	223	280	393	257	220	995	394	388	209
AC-FT	17020	17540	13430	17120	25980	49660	33360	247700	788500	34890	40770	33040

CAL YR 1977 TOTAL 944914 MEAN 2589 MAX 38900 MIN 205 AC-FT 1874000
WTR YR 1978 TOTAL 664989 MEAN 1822 MAX 47700 MIN 205 AC-FT 1319000

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 good except for winter periods and June which are poor. Some regulation by numerous flood-retarding structures.

AVERAGE DISCHARGE.--41 years, 29.9 ft^3/s (0.847 m^3/s), 21,660 acre-ft/yr (26.7 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, 297 ft^3/s (8.41 m^3/s) May 27, gage height, 7.51 ft (2.289 m), no peak above base of 1,100 ft^3/s (31.2 m^3/s); 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	2.2	5.7	12	14	20	27	17	10	60	2.5	.00	.00
2	2.1	7.0	12	12	20	26	18	13	80	3.0	.00	.00
3	2.1	7.2	13	9.5	20	24	18	33	60	3.0	1.3	.00
4	2.1	6.7	12	7.9	20	23	18	31	45	2.5	.54	.00
5	2.1	6.7	12	18	20	24	19	29	65	2.5	.00	.00
6	2.2	7.0	11	21	18	27	16	28	40	2.3	.00	.00
7	2.5	7.2	11	22	18	23	15	32	25	2.7	.00	.00
8	2.3	8.6	12	21	18	22	15	27	20	2.3	.00	.00
9	2.2	10	12	20	18	21	15	21	15	1.8	.00	.00
10	2.2	9.4	12	19	18	21	30	18	12	1.4	.00	.00
11	2.0	8.9	11	18	18	22	25	16	10	1.2	.00	.00
12	2.1	8.9	13	17	18	21	21	14	8.5	.94	.00	.00
13	2.3	8.8	13	16	18	22	19	12	7.5	.74	.00	.00
14	2.2	8.9	13	16	18	22	17	10	6.5	.59	.00	.00
15	2.2	8.7	13	16	18	21	16	8.9	5.5	.41	.00	.00
16	2.3	9.2	13	16	19	20	15	8.2	5.0	.26	.00	.00
17	2.8	8.4	13	16	20	20	15	8.2	4.5	.59	.00	.00
18	3.2	8.6	12	16	23	19	15	7.1	4.5	.20	.00	.00
19	2.8	9.1	12	16	24	19	13	52	4.0	.08	.00	.00
20	2.7	9.0	11	16	24	19	13	93	4.0	.01	.00	16
21	2.8	8.6	12	16	18	20	13	55	3.5	.00	.00	12
22	3.1	9.0	11	17	25	20	13	71	3.5	.00	.00	.55
23	4.2	9.8	12	17	33	20	13	53	3.0	.00	.00	.00
24	4.7	10	13	17	31	21	12	47	3.0	.00	.00	.10
25	4.7	10	11	17	30	20	12	33	3.0	.00	.00	.04
26	4.6	11	11	17	27	20	10	54	2.5	.00	.00	.11
27	4.5	11	11	22	26	20	10	160	2.5	.00	.00	.01
28	4.8	11	12	23	27	20	10	231	2.5	.00	.07	.00
29	4.9	11	15	23	---	17	10	155	2.5	.00	.00	.00
30	5.2	12	16	22	---	17	9.7	113	2.5	.00	.00	.00
31	5.4	---	16	21	---	17	---	78	---	.00	.00	---
TOTAL	95.5	267.4	383	539.4	607	655	462.7	1501.4	510.5	29.02	1.91	28.81
MEAN	3.08	8.91	12.4	17.4	21.7	21.1	15.4	48.4	17.0	.94	.062	.96
MAX	5.4	12	16	23	33	27	30	231	80	3.0	1.3	16
MIN	2.0	5.7	11	7.9	18	17	9.7	7.1	2.5	.00	.00	.00
AC-FT	189	530	760	1070	1200	1300	918	2980	1010	58	3.8	57

CAL YR 1977	TOTAL	18587.36	MEAN 50.9	MAX 1240	MIN .07	AC-FT	36870	
WTR YR 1978	TOTAL	5081.64	MEAN 13.9	MAX 231	MIN .00	AC-FT	10080	

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 fair except for winter periods which are poor. Some regulation by numerous flood-retarding structures.

AVERAGE DISCHARGE.--9 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, 843 ft^3/s (23.9 m^3/s) May 28, gage height, 14.41 ft (4.392 m), no peak above base of 1,500 ft^3/s (42.5 m^3/s); minimum daily, 0.13 ft^3/s (0.004 m^3/s) Aug. 19.

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	10	8.7	13	26	25	64	30	14	201	18	2.7	.70
2	9.1	10	14	24	25	66	29	17	163	17	2.4	.60
3	9.1	12	15	24	25	62	28	29	144	17	1.8	.55
4	9.1	11	16	28	25	60	30	49	136	16	2.5	.50
5	9.2	11	16	32	25	55	31	48	177	16	3.7	.45
6	9.4	11	16	31	25	57	32	48	168	16	2.9	.40
7	9.9	11	16	31	25	54	32	100	162	15	2.3	.40
8	9.8	12	17	32	25	51	30	60	135	14	1.4	.40
9	8.6	14	17	28	25	47	30	46	116	13	1.5	.35
10	8.3	16	13	30	25	44	38	38	103	12	1.9	.35
11	8.1	15	23	29	25	42	64	36	93	12	1.4	.35
12	7.4	14	19	28	25	40	55	34	83	11	.62	.35
13	7.4	14	20	27	25	44	47	32	76	11	.48	.33
14	7.7	14	19	27	25	46	41	28	72	9.7	.34	.33
15	7.7	14	19	27	27	45	39	26	67	9.6	.30	.30
16	7.4	14	20	27	29	44	35	23	63	9.5	.20	.30
17	7.7	14	22	27	30	42	33	18	58	9.0	.27	5.6
18	7.4	13	21	26	30	42	32	20	53	8.8	.29	66
19	7.7	13	22	26	30	41	32	18	50	8.2	.13	33
20	8.5	13	22	26	30	41	30	110	47	7.6	.26	219
21	8.8	13	21	26	30	40	28	128	45	7.0	.25	357
22	8.5	13	21	26	40	40	26	164	41	6.4	.22	55
23	9.1	13	22	26	53	39	24	142	38	6.5	.80	26
24	9.7	13	23	25	50	39	22	81	34	5.9	1.4	18
25	8.8	13	22	25	45	39	19	68	31	5.4	1.3	16
26	9.4	13	22	25	43	37	18	61	29	4.6	1.3	47
27	9.4	13	21	28	66	36	16	304	25	3.9	1.1	32
28	9.1	13	22	30	65	36	17	674	21	3.6	.80	19
29	8.8	14	22	30	---	35	16	409	21	3.7	11	16
30	8.5	14	23	30	---	34	15	311	19	4.3	1.1	15
31	8.5	---	25	28	---	31	---	249	---	3.0	.80	---
TOTAL	268.1	386.7	604	855	918	1393	919	3385	2471	304.7	47.46	931.26
MEAN	8.65	12.9	19.5	27.6	32.8	44.9	30.6	109	82.4	9.83	1.53	31.0
MAX	10	16	25	32	66	66	64	674	201	18	11	357
MIN	7.4	8.7	13	24	25	31	15	14	19	3.0	.13	.30
AC-FT	532	767	1200	1700	1820	2760	1820	6710	4900	604	94	1850

CAL YR 1977	TOTAL	30250.58	MEAN 82.9	MAX 1510	MIN .00	AC-FT	60000	
WTR YR 1978	TOTAL	12483.22	MEAN 34.2	MAX 674	MIN .13	AC-FT	24760	

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.--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 months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum 2,800 micromhos Nov. 29; minimum 674 micromhos Aug. 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)
OCT										
12...	1600	9.7	2340	8.0	15.0	--	--	--	--	--
20...	1345	9.7	2500	8.1	17.5	--	10.6	116	--	--
NOV										
29...	1445	13	2800	8.2	9.0	--	11.0	100	--	--
DEC										
14...	1700	19	2250	7.8	7.5	--	--	--	--	--
15...	1400	43	2400	7.8	7.0	--	10.2	95	--	--
JAN										
23...	1215	26	1920	8.1	.0	6	12.5	90	16	--
FEB										
15...	1700	27	1850	8.5	.5	1	13.2	97	16	--
23...	1600	38	1869	7.9	.5	--	--	--	--	--
MAR										
27...	1600	40	2100	8.3	15.5	--	10.7	114	--	--
APR										
12...	1600	59	2000	8.4	18.5	30	9.8	111	--	31
19...	1600	32	2130	7.9	18.5	--	--	--	--	--
MAY										
10...	1615	39	1900	8.3	20.0	2	8.2	94	30	--
JUN										
13...	1500	76	1886	8.1	25.5	--	--	--	--	--
27...	0915	26	1880	81.0	25.0	54	7.7	97	37	--
JUL										
17...	1130	8.8	1610	8.2	26.5	4	9.0	117	12	--
AUG										
07...	1145	2.4	2100	8.1	25.0	2	8.5	106	17	--
SEP										
23...	1545	15	980	8.1	20.0	120	8.6	96	24	--
29...	1600	11	1120	7.8	25.0	--	--	--	--	--

07324200 WASHITA RIVER NEAR HAMMON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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
OCT										
12...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
NOV										
29...	--	--	--	--	--	--	--	--	--	--
DEC										
14...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
JAN										
23...	--	--	--	--	--	--	--	--	--	--
FEB										
15...	688	--	155	--	388	71	--	83	--	--
23...	960	810	--	220	--	--	100	--	95	18
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
12...	1048	--	227	--	567	116	--	95	--	--
19...	--	--	--	--	--	--	--	--	--	--
MAY										
10...	--	--	--	--	--	--	--	--	--	--
JUN										
13...	--	--	--	--	--	--	--	--	--	--
27...	1063	--	245	--	612	108	--	98	--	--
JUL										
17...	--	--	--	--	--	--	--	--	--	--
AUG										
07...	1399	--	320	--	800	140	--	67	--	--
SEP										
23...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--

DATE	SODIUM ADSORPTION RATIO	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)
OCT										
12...	--	--	--	--	--	--	--	1300	40	--
20...	--	--	--	--	--	--	--	--	--	--
NOV										
29...	--	--	--	--	--	--	--	--	--	--
DEC										
14...	--	--	--	--	--	--	--	1100	54	--
15...	--	--	--	--	--	--	--	--	--	--
JAN										
23...	--	--	--	--	--	--	--	808	57	.6
FEB										
15...	--	6.2	--	--	--	--	--	1068	59	.5
23...	1.3	--	4.7	190	0	160	3.8	800	57	--
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
12...	--	6.5	--	--	--	--	--	905	82	.1
19...	--	--	--	--	--	--	--	960	65	--
MAY										
10...	--	--	--	--	--	--	--	778	58	.5
JUN										
13...	--	--	--	--	--	--	--	870	45	--
27...	--	5.6	--	--	--	--	--	443	55	.5
JUL										
17...	--	--	--	--	--	--	--	487	71	.3
AUG										
07...	--	6.1	--	--	--	--	--	1039	52	.3
SEP										
23...	--	--	--	--	--	--	--	397	7.0	.2
29...	--	--	--	--	--	--	--	470	15	--

07324200 WASHITA RIVER NEAR HAMMON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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, 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									
12...	2070	2.82	54	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
NOV									
29...	--	--	--	--	--	--	--	--	--
DEC									
14...	1870	2.54	95	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--
JAN									
23...	--	--	--	14	.20	1.1	1.3	5.8	4.0
FEB									
15...	--	--	--	84	.20	1.5	1.7	7.9	6.4
23...	1470	2.00	151	--	--	--	--	--	.24
MAR									
27...	--	--	--	--	--	--	--	--	--
APR									
12...	--	--	--	172	.10	2.0	2.0	9.7	.20
19...	1750	2.38	151	--	--	--	--	--	--
MAY									
10...	--	--	--	145	.10	1.3	1.4	6.2	9.5
JUN									
13...	1590	2.16	326	--	--	--	--	--	--
27...	--	--	--	139	<.10	2.5	2.5	--	5.0
JUL									
17...	--	--	--	9	.10	1.0	1.1	5.2	3.0
AUG									
07...	--	--	--	9	.10	1.5	1.6	7.2	9.5
SEP									
23...	--	--	--	246	.10	1.3	1.4	6.4	.27
29...	840	1.14	24	--	--	--	--	--	--

DATE	TIME	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)
JAN							
23...	1215	--	--	--	--	--	--
FEB							
15...	1700	4	1	18	6	2700	56
APR							
12...	1600	--	--	--	--	1280	--
MAY							
10...	1615	--	--	--	--	--	--
JUN							
27...	0915	--	--	--	--	3300	--
JUL							
17...	1130	--	--	--	--	--	--
AUG							
07...	1145	3	2	6	7	1240	23
SEP							
23...	1545	--	--	--	--	--	--

DATE	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)
JAN							
23...	--	--	--	--	--	--	15
FEB							
15...	110	<.5	44	<1	4	16	11
APR							
12...	190	--	--	--	--	--	12
MAY							
10...	--	--	--	--	--	--	10
JUN							
27...	210	--	--	--	--	--	12
JUL							
17...	--	--	--	--	--	--	<5.0
AUG							
07...	130	<.5	--	<1	5	26	--
SEP							
23...	--	--	--	--	--	--	7.0

07324200 WASHITA RIVER NEAR HAMMON, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	2490	---	---	---	1840	---	---	1290	---		---
2	---	---	---	---	---	---	---	---	---	---		---
3	---	---	---	---	---	---	---	2390	---	---		---
4	---	---	---	2090	---	---	---	---	---	---		---
5	1980	---	---	---	---	---	---	---	---	1960		---
6	---	---	---	---	---	---	---	---	---	---		---
7	---	---	---	---	---	---	2020	---	1340	---		---
8	---	---	2270	---	---	1860	---	---	---	---		---
9	---	2390	---	---	---	---	---	---	---	---		---
10	---	---	---	---	---	---	---	---	---	---		---
11	---	---	---	---	---	---	---	---	---	---		---
12	2340	---	---	---	---	---	---	---	---	---		---
13	---	---	---	---	1870	---	---	---	1660	---		---
14	---	---	2250	---	---	---	1980	---	---	---		---
15	---	---	---	---	---	---	---	---	---	---		---
16	---	2370	---	---	---	1990	---	---	---	---		---
17	---	---	---	---	---	---	---	1980	---	---		---
18	---	---	---	---	---	---	---	---	---	---		---
19	2380	---	---	---	---	---	2130	---	---	---		---
20	---	---	---	---	---	---	---	---	1820	---		---
21	---	---	---	---	---	---	---	---	---	---		---
22	---	---	2290	---	---	2050	---	---	---	---		770
23	---	---	---	---	1920	---	---	---	---	---		---
24	---	---	---	---	---	---	---	---	---	---		---
25	---	---	---	---	---	---	---	1630	---	---		---
26	2420	---	---	---	---	---	---	---	---	---		---
27	---	---	---	---	---	---	2220	---	---	---		---
28	---	---	2150	---	---	---	---	---	1920	---		---
29	---	---	---	---	---	1990	---	---	---	---		1120
30	---	2360	---	---	---	---	---	---	---	---		---
31	---	---	---	---	---	---	---	---	---	---		---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	14.5	---	---	---	.5	---	---	23.0	---		---
2	---	---	---	---	---	---	---	---	---	---		---
3	---	---	---	---	---	---	---	11.0	---	---		---
4	---	---	---	.0	---	---	---	---	---	---		---
5	19.0	---	---	---	---	---	---	---	---	26.0		---
6	---	---	---	---	---	---	---	---	---	---		---
7	---	---	---	---	---	---	23.0	---	23.0	---		---
8	---	---	4.0	---	---	8.0	---	---	---	---		---
9	---	10.0	---	---	---	---	---	---	---	---		---
10	---	---	---	---	---	---	---	---	---	---		---
11	---	---	---	---	---	---	---	---	---	---		---
12	15.0	---	---	---	---	---	---	---	---	---		---
13	---	---	---	---	.0	---	---	---	25.5	---		---
14	---	---	7.5	---	---	---	22.0	---	---	---		---
15	---	---	---	---	---	---	---	---	---	---		---
16	---	13.0	---	---	---	11.0	---	---	---	---		---
17	---	---	---	---	---	---	---	20.0	---	---		---
18	---	---	---	---	---	---	---	---	---	---		---
19	17.0	---	---	---	---	---	18.5	---	---	---		---
20	---	---	---	---	---	---	---	---	27.5	---		---
21	---	---	---	---	---	---	---	---	---	---		---
22	---	---	3.5	---	---	18.0	---	---	---	---		28.0
23	---	---	---	---	.5	---	---	---	---	---		---
24	---	---	---	---	---	---	---	---	---	---		---
25	---	---	---	---	---	---	---	27.0	---	---		---
26	19.5	---	---	---	---	---	20.5	---	---	---		---
27	---	---	---	---	---	---	---	---	---	---		---
28	---	---	.0	---	---	---	---	---	25.0	---		---
29	---	---	---	---	---	19.5	---	---	---	---		25.0
30	---	7.0	---	---	---	---	---	---	---	---		---
31	---	---	---	---	---	---	---	---	---	---		---

07324200 WASHITA RIVER NEAR HAMMON, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	2490	2310	2100	1800	1890	2050	2320	1290	2000	1800	945
2	---	2010	2280	2190	1720	1830	2090	2310	1320	2050	1850	1140
3	---	1690	2260	---	1750	1870	2100	2350	1360	2110	1830	1260
4	1900	1780	2230	2150	1810	1980	2100	2280	1400	2140	1840	1220
5	2040	1930	2280	2010	1770	2000	2080	2260	1400	1970	1910	1040
6	1910	2050	2280	1800	1720	1860	2000	2200	1380	1950	1940	1090
7	1960	2190	2310	1810	1710	1850	2020	1780	1350	---	2200	1090
8	2060	2360	2310	1840	1850	1870	2090	1690	1410	---	2040	1160
9	2140	2420	2230	1880	1770	1920	2050	1760	1460	---	2400	1110
10	2240	2360	2200	1960	1800	1940	1990	1820	1500	---	1680	1130
11	2300	2330	2200	2010	1840	1910	2030	1930	1550	---	1350	1240
12	2330	2330	2200	1870	1840	1930	1990	1930	1610	---	1290	1350
13	2330	2340	2240	1940	1760	1940	1940	2120	1660	---	1200	1200
14	2330	2360	2260	2000	1790	1960	1980	1960	1680	---	1210	999
15	2330	2380	2150	1920	1780	1980	1950	2010	1690	---	1050	1050
16	2320	2380	2210	1840	1720	2000	2000	2080	1710	---	1040	911
17	2340	2360	2240	1860	1550	2030	2070	1980	1730	---	1030	788
18	2360	2340	2250	1880	1410	2040	2120	2090	1740	---	1030	789
19	2380	2350	2310	1940	1500	2040	2130	2060	1780	---	971	774
20	2100	2360	2290	1960	1570	2070	2160	1870	1810	1480	993	841
21	2180	2320	2300	1970	1700	---	2170	1540	1800	1450	1030	917
22	2240	2300	2320	1940	1960	2200	2220	1330	1670	1480	1110	818
23	2290	2290	2300	1900	1940	2050	2200	1340	1720	1480	1040	964
24	2340	2270	2310	1860	1910	1950	2200	1500	1640	1440	977	790
25	2380	2260	2330	1940	1890	1970	2220	1600	1600	1500	1010	896
26	2420	2260	2330	1840	1860	2020	2230	1630	1580	1560	978	999
27	2440	2240	2330	1780	1820	2070	2250	1480	1570	1600	959	1060
28	2470	2240	1960	1860	1780	2000	2300	1150	1760	1640	889	1100
29	2480	2800	2040	1880	---	2000	2270	1200	1920	1700	674	1120
30	2490	2340	2070	1770	---	1980	2260	1260	1920	1750	724	1130
31	2490	---	2150	1790	---	1970	---	1340	---	1770	844	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.5	13.0	---	.5	-0.5	1.5	19.0	18.5	24.0	27.0	27.0	24.5
2	17.5	10.0	---	.0	-0.5	.0	19.5	13.0	22.0	27.5	27.0	24.0
3	16.5	10.5	---	-0.5	-0.5	.5	18.5	10.0	21.5	29.0	24.5	25.5
4	16.0	11.0	---	.5	-0.5	4.5	20.0	11.0	22.0	29.0	22.0	---
5	16.5	11.5	---	1.5	-0.5	6.5	19.5	13.0	22.5	27.5	24.0	---
6	16.5	13.5	---	2.5	-0.5	4.0	18.5	14.5	23.0	---	25.0	---
7	18.0	14.0	---	4.0	-0.5	5.0	20.5	16.0	24.0	---	25.5	---
8	17.0	13.0	---	2.0	-0.5	7.5	21.0	18.0	24.0	---	25.0	---
9	14.0	7.5	---	-0.5	-0.5	10.0	20.5	19.5	24.5	---	24.0	---
10	14.5	5.5	---	-0.5	-0.5	9.5	15.5	19.5	25.0	---	23.0	---
11	12.5	---	---	-0.5	-0.5	10.5	14.0	21.0	25.5	---	26.5	31.0
12	11.0	---	---	-0.5	-0.5	10.5	16.0	20.5	25.5	---	27.0	32.0
13	11.5	---	---	-0.5	-0.5	11.0	17.5	19.0	24.5	---	27.0	28.0
14	12.5	---	---	-0.5	-0.5	8.5	19.0	20.5	25.5	---	26.5	24.0
15	11.5	---	---	-0.5	-0.5	9.0	21.0	22.5	26.5	---	25.0	23.5
16	10.5	---	---	-0.5	-0.5	11.0	20.5	22.5	27.0	---	26.0	---
17	12.0	---	---	-0.5	-0.5	13.0	20.0	20.5	27.0	---	26.0	---
18	12.5	---	---	-0.5	-0.5	14.0	17.0	22.5	25.5	---	25.5	---
19	13.0	---	---	-0.5	-0.5	15.0	15.5	23.5	25.5	---	20.5	---
20	14.0	---	---	-0.5	-0.5	---	15.5	20.0	26.5	28.5	24.5	21.0
21	16.5	---	---	-0.5	.0	---	15.5	19.5	26.0	28.5	26.5	21.5
22	16.0	---	---	-0.5	5.0	---	17.0	21.5	26.5	26.5	26.0	21.0
23	14.5	---	---	-0.5	6.0	14.0	17.0	24.5	27.0	26.5	26.0	21.5
24	15.0	---	---	-0.5	5.5	9.5	17.0	26.0	27.5	26.0	26.0	22.0
25	15.0	---	---	-0.5	6.0	9.0	16.5	26.0	27.5	27.0	26.5	21.5
26	15.0	---	---	-0.5	7.0	11.0	17.0	25.0	27.5	28.0	25.5	21.0
27	15.5	---	---	-0.5	5.5	13.5	17.5	20.5	27.5	26.0	25.5	21.0
28	17.5	---	---	-0.5	4.0	15.5	18.5	19.0	27.5	25.5	25.0	21.5
29	17.0	---	2.5	-0.5	---	17.0	19.0	21.5	27.5	26.5	23.0	19.5
30	17.0	---	4.0	-0.5	---	17.0	20.0	23.5	27.0	27.0	23.0	---
31	16.0	---	5.0	-0.5	---	18.5	---	25.0	---	27.5	23.5	---

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 Bureau of Reclamation). 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 giaven 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, 193,600 acre-ft (239 hm^3) Oct. 1, May 31, elevation, 1,644.23 ft (501.161 m); minimum, 170,300 acre-ft (210 hm^3) Sept. 1, elevation, 1,640.86 ft (500.134 m).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30	1,644.20	193,400	--	--
Oct. 31	1,642.00	177,900	-15,500	92
Nov. 30	1,642.10	178,600	+700	270
Dec. 31	1,642.20	179,300	+700	314
CAL YR 77	--	--	+34,700	3,854
Jan. 31	1,642.20	179,300	0	307
Feb. 28	1,642.10	178,600	-700	1,065
Mar. 31	1,642.40	180,700	+2,100	276
Apr. 30	1,642.70	182,800	+2,100	274
May 31	1,644.20	193,400	+10,600	320
June 30	1,642.60	182,100	-11,300	363
July 31	1,641.40	173,900	-8,200	2,798
Aug. 31	1,640.90	170,600	-3,300	640
Sept. 30	1,641.00	171,200	+600	423
WTR YR 78	--	--	-22,200	7,142

† 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 form 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 fair. Except for 55 mi^2 (142.4 km^2) intervening area, flow completely regulated since 1961 by Foss Reservoir (station 07324300).

AVERAGE DISCHARGE.--17 years (water years 1962-78), 15.8 ft^3/s (0.447 m^3/s), 11,450 acre-ft/yr (14.1 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, 635 ft^3/s (18.0 m^3/s) Oct. 20, gage height, 14.14 ft (4.310 m); minimum daily, 3.6 ft^3/s (0.10 m^3/s) Apr. 29.

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	6.7	7.8	7.1	7.9	9.4	6.9	5.4	4.1	56	620	11	8.7
2	6.5	8.5	7.1	8.2	8.6	6.9	5.3	5.3	44	400	9.7	9.0
3	139	8.2	7.3	9.0	8.7	6.2	18	9.0	35	60	9.4	9.0
4	264	7.4	7.6	8.7	6.6	6.3	23	4.9	30	15	9.4	8.9
5	264	7.3	7.6	9.1	8.6	6.5	7.5	4.4	25	9.1	9.5	8.4
6	263	7.6	7.0	9.0	8.6	6.3	6.2	27	45	8.0	9.7	8.3
7	265	7.2	6.6	8.9	8.5	6.0	5.5	114	600	7.5	9.5	8.6
8	264	8.1	7.1	8.9	7.9	6.0	5.2	9.6	350	7.3	9.4	8.6
9	263	9.7	7.1	8.3	8.9	5.8	5.2	7.9	200	7.2	8.9	8.6
10	263	8.4	7.3	8.6	9.5	5.9	5.9	6.8	180	7.0	9.1	8.6
11	262	7.0	7.6	8.9	9.1	5.4	5.1	6.6	180	7.0	16	8.4
12	260	6.9	7.8	9.0	12	4.9	4.8	6.0	180	7.0	9.1	8.3
13	258	7.4	7.8	9.0	9.6	5.5	4.7	4.8	180	7.0	8.7	8.5
14	256	7.7	7.6	8.3	135	5.3	4.7	5.3	180	7.0	8.9	8.3
15	252	7.7	7.6	8.7	144	5.3	4.5	5.7	180	7.0	8.9	7.8
16	252	7.8	7.6	8.7	8.7	5.0	4.1	5.5	180	7.0	9.1	8.2
17	260	7.7	7.8	8.8	8.2	5.2	4.0	5.8	180	6.9	8.9	8.3
18	197	7.7	8.0	9.4	7.6	5.3	4.2	6.0	180	7.0	9.0	8.3
19	220	8.1	8.2	9.4	7.5	5.3	4.3	6.1	180	7.1	9.1	8.3
20	518	8.1	8.0	9.4	7.4	5.2	4.3	14	500	7.1	9.3	8.7
21	630	7.9	8.0	6.9	7.5	5.3	4.4	23	620	7.1	8.9	10
22	630	7.8	7.9	6.3	8.2	5.1	4.3	55	620	6.7	8.7	9.1
23	625	7.8	8.5	7.7	8.4	4.6	4.0	25	620	6.7	8.6	8.3
24	625	7.5	8.5	8.3	8.4	4.6	3.9	16	620	8.6	8.7	8.3
25	620	7.6	8.2	9.0	7.4	5.1	4.1	11	620	11	8.9	8.3
26	612	7.7	8.3	8.8	7.1	5.4	3.9	10	620	21	8.9	8.3
27	609	7.7	8.1	9.4	7.0	5.5	3.7	291	621	34	8.7	7.8
28	426	7.5	8.2	8.8	7.1	5.3	3.9	416	620	11	8.6	7.4
29	47	7.0	8.6	8.9	---	5.2	3.6	255	620	10	8.6	7.4
30	4.9	6.5	8.6	9.4	---	5.1	3.9	99	620	9.8	8.9	7.4
31	5.7	---	8.7	9.7	---	5.7	---	71	---	12	8.5	---
TOTAL	9567.8	231.3	241.6	269.4	497.5	172.1	171.6	1530.8	9886	1349.1	288.6	252.1
MEAN	309	7.71	7.79	8.69	17.8	5.55	5.72	49.4	330	43.5	9.31	8.40
MAX	630	9.7	8.7	9.7	144	6.9	23	416	621	620	16	10
MIN	4.9	6.5	6.6	6.3	7.0	4.6	3.6	4.1	25	6.7	8.5	7.4
AC-FT	18980	459	479	534	987	341	340	3040	19610	2680	572	500

CAL YR 1977 TOTAL 18315.3 MEAN 50.2 MAX 639 MIN 3.8 AC-FT 36330
WTR YR 1978 TOTAL 24457.9 MEAN 67.0 MAX 630 MIN 3.6 AC-FT 48510

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	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										
10...	1000	261	1840	7.6	--	--	--	--	--	--
20...	1225	587	1950	8.3	18.0	18	9.2	102	27	--
NOV										
29...	1545	7.1	2300	7.9	10.0	3	11.1	103	13	--
DEC										
15...	1145	7.6	1900	7.6	7.5	3	10.7	95	10	--
JAN										
03...	0900	8.9	1830	8.1	--	--	--	--	--	--
23...	1100	6.9	1780	7.4	1.5	3	12.9	97	15	--
FEB										
16...	1500	8.6	1600	8.3	1.0	1	13.9	103	12	--
20...	0900	8.1	1800	8.4	--	--	--	--	--	980
MAR										
27...	1345	5.5	1900	--	14.5	--	1.1	1	--	--
APR										
12...	1400	5.0	1900	8.0	19.5	11	10.2	119	17	--
MAY										
08...	0900	9.1	1480	8.0	--	--	--	--	--	--
10...	1315	6.9	2000	7.7	24.0	3	6.6	81	18	--
JUN										
26...	1100	620	1880	7.7	--	--	--	--	--	--
27...	1130	621	1860	8.3	24.5	6	8.2	102	23	--
JUL										
17...	0930	6.9	2400	7.3	25.0	10	6.0	76	17	--
AUG										
07...	1000	9.4	2000	--	24.0	--	6.6	81	--	--
SEP										
11...	0900	8.3	2100	7.7	--	--	--	--	--	--
23...	1345	8.3	2260	8.0	23.5	28	9.3	110	19	--

07324400 WASHITA RIVER NEAR FOSS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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
OCT										
10...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
NOV										
29...	--	183	--	458	123	--	--	--	--	--
DEC										
15...	--	--	--	--	--	--	--	--	--	--
JAN										
03...	--	--	--	--	--	--	--	--	--	--
23...	--	201	--	503	170	--	70	--	--	--
FEB										
16...	--	--	--	--	--	--	--	--	--	--
20...	810	--	180	--	--	130	--	77	14	1.1
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
12...	--	--	--	--	--	--	--	--	--	--
MAY										
08...	--	--	--	--	--	--	--	--	--	--
10...	--	200	--	--	128	--	--	--	--	--
JUN										
26...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
JUL										
17...	--	319	--	798	189	--	110	--	--	--
AUG										
07...	--	--	--	--	--	--	--	--	--	--
SEP										
11...	--	--	--	--	--	--	--	--	--	--
23...	--	186	--	465	131	--	--	--	--	--

DATE	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										
10...	--	--	--	--	--	--	920	34	--	1520
20...	--	--	--	--	--	--	--	--	.5	--
NOV										
29...	--	--	--	--	--	--	--	--	.4	--
DEC										
15...	--	--	--	--	--	--	--	--	.4	--
JAN										
03...	--	--	--	--	--	--	810	41	--	1530
23...	10	--	--	--	--	--	--	--	.4	--
FEB										
16...	--	--	--	--	--	--	--	--	.3	--
20...	--	8.4	210	3	180	1.4	790	32	--	1470
MAR										
27...	--	--	--	--	--	--	--	--	--	--
APR										
12...	--	--	--	--	--	--	--	--	.1	--
MAY										
08...	--	--	--	--	--	--	610	28	--	1150
10...	--	--	--	--	--	--	--	--	.3	--
JUN										
26...	--	--	--	--	--	--	650	54	--	1250
27...	--	--	--	--	--	--	--	--	.3	--
JUL										
17...	16	--	--	--	--	--	--	--	.3	--
AUG										
07...	--	--	--	--	--	--	--	--	--	--
SEP										
11...	--	--	--	--	--	--	1100	54	--	1810
23...	--	--	--	--	--	--	--	--	.3	--

07324400 WASHITA RIVER NEAR FOSS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 105 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, 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									
10...	--	2.07	1070	--	--	--	--	--	--
20...	1573	--	--	--	<.10	2.2	2.2	--	.07
NOV									
29...	--	--	--	6	.10	1.6	1.7	7.9	.15
DEC									
15...	--	--	--	5	.10	1.2	1.3	5.9	.14
JAN									
03...	--	2.08	36	--	--	--	--	--	--
23...	--	--	--	8	.30	1.2	1.5	6.8	.21
FEB									
16...	--	--	--	13	.10	1.4	1.5	6.9	6.0
20...	--	2.00	32	--	--	--	--	--	.18
MAR									
27...	--	--	--	--	--	--	--	--	--
APR									
12...	--	--	--	48	.30	1.6	1.9	8.5	.30
MAY									
08...	--	1.56	28	--	--	--	--	--	--
10...	--	--	--	89	.10	1.3	1.4	6.5	.31
JUN									
26...	--	1.70	2090	--	--	--	--	--	--
27...	--	--	--	56	.10	1.9	2.0	9.0	5.0
JUL									
17...	--	--	--	53	.20	1.6	1.8	8.0	.25
AUG									
07...	--	--	--	--	--	--	--	--	--
SEP									
11...	--	2.46	40	--	--	--	--	--	--
23...	--	--	--	50	<.10	2.2	2.2	--	.23

DATE	TIME	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)
OCT							
20...	1225	--	--	--	--	--	--
NOV							
29...	1545	--	--	--	--	1350	--
DEC							
15...	1145	--	--	--	--	--	--
JAN							
23...	1100	2	<1	9	7	360	22
APR							
12...	1400	--	--	--	--	--	--
MAY							
10...	1315	--	--	--	--	1000	--
JUL							
17...	0930	--	--	--	--	1230	--
SEP							
23...	1345	--	--	--	--	850	--

DATE	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							
20...	--	--	--	--	--	--	6.0
NOV							
29...	240	--	--	--	--	--	7.0
DEC							
15...	--	--	--	--	--	--	7.0
JAN							
23...	50	<.5	11	<1	5	20	17
APR							
12...	--	--	--	--	--	--	6.0
MAY							
10...	220	--	--	--	--	--	17
JUL							
17...	130	5.5	--	--	--	--	5.0
SEP							
23...	80	--	--	--	--	--	6.0

07324400 WASHITA RIVER NEAR FOSS, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	2120	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	1860	---	---	1650	---	---	1960	---	---	1860	---	---
4	---	---	---	---	---	---	---	---	---	---	---	2130
5	---	---	1790	---	---	---	---	---	1130	---	---	---
6	---	---	---	---	1830	1760	---	---	---	---	---	---
7	---	1670	---	---	---	---	---	---	---	---	2020	---
8	---	---	---	---	---	---	---	1480	---	---	---	---
9	---	---	---	1850	---	---	---	---	---	---	---	---
10	1840	---	---	---	---	---	1790	---	---	2220	---	---
11	---	---	---	---	---	---	---	---	---	---	---	2100
12	---	---	1790	---	---	---	---	---	1810	---	---	---
13	---	---	---	---	1620	1810	---	---	---	---	---	---
14	---	1870	---	---	---	---	---	---	---	---	2190	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	1840	---	---	---	---	---	---	---	---
17	1850	---	---	---	---	---	1770	2150	---	2380	---	---
18	---	---	---	---	---	---	---	---	---	---	---	2150
19	---	---	1730	---	---	---	---	---	1880	---	---	---
20	---	---	---	---	1600	1860	---	---	---	---	---	---
21	---	1830	---	---	---	---	---	---	---	---	2040	---
22	---	---	---	---	---	---	---	588	---	---	---	---
23	---	---	---	1840	---	---	---	---	---	---	---	---
24	1850	---	---	---	---	---	2030	---	---	2360	---	---
25	---	---	---	---	---	---	---	---	---	---	---	2040
26	---	---	---	---	---	---	---	---	1880	---	---	---
27	---	---	1860	---	1750	1910	---	---	---	---	---	---
28	---	1810	---	---	---	---	---	---	---	---	2030	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	1850	---	---	---	446	---	---	---	---
31	1520	---	---	---	---	---	---	---	---	2150	---	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	15.0	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	17.0	---	---	1.0	---	---	14.0	---	---	25.0	---	---
4	---	---	---	---	---	---	---	---	---	---	---	23.0
5	---	---	8.0	---	---	---	---	---	19.0	---	---	---
6	---	---	---	---	.0	4.0	---	---	---	---	---	---
7	---	15.0	---	---	---	---	---	---	---	---	23.0	---
8	---	---	---	---	---	---	---	15.0	---	---	---	---
9	---	---	---	.0	---	---	---	---	---	---	---	---
10	19.5	---	---	---	---	---	12.0	---	---	24.5	---	---
11	---	---	---	---	---	---	---	---	---	---	---	23.0
12	---	---	6.0	---	---	---	---	---	22.0	---	---	---
13	---	---	---	---	1.0	7.0	---	---	---	---	---	---
14	---	11.0	---	---	---	---	---	---	---	---	24.0	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	1.0	---	---	---	---	---	---	---	---
17	17.0	---	---	---	---	---	10.0	17.0	---	24.0	---	---
18	---	---	---	---	---	---	---	---	---	---	---	23.0
19	---	---	6.0	---	---	---	---	---	22.0	---	---	---
20	---	---	---	---	.0	9.0	---	---	---	---	---	---
21	---	7.0	---	---	---	---	---	---	---	---	24.0	---
22	---	---	---	---	---	---	---	18.0	---	---	---	---
23	---	---	---	1.0	---	---	---	---	---	---	---	---
24	17.0	---	---	---	---	---	---	---	---	23.0	---	---
25	---	---	---	---	---	---	---	---	---	---	---	24.0
26	---	---	---	---	---	---	---	---	24.0	---	---	---
27	---	---	1.0	---	4.0	8.0	---	---	---	---	---	---
28	---	8.0	---	---	---	---	---	---	---	---	25.0	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	1.0	---	---	---	20.0	---	---	---	---
31	16.0	---	---	---	---	---	---	---	---	24.0	---	---

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 except for period of no gage height record July 6 to Aug. 21 which is poor. 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) 18 years (water years 1961-78), 55.4 ft^3/s (1.569 m^3/s), 40,140 acre-ft/yr (49.5 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, 1,800 ft^3/s (51.0 m^3/s) May 28, gage height, 16.83 ft (5.130 m); minimum daily, 8.7 ft^3/s (0.25 m^3/s) Sept. 16, 17.

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	20	43	21	19	21	30	25	19	173	407	15	11
2	18	42	21	19	23	30	25	22	136	407	15	11
3	18	40	21	20	23	30	31	34	110	330	15	10
4	126	38	21	21	23	30	86	38	117	249	20	10
5	173	36	21	21	22	32	51	31	152	240	30	9.8
6	179	34	21	20	21	32	39	27	121	200	25	10
7	183	32	21	20	22	30	35	442	370	160	20	9.6
8	182	36	20	20	23	31	32	114	460	130	17	9.8
9	182	36	20	20	28	30	30	67	235	100	15	10
10	182	33	20	20	30	29	40	54	159	80	14	11
11	182	30	20	20	31	28	37	44	152	70	13	10
12	183	28	20	20	32	27	36	38	140	60	12	9.6
13	183	28	20	20	39	28	31	33	127	50	12	9.8
14	183	27	20	20	40	29	28	30	121	45	11	9.6
15	184	27	20	20	164	30	27	28	119	40	11	9.3
16	186	26	20	20	97	30	27	26	118	35	10	8.7
17	187	25	20	20	48	28	25	24	117	32	10	8.7
18	187	25	20	20	40	27	23	23	120	28	10	30
19	116	24	20	20	35	27	23	22	126	25	10	14
20	203	23	19	20	33	27	22	110	259	22	10	15
21	350	21	19	20	32	26	22	108	374	20	10	108
22	401	21	19	20	31	26	22	139	406	19	9.6	39
23	414	21	19	20	36	26	21	99	411	18	9.6	23
24	419	21	19	22	39	27	21	56	411	17	9.6	20
25	422	22	19	24	38	27	20	42	411	16	9.3	18
26	421	22	19	26	34	27	20	36	410	16	9.3	42
27	425	22	19	22	32	27	20	445	411	15	9.3	60
28	429	22	19	21	31	26	19	1510	410	25	9.1	27
29	187	21	19	21	---	26	19	862	412	20	10	21
30	76	21	19	21	---	25	19	493	409	17	11	17
31	50	---	19	20	---	25	---	245	---	15	10	---
TOTAL	6651	847	615	637	1068	873	876	5261	7497	2908	401.8	601.9
MEAN	215	28.2	19.8	20.5	38.1	28.2	29.2	170	250	93.8	13.0	20.1
MAX	429	43	21	26	164	32	86	1510	460	407	30	108
MIN	18	21	19	19	21	25	19	19	110	15	9.1	8.7
AC-FT	13190	1680	1220	1260	2120	1730	1740	10440	14870	5770	797	1190

CAL YR 1977 TOTAL 31168.0 MEAN 85.4 MAX 2700 MIN 14 AC-FT 61820
WTR YR 1978 TOTAL 28236.7 MEAN 77.4 MAX 1510 MIN 8.7 AC-FT 56010

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 fair. 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) 17 years (water years 1962-78), 226 ft^3/s (6.400 m^3/s), 163,700 acre-ft/yr (202 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, 5,900 ft^3/s (167 m^3/s) at 2345 May 29, gage height, 20.98 ft (6.395 m), no other peak above base of 3,000 ft^3/s (85.0 m^3/s); minimum daily, 23 ft^3/s (0.65 m^3/s) Aug. 18.

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	73	176	91	84	96	118	85	82	1630	395	36	27
2	71	170	90	84	95	116	94	96	1270	395	35	28
3	68	160	90	84	93	111	91	166	1070	399	40	28
4	70	149	92	85	92	105	88	264	911	395	38	28
5	72	140	92	87	92	105	88	196	844	350	44	30
6	79	135	92	87	92	103	119	160	2120	270	49	28
7	162	130	91	87	98	113	138	142	2290	220	60	28
8	176	130	89	87	93	116	113	128	1910	180	50	33
9	182	125	87	87	93	115	411	317	1230	140	41	35
10	186	120	87	85	93	110	1970	232	976	110	37	34
11	185	115	87	85	93	105	985	168	662	93	35	34
12	189	115	87	85	93	104	484	144	512	85	36	33
13	190	110	87	85	152	101	380	124	465	74	33	33
14	191	110	87	85	167	100	337	110	471	68	31	32
15	191	105	87	85	155	100	305	102	374	61	32	33
16	193	102	86	85	138	100	283	94	275	55	32	30
17	194	102	86	85	130	99	241	87	237	52	27	30
18	195	100	86	74	125	98	170	84	211	47	23	30
19	197	98	86	66	123	96	145	81	214	45	27	27
20	195	97	86	85	123	94	134	83	242	39	36	28
21	173	94	86	85	136	92	125	228	241	38	38	38
22	175	93	86	85	128	91	117	132	324	38	39	53
23	379	93	86	88	121	89	110	188	399	37	35	85
24	417	92	86	89	135	90	104	159	407	40	33	102
25	396	93	86	92	135	89	98	170	405	38	30	112
26	396	94	86	90	131	89	93	146	399	38	29	86
27	402	92	86	90	125	89	91	1300	396	41	29	71
28	408	93	85	90	122	88	89	4540	396	36	28	65
29	413	93	85	103	---	87	86	5290	395	35	27	80
30	418	92	84	99	---	87	84	5140	395	39	29	80
31	293	---	84	98	---	86	---	2510	---	46	28	---
TOTAL	6929	3418	2706	2686	3269	3086	7658	22663	21671	3899	1087	1381
MEAN	224	114	87.3	86.6	117	99.5	255	731	722	126	35.1	46.0
MAX	418	176	92	103	167	118	1970	5290	2290	399	60	112
MIN	68	92	84	66	92	86	84	81	211	35	23	27
AC-FT	13740	6780	5370	5330	6480	6120	15190	44950	42980	7730	2160	2740

CAL YR 1977 TOTAL 111997 MEAN 307 MAX 6500 MIN 40 AC-FT 222100
WTR YR 1978 TOTAL 80453 MEAN 220 MAX 5290 MIN 23 AC-FT 159600

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 each month on three of those samples.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (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
NOV 07...	0900	125	2180	7.9	15.0	--	--	--	--	--	--	--
JAN 09...	1500	87	2480	8.1	4.0	--	--	--	--	--	--	--
MAR 27...	1300	90	2390	8.1	--	1300	1100	320	120	95	14	1.2
MAY 07...	0900	143	1893	7.9	16.0	--	--	--	--	--	--	--
JUL 03...	1400	399	1910	7.9	26.5	--	--	--	--	--	--	--
AUG 21...	1000	38	2330	7.7	27.0	--	--	--	--	--	--	--

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)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV 07...	--	--	--	--	--	930	63	1840	2.50	621	--
JAN 09...	--	--	--	--	--	1100	110	2160	2.94	507	--
MAR 27...	5.3	210	0	170	2.7	1100	95	2000	2.72	486	.08
MAY 07...	--	--	--	--	--	820	85	1590	2.16	614	--
JUL 03...	--	--	--	--	--	880	48	1600	2.18	1720	--
AUG 21...	--	--	--	--	--	1000	140	1910	2.60	196	--

07325500 WASHITA RIVER AT CARNEGIE, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	2520	---	---	---	2290	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	2450	---	---	---	---	---	2450	---	---	1910	---	---
4	---	---	---	---	---	---	---	---	---	---	---	2480
5	---	---	2440	---	---	---	---	---	1600	---	---	---
6	---	---	---	---	2420	2460	---	---	---	---	---	---
7	---	2180	---	---	---	---	---	1940	---	---	2120	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	2480	---	---	---	---	---	---	---	---
10	1980	---	---	---	---	---	398	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	2010	---	2460
12	---	---	2430	---	---	---	---	---	1280	---	---	---
13	---	---	---	---	2330	2470	---	---	---	---	---	---
14	---	2280	---	---	---	---	---	---	---	---	2200	---
15	---	---	---	---	---	---	---	1990	---	---	---	---
16	---	---	---	2460	---	---	---	---	---	---	---	---
17	1980	---	---	---	---	---	1060	---	---	2130	---	---
18	---	---	---	---	---	---	---	---	---	---	---	2500
19	---	---	2460	---	---	---	---	---	---	---	---	---
20	---	---	---	---	2370	2430	---	---	1860	---	---	---
21	---	2420	---	---	---	---	---	---	---	---	2330	---
22	---	---	---	---	---	---	---	1200	---	2180	---	---
23	---	---	---	2610	---	---	---	---	---	---	---	---
24	1870	---	---	---	---	---	1990	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	1630
26	---	---	2520	---	---	---	---	---	1920	---	---	---
27	---	---	---	---	2390	2440	---	---	---	---	---	---
28	---	2430	---	---	---	---	---	---	---	---	2390	---
29	---	---	---	---	---	---	---	512	---	2180	---	---
30	---	---	---	2480	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	4.0	---	---	---	19.0	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	20.0	---	---	---	---	---	20.0	---	---	26.5	---	---
4	---	---	---	---	---	---	---	---	---	---	---	31.0
5	---	---	8.0	---	---	---	---	---	23.0	---	---	---
6	---	---	---	---	2.0	5.0	---	---	---	---	---	---
7	---	15.0	---	---	---	---	---	16.0	---	---	28.0	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	4.0	---	---	---	---	---	---	---	---
10	18.0	---	---	---	---	---	14.0	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	26.0	---	29.0
12	---	---	5.0	---	---	---	---	---	25.0	---	---	---
13	---	---	---	---	3.0	12.0	---	---	---	---	---	---
14	---	15.0	---	---	---	---	---	---	---	---	31.0	---
15	---	---	---	---	---	---	---	25.0	---	---	---	---
16	---	---	---	1.0	---	---	---	---	---	---	---	---
17	15.0	---	---	---	---	---	20.0	---	---	28.0	---	---
18	---	---	---	---	---	---	---	---	---	---	---	30.0
19	---	---	6.0	---	---	---	---	---	---	---	---	---
20	---	---	---	---	4.0	12.0	---	---	39.0	---	---	---
21	---	10.0	---	---	---	---	---	---	---	---	27.0	---
22	---	---	---	---	---	---	---	---	---	26.0	---	---
23	---	---	---	.0	---	---	---	---	---	---	---	---
24	18.0	---	---	---	---	---	18.0	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	24.0
26	---	---	4.0	---	---	---	---	---	27.0	---	---	---
27	---	---	---	---	7.0	16.0	---	---	---	---	---	---
28	---	14.0	---	---	---	---	---	---	---	---	29.0	---
29	---	---	---	---	---	---	---	---	---	31.0	---	---
30	---	---	---	1.0	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

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 fair except those for period of no gage height record, May 24-28, which are poor. 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.--10 years, 22.0 ft^3/s (0.623 m^3/s), 15,940 acre-ft/yr (19.7 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, 3,900 ft^3/s (110 m^3/s) May 27, gage height, unknown; minimum daily, 2.5 ft^3/s (0.071 m^3/s) Sept. 17.

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	6.9	12	12	14	16	17	14	11	18	5.0	4.4	3.2
2	6.7	21	13	13	16	17	15	14	15	5.0	4.4	3.3
3	6.7	19	13	13	16	16	15	27	13	5.0	4.6	3.3
4	7.1	14	12	13	16	15	15	16	14	5.0	5.8	3.2
5	7.2	13	12	13	16	15	15	13	16	5.0	5.9	3.1
6	7.4	13	12	13	16	16	15	13	16	5.0	5.8	3.0
7	7.1	13	12	13	16	19	14	13	14	4.5	5.3	3.0
8	6.7	15	12	13	16	18	14	12	12	4.5	4.9	3.0
9	6.7	17	12	12	17	15	14	11	10	4.5	4.8	3.2
10	6.6	15	11	12	17	15	17	11	9.6	4.5	4.9	3.3
11	6.7	12	12	13	16	15	16	10	8.5	4.5	4.9	3.3
12	7.1	12	12	14	39	15	14	9.4	8.0	4.5	4.5	3.2
13	7.4	12	13	15	37	14	13	9.4	7.4	4.5	4.4	3.2
14	7.4	11	13	16	23	15	13	8.7	7.4	4.5	3.8	3.1
15	7.4	12	13	16	19	14	12	8.5	7.4	4.4	3.6	2.9
16	7.6	12	12	17	17	14	12	8.2	7.1	4.1	3.7	2.6
17	8.0	11	14	17	15	14	13	8.2	6.7	4.0	3.6	2.5
18	8.0	11	13	17	10	15	13	8.2	6.7	3.8	3.3	3.0
19	8.2	11	14	16	10	13	12	8.2	6.5	3.8	3.5	3.0
20	7.8	11	14	15	10	14	12	14	6.5	3.5	4.8	3.6
21	7.8	12	14	17	14	14	12	19	6.5	3.5	4.5	5.0
22	9.4	11	14	17	21	14	11	18	6.0	5.9	4.2	4.4
23	14	11	13	18	37	14	11	15	6.0	5.6	4.2	4.4
24	11	12	13	18	37	17	11	13	6.0	4.9	4.0	4.9
25	10	11	13	18	22	15	11	9.0	5.5	4.8	3.8	5.6
26	10	14	13	16	18	14	11	20	5.5	4.5	3.8	5.2
27	9.6	12	13	15	17	14	11	950	5.5	4.2	3.8	4.8
28	9.8	12	13	14	18	14	12	250	5.5	4.2	3.6	4.6
29	10	12	13	14	---	13	12	100	5.5	4.2	3.2	4.5
30	10	12	14	15	---	14	12	45	5.0	3.8	3.2	4.2
31	12	---	14	15	---	13	---	24	---	4.0	3.2	---
TOTAL	258.3	386	398	462	542	462	392	1696.8	266.8	139.2	132.4	109.6
MEAN	8.33	12.9	12.8	14.9	19.4	14.9	13.1	54.7	8.89	4.49	4.27	3.65
MAX	14	21	14	18	39	19	17	950	18	5.9	5.9	5.6
MIN	6.6	11	11	12	10	13	11	8.2	5.0	3.5	3.2	2.5
AC-FT	512	766	789	916	1080	916	778	3370	529	276	263	217

CAL YR 1977 TOTAL 7160.8 MEAN 19.6 MAX 826 MIN 3.7 AC-FT 14200
WTR YR 1978 TOTAL 5245.1 MEAN 14.4 MAX 950 MIN 2.5 AC-FT 10400

07325850 LAKE CREEK NEAR EAKLY, OK

LOCATION.--Lat 35°17'27", long 98°31'44", in NE¼NW¼ sec.1, T.9 N., R.13 W., Caddo County, Hydrologic Unit 11130302, on downstream side of bridge on State Highway 152, 1.2 mi (1.9 km) upstream from Fort Cobb Reservoir, 2.0 mi (3.2 km) southeast of Eakly, and at mile 4.2 (6.8 km).

DRAINAGE AREA.--52.0 mi^2 (134.7 km^2).

PERIOD OF RECORD.--October 1969 to June 30, 1978 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,365.47 ft (416.195 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--8 years (water years 1970-77), 7.47 ft^3/s (0.212 m^3/s), 5,410 acre-ft/yr (6.67 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,000 ft^3/s (198 m^3/s) May 20, 1977, gage height, 13.22 ft (4.029 m); from rating curve extended above 1,700 ft^3/s (48.1 m^3/s); no flow at times each year except 1977.

EXTREMES FOR CURRENT PERIOD.--October 1977 to June 1978: Maximum discharge, 1,040 ft^3/s (29.5 m^3/s) May 27, gage height, 7.92 ft (2.414 m); minimum daily, 0.11 ft^3/s (0.003 m^3/s) Oct. 1-3.

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	.11	1.1	2.5	2.1	4.1	7.0	3.8	1.3	3.4			
2	.11	5.1	2.6	2.2	4.0	6.7	4.3	7.5	2.9			
3	.11	2.8	2.7	2.5	3.8	9.5	3.7	7.7	2.8			
4	.13	1.5	2.8	3.4	3.8	8.3	3.8	3.7	5.6			
5	.15	1.3	3.3	3.4	3.6	5.5	3.9	3.0	4.4			
6	.14	1.4	2.3	3.1	3.5	6.3	4.2	2.9	13			
7	.15	1.4	2.3	3.1	3.5	11	3.3	2.6	4.4			
8	.13	5.6	2.8	2.0	3.8	7.3	3.0	2.0	2.3			
9	.13	4.7	1.4	2.1	3.8	6.2	4.0	1.6	1.7			
10	.13	2.6	1.5	2.2	4.0	6.0	7.3	2.0	1.6			
11	.12	2.1	2.0	2.5	4.7	5.2	3.8	2.0	1.6			
12	.13	1.9	3.4	2.6	42	5.0	3.1	1.3	1.4			
13	.14	1.9	2.6	2.5	20	5.6	2.5	.99	1.4			
14	.14	2.1	2.2	2.2	8.5	5.1	2.3	1.1	1.4			
15	.13	2.2	2.5	2.5	8.1	4.8	2.2	1.1	1.3			
16	.14	2.1	2.5	5.6	7.5	4.6	2.1	.91	1.1			
17	.15	1.9	2.1	4.5	5.6	4.4	2.0	1.0	1.1			
18	.15	1.9	2.2	4.0	5.0	4.3	1.7	1.1	1.0			
19	.16	2.1	2.2	3.5	4.5	5.0	1.5	1.1	1.1			
20	.16	2.0	2.0	3.0	4.5	4.8	1.7	2.5	.92			
21	.16	1.6	1.8	3.5	5.0	3.9	1.8	3.2	1.0			
22	.69	1.8	2.0	4.0	30	4.0	1.5	2.6	1.0			
23	3.1	2.1	2.3	4.0	33	4.2	1.5	1.6	.92			
24	1.1	2.0	2.3	4.1	14	4.7	1.4	1.1	.78			
25	.70	2.1	2.0	3.8	9.0	4.2	1.3	.92	.50			
26	.68	2.1	2.0	4.0	7.5	3.8	1.4	3.6	.35			
27	.66	2.1	2.1	3.8	7.9	3.9	1.4	320	.35			
28	.82	2.1	2.6	4.0	7.7	3.9	1.4	107	.30			
29	.88	2.2	2.9	3.8	---	3.6	1.5	22	.30			
30	1.1	2.3	3.1	3.7	---	3.5	1.5	7.4	.25			
31	1.7	---	3.1	3.9	---	3.6	---	4.6	---			
TOTAL	14.30	68.1	74.1	101.6	262.4	165.9	78.9	521.42	60.17			
MEAN	.46	2.27	2.39	3.28	9.37	5.35	2.63	16.8	2.01			
MAX	3.1	5.6	3.4	5.6	42	11	7.3	320	13			
MIN	.11	1.1	1.4	2.0	3.5	3.5	1.3	.91	.25			
AC-FT	28	135	147	202	520	329	156	1030	119			

CAL YR 1977 TOTAL 5279.08 MEAN 14.5 MAX 1040 MIN .05 AC-FT 10470

07325860 WILLOW CREEK NEAR ALBERT, OK

LOCATION.--Lat 35°14'00", long 98°27'57", in NE¼NW¼ sec.28, T.9 N., R.12 W., Caddo County, Hydrologic Unit 11130302, at County road bridge 3.1 mi (5.0 km) west of Albert, 5.2 mi (8.4 km) above Fort Cobb Dam, and at mile 2.4 (3.9 km).

DRAINAGE AREA.--28.9 mi^2 (72.5 km^2).

PERIOD OF RECORD.--October 1971 to June 30, 1978 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,340.00 ft (408.432 m) Nation Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

AVERAGE DISCHARGE.--6 years (water years 1972-77), 4.59 ft^3/s (0.130 m^3/s), 3,330 acre-ft/yr (4.11 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft^3/s (340 m^3/s) May 20, 1977, gage height, 14.14 ft (4.310 m) from rating curve extended above 3,000 ft^3/s (85.0 m^3/s) on basis of slope-area measurement at gage height 14.14 ft (4.310 m); no flow at times each year except 1977, 78.

EXTREMES FOR CURRENT PERIOD.--October 1977 to June 1978: Maximum discharge during period, 1,410 ft^3/s (39.9 m^3/s) May 27, gage height, 8.88 ft (2.707 m); minimum daily, 0.09 ft^3/s (0.003 m^3/s) Oct. 3.

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	.66	.91	1.6	1.8	2.1	2.4	2.2	1.5	4.3			
2	.52	2.5	1.5	1.6	2.1	2.4	2.6	3.2	4.0			
3	.09	1.7	1.5	1.8	2.1	2.0	2.2	6.0	3.9			
4	.39	1.3	1.6	2.0	2.0	2.0	2.4	2.6	6.0			
5	.64	1.3	1.9	2.0	2.0	2.2	2.2	2.2	7.7			
6	.50	1.3	1.5	2.0	2.0	2.2	2.4	2.0	16			
7	.55	1.3	1.5	2.0	2.0	3.7	2.1	2.0	6.0			
8	.68	3.5	1.6	1.8	2.0	3.0	2.0	1.7	4.9			
9	.75	2.8	1.4	1.6	2.0	2.4	3.8	1.5	4.6			
10	.75	1.8	1.4	1.7	2.3	2.3	8.2	1.4	4.3			
11	.75	1.6	1.5	1.8	2.2	2.1	3.0	1.5	3.8			
12	1.0	1.5	1.8	1.9	9.4	2.0	2.4	1.6	3.0			
13	1.1	1.4	1.8	2.0	5.5	2.0	2.1	1.3	3.3			
14	.95	1.4	1.7	2.0	3.0	1.8	1.9	1.1	3.1			
15	1.1	1.4	1.7	2.0	2.5	2.0	1.9	1.1	2.9			
16	1.1	1.5	1.7	2.3	2.6	1.9	1.9	1.1	2.7			
17	1.3	1.4	1.6	1.5	2.1	1.9	1.8	1.3	2.9			
18	1.4	1.3	1.6	1.7	2.1	1.9	1.7	1.3	2.1			
19	1.5	1.3	1.6	1.6	2.3	1.8	1.6	1.3	2.1			
20	1.6	1.3	1.6	1.5	2.4	1.9	1.7	1.7	2.0			
21	1.6	1.3	1.5	1.5	2.1	2.0	1.7	1.9	6.5			
22	2.5	1.3	1.6	1.6	7.3	1.9	1.7	1.6	3.0			
23	7.0	1.3	1.6	1.8	16	2.0	1.5	1.2	2.0			
24	1.2	1.3	1.7	2.0	6.4	2.2	1.5	1.1	1.9			
25	1.0	1.3	1.8	2.1	3.1	2.1	1.5	.96	1.5			
26	.88	1.3	1.8	1.9	2.5	1.9	1.5	2.5	1.4			
27	.82	1.3	1.8	2.0	2.5	1.9	1.5	275	1.3			
28	.90	1.4	1.8	2.0	2.7	1.9	1.5	82	1.1			
29	1.0	1.6	1.9	2.0	---	1.9	1.6	9.3	1.1			
30	.93	1.6	2.3	2.0	---	2.0	1.5	6.7	1.2			
31	1.1	---	2.2	2.0	---	2.0	---	4.7	---			
TOTAL	36.26	46.21	52.1	57.5	97.3	65.7	65.6	424.36	110.6	---	---	---
MEAN	1.17	1.54	1.68	1.85	3.48	2.12	2.19	13.7	3.69	---	---	---
MAX	7.0	3.5	2.3	2.3	16	3.7	8.2	275	16	---	---	---
MIN	.09	.91	1.4	1.5	2.0	1.8	1.5	.96	1.1	---	---	---
AC-FT	72	92	103	114	193	130	130	842	219	---	---	---

CAL YR 1977 TOTAL 3642.75 MEAN 9.98 MAX 1440 MIN .09 AC-FT 7230

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 Bureau of Reclamation). 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, 84,260 acre-ft (104 hm^3) June 8, elevation, 1,343.02 ft (409.352 m); minimum, 69,050 acre-ft (85.1 hm^3) Jan. 10, elevation, 1,339.20 ft (408.188 m).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30	1,340.85	75,390	--	--
Oct. 31	1,340.56	74,250	-1,140	693
Nov. 30	1,340.20	72,850	-1,400	779
Dec. 31	1,339.80	71,320	-1,530	869
CAL YR 77	--	--	-2,040	10,401
Jan. 31	1,341.00	75,980	+4,660	792
Feb. 28	1,341.30	77,170	+1,190	741
Mar. 31	1,341.50	77,980	+810	909
Apr. 30	1,341.57	78,260	+280	948
May 31	1,342.85	83,540	+5,280	928
June 30	1,342.51	82,110	-1,430	922
July 31	1,341.37	77,450	-4,660	948
Aug. 31	1,340.52	74,090	-3,360	1,095
Sept. 30	1,340.18	72,780	-1,310	1,149
WTR YR 78	--	--	-2,610	10,773

† 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) Bureau of Reclamation 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 fair. 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) 20 years (water years 1959-78), 17.7 ft^3/s (0.501 m^3/s), 12,820 acre-ft/yr (15.8 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, 280 ft^3/s (7.93 m^3/s) May 27, gage height, 6.08 ft (1.853 m); minimum daily, 0.34 ft^3/s (0.010 m^3/s) Sept. 17.

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	2.6	2.5	2.3	2.0	2.1	2.5	2.7	2.4	2.4	1.5	1.3	1.8
2	2.7	3.1	2.3	2.0	2.0	2.4	2.9	2.6	2.3	1.3	.91	1.8
3	3.0	2.5	2.3	2.0	2.3	2.4	2.8	3.0	2.3	1.0	1.5	1.2
4	4.3	2.4	2.3	2.1	2.2	2.4	2.8	3.4	2.7	.90	2.0	1.2
5	3.1	2.2	2.3	2.3	2.1	2.6	2.8	2.6	2.9	1.1	2.1	1.6
6	2.4	2.1	2.2	2.1	1.9	3.2	2.9	2.6	42	1.3	2.0	1.1
7	2.5	2.1	2.2	2.1	2.1	3.5	2.9	2.6	2.6	.98	1.3	1.8
8	2.6	2.9	2.2	2.1	2.1	3.2	2.9	2.4	2.1	.80	1.2	2.2
9	2.6	2.4	2.1	2.1	2.1	3.0	25	2.3	2.0	.70	1.3	1.8
10	2.6	2.2	2.1	2.1	2.1	3.0	6.7	2.1	1.8	.60	1.4	1.8
11	2.4	2.1	2.0	2.2	2.2	3.0	3.4	2.2	1.8	.54	1.5	1.8
12	2.6	2.1	1.9	2.3	4.8	3.0	3.1	2.2	1.9	.48	1.3	1.7
13	2.9	2.1	1.9	2.2	2.9	3.0	2.8	2.2	2.0	.46	1.4	1.8
14	2.9	2.4	1.8	2.3	2.4	2.9	3.2	2.2	2.1	.48	1.5	1.2
15	2.7	2.4	1.7	2.3	2.4	2.9	2.7	2.4	1.8	.48	1.5	1.9
16	2.8	2.3	1.8	2.6	2.5	2.6	2.7	2.3	1.8	.51	1.5	.64
17	3.0	2.3	2.2	2.3	2.4	2.4	2.6	2.4	1.5	.84	1.4	.34
18	3.0	2.4	2.1	2.3	2.3	2.6	2.4	2.6	1.4	.84	1.1	.41
19	3.0	2.4	2.2	2.2	2.3	2.6	2.6	3.0	1.5	.57	2.1	.91
20	3.0	2.5	2.2	2.3	2.2	2.7	2.7	2.7	1.6	.64	2.8	2.0
21	3.2	2.6	2.0	2.2	2.2	2.7	2.9	2.5	1.6	.60	2.5	2.1
22	3.9	2.4	1.9	2.2	2.4	2.7	2.9	2.4	1.4	.54	2.0	1.6
23	3.5	2.3	2.1	2.4	2.5	2.6	2.7	2.3	1.3	.64	1.2	1.5
24	2.7	2.3	1.8	2.5	2.7	2.7	2.7	2.2	1.2	.77	1.0	1.6
25	3.0	2.3	2.0	2.5	2.5	2.7	2.7	2.2	1.3	.91	1.5	3.0
26	2.9	2.4	2.0	2.2	2.4	2.8	2.7	3.0	1.5	1.1	1.5	1.9
27	3.0	2.3	2.0	2.1	2.5	2.9	2.6	48	1.4	1.4	1.8	1.8
28	3.0	2.3	2.1	2.3	2.6	2.9	2.6	28	1.3	1.5	2.1	1.8
29	2.7	2.4	2.1	2.3	---	3.0	2.6	3.0	1.2	1.7	1.9	1.8
30	2.6	2.3	2.1	2.2	---	2.7	2.4	2.6	1.3	1.8	2.3	1.8
31	2.6	---	2.1	2.3	---	2.8	---	2.3	---	1.3	2.0	---
TOTAL	89.8	71.0	64.3	69.1	67.2	86.4	109.4	148.7	94.0	28.28	50.91	47.90
MEAN	2.90	2.37	2.07	2.23	2.40	2.79	3.65	4.80	3.13	.91	1.64	1.60
MAX	4.3	3.1	2.3	2.6	4.8	3.5	25	48	42	1.8	2.8	3.0
MIN	2.4	2.1	1.7	2.0	1.9	2.4	2.4	2.1	1.2	.46	.91	.34
AC-FT	178	141	128	137	133	171	217	295	186	56	101	95

CAL YR 1977	TOTAL	10063.51	MEAN 27.6	MAX 689	MIN .89	AC-FT	19960	
WTR YR 1978	TOTAL	926.99	MEAN 2.54	MAX 48	MIN .34	AC-FT	1840	

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, 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 about 305.2 (491.1 km).

DRAINAGE AREA.--3,656 mi² (9,460 km²).

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
OCT										
20...	1045	223	2350	8.2	15.0	25	9.9	101	16	636
NOV										
17...	1045	123	2500	8.3	13.0	10	10.7	104	11	--
DEC										
22...	1115	110	2250	8.3	3.0	2	14.8	114	4	963
JAN										
31...	1030	129	2100	8.4	.5	2	14.0	99	7	--
FEB										
28...	1010	151	2240	8.3	6.5	2	12.2	102	9	1190
MAR										
17...	1015	123	2290	8.5	10.0	0	13.6	124	13	--
APR										
20...	1615	171	1200	8.3	19.0	42	10.0	111	22	298
MAY										
04...	1600	220	2000	8.3	14.5	18	12.0	122	17	--
JUN										
13...	1345	613	1250	7.7	24.0	91	7.9	96	41	709
JUL										
25...	1215	67	1900	8.3	29.5	10	8.3	111	14	--
AUG										
15...	1000	47	1800	8.0	27.0	15	6.6	85	24	957
SEP										
26...	1045	99	20500	8.3	21.0	22	8.9	102	27	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT										
20...	69	173	112	80	12	890	48	.4	1672	--
NOV										
17...	--	--	--	--	--	841	79	--	--	25
DEC										
22...	209	522	107	104	4.1	966	89	.4	--	3
JAN										
31...	--	--	--	--	--	1205	257	.4	--	6
FEB										
28...	306	765	103	90	5.2	549	82	.3	--	23
MAR										
17...	--	--	--	--	--	308	91	.4	--	7
APR										
20...	69	173	29	45	5.2	359	52	.2	--	102
MAY										
04...	--	--	--	--	--	467	--	.3	--	56
JUN										
13...	166	415	69	50	8.3	303	41	.2	--	660
JUL										
25...	--	--	--	--	--	746	88	.3	--	36
AUG										
15...	252	630	79	101	5.1	722	89	.2	--	32
SEP										
26...	--	--	--	--	--	974	98	.3	--	47

07326500 WASHITA RIVER AT ANADARKO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 20...	.50	2.4	2.9	13	.21	--	--	--	--
NOV 17...	1.1	1.8	2.9	13	.26	--	--	--	--
DEC 22...	1.1	1.1	2.2	10	.17	--	--	--	--
JAN 31...	2.9	1.7	4.6	20	.21	--	--	--	--
FEB 28...	1.2	1.4	2.6	12	.15	4	<1	14	4
MAR 17...	.20	1.5	1.7	7.9	.19	--	--	--	--
APR 20...	.50	1.7	2.2	10	--	--	--	--	--
MAY 04...	.10	2.1	2.2	9.8	.12	--	--	--	--
JUN 13...	.40	2.7	3.1	14	.59	--	--	--	--
JUL 25...	.10	1.7	1.8	8.3	.27	--	--	--	--
AUG 15...	.20	2.5	2.7	12	7.0	9	<1	5	10
SEP 26...	.20	<1.0	.20	--	.22	--	--	--	--

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 20...	1880	--	80	--	--	--	--	--	5.0
NOV 17...	--	--	--	--	--	--	--	--	--
DEC 22...	110	--	60	--	--	--	--	--	2.0
JAN 31...	--	--	--	--	--	--	--	--	2.0
FEB 28...	370	34	80	<.5	32	<1	4	7	1.0
MAR 17...	--	--	--	--	--	--	--	--	12
APR 20...	2500	--	130	--	--	--	--	--	9.0
MAY 04...	--	--	--	--	--	--	--	--	8.0
JUN 13...	4600	--	660	--	--	--	--	--	12
JUL 25...	--	--	--	--	--	--	--	--	7.0
AUG 15...	480	14	300	<.5	--	<1	3	7	--
SEP 26...	--	--	--	--	--	--	--	--	7.0

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.--15 years, 28.2 ft^3/s (0.799 m^3/s), 20,430 acre-ft/yr (25.2 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 28	0215	*4,180	118	*20.14	6.139	June 22	0100	1,610	45.6	14.91	4.545
June 6	0530	2,700	76.5	17.85	5.441						

Minimum discharge, 0.90 ft^3/s (0.025 m^3/s) Aug. 19.

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	3.8	8.5	14	15	13	24	17	15	58	15	4.1	2.6
2	3.8	8.9	13	14	12	24	17	33	47	15	3.4	2.6
3	4.0	9.3	14	15	12	24	18	80	39	15	3.4	3.0
4	5.5	9.7	14	18	12	20	30	36	33	13	4.5	3.0
5	11	10	14	13	12	22	23	31	81	12	5.8	3.4
6	8.1	9.7	14	12	12	21	59	28	1370	11	5.0	3.4
7	6.9	11	14	12	12	41	29	23	364	10	4.5	3.0
8	6.6	15	17	12	10	51	24	21	150	10	4.5	2.6
9	6.2	18	11	11	10	33	27	17	85	8.8	3.4	4.1
10	5.9	15	12	10	10	29	38	16	57	6.8	3.0	5.0
11	4.9	14	21	10	14	23	32	15	46	9.3	5.0	5.8
12	4.6	13	15	10	89	21	23	15	45	6.8	3.7	5.8
13	4.9	12	17	12	71	20	19	12	108	5.4	2.3	5.4
14	5.2	11	15	10	39	19	16	11	89	5.0	1.7	5.0
15	8.1	11	14	10	29	43	13	10	44	5.4	1.5	4.1
16	5.9	11	15	10	28	17	13	12	29	5.4	34	3.7
17	6.2	10	14	10	24	17	14	13	22	5.0	5.8	3.0
18	6.2	10	14	10	19	17	13	13	20	4.5	1.4	2.3
19	5.9	14	14	10	18	19	21	12	22	4.1	35	1.7
20	5.9	14	13	10	17	19	16	16	19	3.4	24	1.7
21	6.2	13	13	10	17	19	14	21	136	2.6	13	5.0
22	6.9	13	13	10	28	19	13	20	517	2.6	7.3	8.8
23	13	14	14	10	41	22	12	16	152	6.8	6.3	7.3
24	13	13	15	10	38	25	11	15	89	6.8	5.4	6.3
25	11	13	14	10	31	23	11	13	45	5.8	4.5	9.3
26	9.7	14	13	10	26	21	9.9	21	24	5.0	3.4	9.3
27	8.5	14	15	10	24	19	9.9	394	19	3.4	3.0	8.8
28	8.5	13	15	12	25	19	12	1780	18	3.0	3.0	7.8
29	8.5	14	15	12	---	17	17	357	17	2.3	3.7	6.3
30	8.5	13	15	12	---	17	16	141	17	2.0	3.4	5.4
31	8.5	---	15	12	---	17	---	81	---	2.6	3.0	---
TOTAL	221.9	369.1	446	352	693	722	587.8	3288	3762	213.8	212.0	145.5
MEAN	7.16	12.3	14.4	11.4	24.8	23.3	19.6	106	125	6.90	6.84	4.85
MAX	13	18	21	18	89	51	59	1780	1370	15	35	9.3
MIN	3.8	8.5	11	10	10	17	9.9	10	17	2.0	1.4	1.7
AC-FT	440	732	885	698	1370	1430	1170	6520	7460	424	421	289

CAL YR 1977 TOTAL 11280.5 MEAN 30.9 MAX 1340 MIN 3.8 AC-FT 22370
WTR YR 1978 TOTAL 11013.1 MEAN 30.2 MAX 1780 MIN 1.4 AC-FT 21840

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 fair. 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.--41 years, 694 ft^3/s (19.65 m^3/s), 502,800 acre-ft/yr (620 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)
May 28	unknown	*12,100	343	*16.40	4.999	June 7	2000	9,900	280	15.07	4.593

Minimum daily discharge, 58 ft^3/s (1.64 m^3/s) Sept. 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	91	332	160	208	170	145	178	271	6500	614	121	66
2	89	339	158	209	190	150	175	270	6280	609	116	63
3	89	346	160	207	180	145	177	407	5440	612	112	61
4	89	335	161	212	170	140	189	440	3540	608	118	59
5	110	280	165	213	165	140	192	398	2760	588	129	64
6	117	258	164	215	160	135	211	430	4670	576	133	61
7	118	246	163	210	170	140	216	560	9110	555	132	60
8	122	236	169	180	230	230	229	410	7250	555	133	58
9	121	240	170	165	210	400	203	360	5550	533	133	90
10	121	236	165	155	240	300	200	330	4500	470	132	78
11	115	226	172	165	200	301	221	310	3550	422	126	73
12	119	218	176	170	170	275	551	300	2420	395	123	68
13	173	209	175	220	210	256	1110	290	1980	347	126	65
14	190	200	184	260	300	239	893	280	1640	323	126	63
15	204	196	184	190	260	228	624	280	1300	290	123	62
16	207	194	181	150	250	214	499	275	1100	30	128	85
17	216	189	182	140	230	208	442	270	1020	40	112	74
18	225	182	182	130	260	205	406	300	921	220	125	70
19	228	177	188	120	220	203	384	450	825	196	145	66
20	234	175	187	150	200	202	364	380	712	172	137	64
21	235	167	186	170	190	200	358	1600	673	162	131	63
22	245	162	180	180	180	198	330	1100	698	147	154	62
23	286	162	182	200	160	202	308	980	1020	159	156	61
24	272	160	183	220	150	206	288	880	951	212	145	60
25	272	163	187	250	145	204	275	800	911	206	115	109
26	275	162	185	220	145	200	266	1100	738	251	95	111
27	283	162	187	200	145	198	254	1700	712	183	91	89
28	366	163	189	190	140	195	249	10000	677	152	129	101
29	362	162	189	180	---	194	287	11000	668	138	86	116
30	349	162	194	175	---	192	297	7930	631	127	76	169
31	336	---	204	170	---	185	---	6920	---	126	71	---
TOTAL	6259	6439	5512	5824	5440	6430	10376	51021	78747	10448	3779	2291
MEAN	202	215	178	188	194	207	346	1646	2625	337	122	76.4
MAX	366	346	204	260	300	400	1110	11000	9110	614	156	169
MIN	89	160	158	120	140	135	175	270	631	126	71	58
AC-FT	12410	12770	10930	11550	10790	12750	20580	101200	156200	20720	7500	4540

CAL YR 1977 TOTAL 237182 MEAN 650 MAX 11200 MIN 89 AC-FT 470500
WTR YR 1978 TOTAL 192566 MEAN 528 MAX 11000 MIN 58 AC-FT 382000

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	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 05...	0915	99	1200	7.8	17.0	175	9.2	97	49	597
NOV 02...	1345	340	1720	8.5	15.0	150	9.6	98	40	--
DEC 07...	1330	163	1750	8.4	4.5	8	14.2	113	21	881
JAN 04...	0900	213	2130	8.3	.5	13	14.0	99	15	--
FEB 09...	1330	210	1920	8.4	.0	41	13.2	92	8	721
MAR 15...	1030	230	1900	8.5	10.5	0	11.0	101	21	--
APR 07...	1045	218	1750	--	20.5	7	8.9	100	31	--
MAY 18...	1745	300	1100	8.4	22.0	0	16.8	198	54	--
JUN 06...	1245	4720	440	7.8	23.0	153	6.3	75	73	658
JUL 06...	1430	575	1900	8.2	31.0	32	--	--	33	--
AUG 16...	1145	129	1070	8.3	29.0	9	9.2	121	31	779
SEP 13...	1230	65	1370	8.1	28.0	18	9.6	126	38	--

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, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT 05...	75	188	90	110	6.6	548	104	.2	1464	--
NOV 02...	--	--	--	--	--	762	56	--	1702	--
DEC 07...	226	565	76	95	4.7	855	101	.5	--	8
JAN 04...	--	--	--	--	--	649	101	.3	--	24
FEB 09...	228	596	95	105	4.0	102	96	.3	--	150
MAR 15...	--	--	--	--	--	828	89	.4	--	84
APR 07...	195	--	91	95	5.4	--	--	.3	--	91
MAY 18...	--	--	--	--	--	691	54	.3	--	77
JUN 06...	155	388	53	28	5.8	118	19	.1	--	5155
JUL 06...	--	--	--	--	--	797	56	.4	--	525
AUG 16...	173	433	84	100	5.7	649	100	.2	--	56
SEP 13...	--	--	--	--	--	559	77	.2	--	65

07328500 WASHITA RIVER NEAR PAULS VALLEY, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA 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 05...	<.10	--	2.5	2.5	--	.45	--	--	--	--
NOV 02...	.45	--	4.2	4.6	21	.63	--	--	--	--
DEC 07...	.30	--	1.3	1.6	7.3	.15	--	--	--	--
JAN 04...	.70	--	1.7	2.4	11	.01	--	--	--	--
FEB 09...	.90	--	2.1	3.0	13	.33	3	1	21	7
MAR 15...	.40	--	2.0	2.4	11	.24	--	--	--	--
APR 07...	.30	--	1.9	2.2	9.8	.21	--	--	--	--
MAY 18...	<.10	--	2.7	2.7	--	.11	--	--	--	--
JUN 06...	--	.30	--	4.7	--	.22	--	--	--	--
JUL 06...	.60	--	2.0	2.6	12	.18	--	--	--	--
AUG 16...	.10	--	1.6	1.7	7.9	.23	--	<1	16	15
SEP 13...	<.10	--	2.5	2.5	--	.10	--	--	--	--

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 05...	20500	--	550	--	--	--	--	--	17
NOV 02...	--	--	--	--	--	--	--	--	3.0
DEC 07...	910	--	40	--	--	--	--	--	--
JAN 04...	--	--	--	--	--	--	--	--	3.0
FEB 09...	2700	33	130	<.5	50	<1	5	20	11
MAR 15...	--	--	--	--	--	--	--	--	6.0
APR 07...	1910	--	160	--	--	--	--	--	12
MAY 18...	--	--	--	--	--	--	--	--	18
JUN 06...	--	--	29000	--	--	--	220	--	53
JUL 06...	--	--	--	--	--	--	--	--	15
AUG 16...	450	36	140	<.5	8	<1	3	24	--
SEP 13...	--	--	--	--	--	--	--	--	12

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 fair. 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.--9 years, 187 ft^3/s (5.296 m^3/s), 135,500 acre-ft/yr (167 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	DISCHARGE (ft^3/s)	DISCHARGE (m^3/s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
May 28	unknown	*9,680	274	*21.0	6.40	June 6	1400	8,390	238	19.74	6.017

Minimum daily discharge, 1.0 ft^3/s (0.028m^3/s) Dec. 27, Sept. 20-23.

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	1.2	1.4	2.6	4.5	6.2	17	24	10	890	28	4.2	3.1
2	1.2	1.8	2.8	3.1	6.3	17	23	15	941	27	3.5	3.2
3	1.2	2.1	2.4	3.5	5.8	14	22	93	689	28	3.5	3.1
4	1.2	2.8	2.1	4.5	5.4	9.7	61	65	581	25	4.1	3.1
5	1.8	3.1	2.0	5.2	5.2	5.8	42	46	745	23	4.1	3.0
6	2.3	3.5	3.2	4.5	4.8	4.5	35	47	5130	22	4.1	3.3
7	2.3	3.8	2.8	5.2	4.5	3.1	36	45	3010	20	4.1	3.2
8	2.2	7.8	2.5	6.4	6.0	67	29	37	1300	19	4.0	3.8
9	2.0	9.0	2.2	6.0	7.0	55	27	32	816	17	3.7	3.5
10	2.0	9.7	2.2	5.0	9.0	49	291	30	600	16	3.7	5.0
11	2.3	5.8	2.0	4.5	13	41	122	25	448	16	3.7	34
12	2.7	4.4	2.0	5.6	54	37	94	21	331	15	3.7	18
13	3.1	3.4	1.7	4.8	100	31	65	19	1350	14	3.7	9.0
14	3.0	3.3	1.5	4.4	65	26	51	17	747	13	3.7	4.5
15	2.6	3.3	1.5	4.0	39	22	51	16	523	11	3.7	3.8
16	2.6	3.0	1.4	4.4	23	20	46	14	247	11	70	2.8
17	2.4	3.0	1.4	4.8	11	17	40	13	202	11	40	2.1
18	2.3	2.9	1.4	4.5	31	15	35	12	160	11	20	1.4
19	2.5	2.6	1.4	3.0	20	15	24	12	134	11	10	1.1
20	2.7	2.6	1.3	2.9	23	17	22	15	99	10	6.0	1.0
21	3.0	2.6	1.3	2.8	19	33	22	50	86	11	4.0	1.0
22	9.8	2.6	1.3	4.0	21	15	21	30	79	10	3.5	1.0
23	21	2.3	1.3	5.8	24	38	19	25	62	11	3.4	1.0
24	25	1.6	1.2	6.0	25	111	19	20	51	40	3.4	1.1
25	14	1.4	1.2	6.0	22	60	20	17	44	26	3.3	1.1
26	7.1	1.5	1.2	6.0	19	49	21	1800	40	12	3.3	1.1
27	3.8	1.7	1.0	5.8	17	43	19	770	36	22	3.2	1.2
28	2.5	1.9	2.1	5.8	15	38	14	5100	34	20	3.2	1.2
29	1.1	2.3	2.1	6.0	---	35	12	2000	31	10	3.1	1.2
30	1.4	2.6	3.8	6.0	---	30	13	1400	28	5.8	3.1	1.1
31	1.4	---	5.2	6.0	---	27	---	1060	---	4.5	3.1	---
TOTAL	133.7	99.8	62.1	151.2	601.2	962.1	1322	12856	19234	520.3	240.1	123.0
MEAN	4.31	3.33	2.00	4.88	21.5	31.0	44.1	415	641	16.8	7.75	4.10
MAX	25	9.7	5.2	6.4	100	111	291	5100	5130	40	70	34
MIN	1.1	1.4	1.0	2.8	4.5	3.1	12	10	28	4.5	3.1	1.0
AC-FT	265	198	123	300	1190	1910	2620	25500	38150	1030	476	244

CAL YR 1977 TOTAL 52730.76 MEAN 144 MAX 14400 MIN .36 AC-FT 104600
WTR YR 1978 TOTAL 36305.50 MEAN 99.5 MAX 5130 MIN 1.0 AC-FT 72010

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 good. 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.--50 years, 1,384 ft^3/s (39.19 m^3/s) 1,003,000 acre-ft/yr (1.24 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 29	0830	*27,800	787	*26.28	8.010	June 7	0415	19,300	547	21.93	6.684

Minimum daily discharge, 72 ft^3/s (2.04 m^3/s) Sept. 22-24.

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	145	423	217	199	295	412	392	303	10700	726	154	87
2	140	430	211	198	280	381	378	307	9490	703	146	83
3	132	441	212	194	270	373	377	699	7050	671	144	79
4	130	450	213	196	255	351	431	1210	5560	643	157	76
5	138	450	215	202	257	331	468	695	4500	612	162	74
6	145	413	214	212	269	324	450	594	11500	593	155	78
7	130	352	208	208	278	457	675	570	17900	582	153	87
8	155	332	207	209	256	823	520	459	14200	567	149	76
9	156	325	210	206	255	1000	467	400	9770	550	144	472
10	157	308	202	189	258	672	1290	380	6810	537	142	831
11	156	297	198	185	280	522	2460	355	5860	506	137	302
12	154	287	203	180	418	469	1150	309	4730	454	135	222
13	148	278	211	177	848	438	1250	270	4600	425	130	168
14	149	270	215	171	891	405	2100	236	6030	400	122	140
15	197	261	208	185	672	379	1410	238	3480	364	117	117
16	220	255	210	211	594	354	963	288	2820	328	119	107
17	229	250	208	213	530	339	874	259	2280	297	228	98
18	235	248	207	210	511	328	723	231	1950	273	225	89
19	241	238	201	215	493	319	619	217	1760	256	144	89
20	245	233	195	223	476	319	549	201	1490	240	122	83
21	247	227	198	235	458	354	515	302	1260	226	129	76
22	266	218	187	245	441	316	479	1950	1200	211	122	72
23	308	214	188	250	421	822	445	1920	1340	248	116	72
24	324	215	192	257	433	2820	425	1280	1570	213	107	72
25	331	214	194	235	460	1420	382	678	1490	215	118	74
26	303	209	186	221	415	816	345	790	1210	250	110	75
27	302	209	189	247	393	611	373	4620	992	236	108	76
28	294	211	188	248	427	508	301	14000	891	252	106	93
29	316	212	196	261	---	460	286	26300	798	216	99	90
30	394	214	200	290	---	435	277	18100	754	184	94	79
31	413	---	197	281	---	415	---	11700	---	165	93	---
TOTAL	6900	8684	6280	6753	11824	17973	21374	89861	143985	12143	4187	4137
MEAN	223	289	203	218	422	580	712	2899	4800	392	135	138
MAX	413	450	217	290	891	2820	2460	26300	17900	726	228	831
MIN	130	209	186	171	255	316	277	201	754	165	93	72
AC-FT	13690	17220	12460	13390	23450	35650	42400	178200	285600	24090	8300	8210

CAL YR 1977 TOTAL 412059 MEAN 1129 MAX 33400 MIN 130 AC-FT 817300
WTR YR 1978 TOTAL 334101 MEAN 915 MAX 26300 MIN 72 AC-FT 662700

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, 2,040 micromhos Oct. 20; minimum daily, 302 micromhos May 29.
WATER TEMPERATURE: Maximum daily, 36.0°C July 19; minimum daily, 0.0°C on Jan. 23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	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)
OCT											
04...	1530	129	1720	8.3	20.0	20	--	9.4	104	--	--
25...	1245	335	--	--	--	--	--	--	--	--	--
NOV											
01...	1500	434	1830	8.1	20.0	130	--	10.0	112	1600	760
21...	1230	229	--	--	--	--	--	--	--	--	--
DEC											
06...	1630	213	1860	7.8	6.5	8	--	15.2	124	K38	540
22...	1420	188	--	--	--	--	--	--	--	--	--
JAN											
03...	1600	196	1920	8.3	5.5	4	--	14.0	106	K3	K27
24...	1405	257	--	--	--	--	--	--	--	--	--
FEB											
08...	1345	248	1760	8.2	.0	7	--	15.4	107	K5	59
MAR											
13...	1215	436	1500	8.6	10.0	70	--	11.8	108	140	350
APR											
07...	0830	717	1520	7.5	21.0	75	--	7.5	85	170	380
MAY											
18...	1320	229	1460	8.3	25.0	--	28	9.1	111	180	110
23...	1300	1850	--	--	--	--	--	--	--	--	--
JUN											
05...	1500	4350	530	7.7	24.0	--	1200	7.1	86	3000	K10000
JUL											
05...	1330	619	1700	8.1	31.5	--	160	7.1	99	280	76
AUG											
17...	1130	228	1380	8.1	28.0	--	70	7.5	97	4800	2300
SEP											
13...	1430	168	910	8.2	29.5	--	140	8.3	114	1660	604

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)
OCT										
04...	750	570	170	79	90	21	1.4	7.4	220	0
25...	--	--	--	--	--	--	--	--	--	--
NOV										
01...	900	720	200	97	82	16	1.2	9.3	220	0
21...	--	--	--	--	--	--	--	--	--	--
DEC										
06...	890	660	210	89	100	20	1.5	.9	280	0
22...	--	--	--	--	--	--	--	--	--	--
JAN										
03...	910	650	220	88	110	21	1.6	5.2	320	0
24...	--	--	--	--	--	--	--	--	--	--
FEB										
08...	880	610	220	80	92	18	1.4	4.3	330	0
MAR										
13...	710	460	180	64	65	16	1.1	4.7	310	0
APR										
07...	700	510	160	73	98	23	1.6	4.5	230	0
MAY										
18...	640	490	150	64	100	25	1.7	5.8	--	--
23...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	230	100	63	18	26	19	.7	4.7	--	--
JUL										
05...	820	630	190	85	80	17	1.2	9.4	--	--
AUG										
17...	580	410	120	67	87	25	1.6	6.4	--	--
SEP										
13...	310	190	71	31	58	29	1.4	4.4	--	--

DATE	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, 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)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
OCT										
04...	180	1.8	640	100	.4	11	1290	1210	1.75	449
25...	--	--	--	--	--	--	--	--	--	--
NOV										
01...	160	2.8	760	72	.6	9.8	1460	1340	1.99	1710
21...	--	--	--	--	--	--	--	--	--	--
DEC										
06...	230	7.1	660	100	.2	2.0	1430	1300	1.94	822
22...	--	--	--	--	--	--	--	--	--	--
JAN										
03...	260	2.6	680	120	.6	11	1450	1390	1.97	767
24...	--	--	--	--	--	--	--	--	--	--
FEB										
08...	270	3.3	630	99	.6	12	1340	1300	1.82	897
MAR										
13...	250	1.2	430	77	.6	10	1020	984	1.39	1210
APR										
07...	190	12	520	120	.4	4.1	1100	1090	1.50	2130
MAY										
18...	150	--	550	79	.4	3.6	1090	1040	1.48	674
23...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	130	--	120	28	.3	9.3	335	347	.46	3940
JUL										
05...	190	--	660	66	.5	11	1320	1220	1.80	2210
AUG										
17...	170	--	440	91	.3	11	979	925	1.33	603
SEP										
13...	120	--	190	77	.4	6.4	554	510	.75	251

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (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, DISSOLVED (MG/L AS P)
OCT										
04...	.01	.05	--	--	--	.56	--	--	.15	.02
25...	--	--	--	--	--	--	--	--	--	--
NOV										
01...	.48	.11	--	--	--	.79	--	--	.26	.06
21...	--	--	--	--	--	--	--	--	--	--
DEC										
06...	.07	.03	--	--	--	.54	--	--	.11	.09
22...	--	--	--	--	--	--	--	--	--	--
JAN										
03...	.37	.87	.00	.83	.04	.79	1.2	5.3	.19	.15
24...	--	--	--	--	--	--	--	--	--	--
FEB										
08...	.76	.74	.56	1.3	.10	1.2	2.1	9.1	.23	.20
MAR										
13...	.83	.23	.57	.80	.28	.52	1.6	7.2	.30	.18
APR										
07...	.01	.05	.86	.91	.43	.48	.92	4.1	.22	.01
MAY										
18...	.04	.01	--	--	--	.33	--	--	.17	.04
23...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	1.7	.13	3.7	3.8	3.2	.64	4.3	24	1.3	.04
JUL										
05...	.74	.00	2.2	2.2	1.3	.86	2.9	13	.31	.09
AUG										
17...	.01	.00	1.2	1.2	.28	.92	1.2	5.4	.21	.02
SEP										
13...	.09	.14	1.2	1.3	.00	1.6	1.4	6.2	.24	.04

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUSPENDED TOTAL (UG/L AS AS)	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)
OCT												
04...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
01...	5	1	4	600	400	200	1	0	2	4	0	4
21...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
06...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
08...	3	0	3	100	0	100	0	0	1	10	0	10
MAR												
13...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
18...	3	1	2	200	0	200	0	--	1	90	85	5
23...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
05...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
17...	4	1	3	400	200	200	1	0	2	20	20	0
SEP												
13...	--	--	--	--	--	--	--	--	--	--	--	--

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)
OCT												
04...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
01...	2	2	0	11	10	1	3100	--	10	15	14	1
21...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
06...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
08...	1	1	0	7	3	4	450	--	30	22	20	2
MAR												
13...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
18...	0	0	0	11	10	1	1200	--	20	33	25	8
23...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
05...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
17...	2	1	<1	18	16	2	3200	3200	<10	15	10	5
SEP												
13...	--	--	--	--	--	--	--	--	--	--	--	--

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)	SILVER, DISSOLVED (UG/L AS AG)
OCT												
04...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
01...	280	270	8	.0	.0	.0	1	1	0	0	0	0
21...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
06...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
08...	60	0	60	.0	.0	.0	2	1	1	0	0	1
MAR												
13...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
18...	180	150	30	.1	.1	.0	0	0	0	0	0	0
23...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
05...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
17...	490	490	5	.5	.5	.0	0	0	1	1	0	1
SEP												
13...	--	--	--	--	--	--	--	--	--	--	--	--

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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 TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT												
04...	--	--	--	9.0	--	--	--	--	--	89	31	86
25...	--	--	--	--	--	--	--	--	--	120	109	--
NOV												
01...	70	50	20	--	4.8	1.2	--	--	--	253	296	88
21...	--	--	--	--	--	--	--	--	--	750	464	--
DEC												
06...	--	--	--	5.4	--	--	--	--	--	76	44	98
22...	--	--	--	--	--	--	--	--	--	130	66	--
JAN												
03...	--	--	--	3.7	--	--	--	--	--	63	33	80
24...	--	--	--	--	--	--	--	--	--	190	132	--
FEB												
08...	30	10	20	--	8.6	.4	--	--	--	128	86	70
MAR												
13...	--	--	--	7.4	--	--	4200	10.3	0.....	230	272	68
APR												
07...	--	--	--	7.9	--	--	--	--	--	241	467	90
MAY												
18...	20	10	10	--	--	--	6100	--	--	162	100	90
23...	--	--	--	--	--	--	--	--	--	4280	21400	--
JUN												
05...	--	--	--	30	--	--	350	--	--	3550	41700	90
JUL												
05...	--	--	--	10	--	--	--	--	--	405	677	86
AUG												
17...	70	70	4	9.7	--	--	--	--	--	319	196	79
SEP												
13...	--	--	--	8.7	--	--	250000	--	--	242	110	96

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE	MAR 13,78	MAY 18,78	JUN 6,78	JUL 5,78	SEP 13,78
TIME	1215	1320	1500	1330	1430
TOTAL CELLS/ML	4200	6100	350	9700	250000
DIVERSITY: DIVISION	2.0	0.8	1.0	1.5	0.4
.CLASS	2.0	0.8	1.0	1.5	0.4
..ORDER	2.9	0.8	1.0	1.8	0.6
...FAMILY	3.1	1.7	1.0	2.4	1.1
....GENUS	3.3	2.5	1.0	2.6	1.2

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	--	-	--	-	180#	50	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	260	4	--	-	570	6	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	80	1	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	190	2	*	0
...OOCYSTACEAE										
....ANKISTRODESMUS	290	7	80	1	--	-	140	1	*	0
....CHODATELLA	--	-	--	-	--	-	*	0	*	0
....DICTYOSPHAERIUM	--	-	560	9	--	-	--	-	4300	2
....KIRCHNERIELLA	190	4	64	1	--	-	--	-	--	-
....OOCYSTIS	--	-	64	1	--	-	380	4	*	0
....TETRAEDRON	--	-	*	0	--	-	--	-	*	0
....TREUBARIA	--	-	--	-	--	-	--	-	*	0
....WESTELLA	--	-	--	-	--	-	--	-	1600	1
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	2500#	41	--	-	--	-	*	0
....SCENEDESMUS	210	5	1600#	26	--	-	2700#	28	5400	2
....TETRASTRUM	--	-	--	-	--	-	190	2	1600	1
..TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	53	1	--	-	--	-	--	-	--	-
...PALMELLACEAE										
....GLOEOCYSTIS	160	4	--	-	--	-	--	-	--	-
....SPHAEROCYSTIS	--	-	--	-	--	-	380	4	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	560	13	--	-	--	-	--	-	--	-
....CHLOROGONIUM	80	2	--	-	--	-	--	-	--	-

07331000 WASHITA RIVER NEAR DURWOOD, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	110	3	270	4	--	-	3400#	35	*	0		
....STEPHANODISCUS	--	-	--	-	--	-	95	1	--	-		
..PENNALES												
...ACHNANTHACEAE												
....RHOICOSPHENIA	27	1	--	-	--	-	--	-	--	-		
...FRAGILARIACEAE												
....SYNEDRA	110	3	--	-	--	-	--	-	--	-		
...NAVICULACEAE												
....NAVICULA	80	2	*	0	--	-	--	-	*	0		
...NITZSCHIACEAE												
....NITZSCHIA	--	-	96	2	--	-	95	1	*	0		
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONIDALES												
...CRYPTOMONADACEAE												
....CRYPTOMONAS	1000#	24	32	1	--	-	--	-	--	-		
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	510	12	510	8	--	-	--	-	9900	4		
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	--	-	--	-	15000	6		
....ANABAENOPSIS	--	-	--	-	--	-	--	-	*	0		
...OSCILLATORIACEAE												
....OSCILLATORIA	670#	16	--	-	180#	50	1300	14	210000#	82		
....SPIRULINA	--	-	--	-	--	-	--	-	*	0		
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	27	1	--	-	--	-	*	0	--	-		
....TRACHELOMONAS	130	3	--	-	--	-	*	0	--	-		

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 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1680	1840	1810	1850	1820	1740	1510	1270	492	1530	1230	1280
2	1700	1640	1800	1840	1820	1690	1530	1340	482	1600	1200	1290
3	1730	1790	1840	1900	1800	1420	1580	1050	507	1620	1040	1300
4	1710	1840	1860	1910	1830	1480	1270	842	546	1650	1150	1350
5	1680	1850	1870	1890	1870	1530	1470	777	561	1680	1190	1360
6	1720	1830	1850	1880	1870	1620	1460	917	405	1720	1170	1300
7	1690	1820	1900	1900	---	1280	1650	1000	362	1730	1220	1360
8	1640	1770	1890	1900	1790	1330	1030	1100	462	1760	1250	1380
9	1630	1720	1890	1910	---	1110	1420	1140	498	1760	1250	1080
10	1700	1740	1920	1940	---	1230	977	1160	518	1770	1270	600
11	1740	1760	1920	---	---	1160	437	1380	488	1780	1300	443
12	1750	1720	1950	1910	1370	1280	553	1430	548	1780	1310	661
13	1720	1700	1910	1970	1350	1460	910	1360	538	1750	1330	877
14	1700	1680	1920	1900	1010	1430	1520	1450	464	1750	1340	991
15	1720	1650	1920	1940	1190	1510	895	1460	635	1690	1340	1050
16	1870	1660	1920	1840	1180	1560	709	1290	813	1630	1350	1090
17	1940	1720	1920	1960	---	1540	621	1460	916	1620	1460	1140
18	1960	1730	1910	2020	1120	1540	704	1490	952	1620	1330	1170
19	1980	1750	1890	---	1420	1540	771	1540	994	1600	797	1210
20	2040	1700	1900	1960	1260	1560	859	1780	1040	1570	930	1190
21	1860	1710	1930	2030	1380	1580	957	1260	1060	1520	1300	1260
22	1850	1740	1940	2020	1440	1620	1100	847	1090	1440	1300	1270
23	1720	1760	1900	2030	1480	1430	1060	518	1040	1360	1360	1280
24	1690	1830	1920	1980	1500	508	753	616	974	1290	1390	1260
25	1710	1830	1910	1890	1080	614	1020	698	1170	1280	1380	1280
26	1560	1850	1900	1820	1670	860	1060	705	1220	1320	1210	1290
27	1660	1760	1900	1810	1730	1100	1060	363	1200	1400	1230	1300
28	1720	1790	1910	1840	1680	1240	1070	373	1150	1260	1320	1340
29	1730	1810	1900	1860	---	1350	1140	302	1200	1170	1370	1380
30	1760	1800	1890	1880	---	1440	1180	490	1360	1370	1280	1400
31	1820	---	1880	1900	---	1460	---	519	---	1300	1280	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	20.0	11.0	4.0	3.0	7.0	22.0	25.0	26.0	34.0	30.0	29.0
2	20.0	16.0	9.0	5.0	4.0	8.0	19.0	20.0	25.5	33.0	29.0	31.0
3	23.0	15.0	14.0	7.0	7.0	5.0	21.0	17.0	23.5	35.0	29.0	32.0
4	20.0	19.0	16.5	8.0	4.0	7.0	22.0	17.0	26.0	31.0	25.0	31.5
5	19.0	18.0	10.0	8.0	9.0	10.0	22.0	16.5	23.0	33.5	30.5	32.0
6	14.0	19.0	12.0	9.0	7.0	12.0	27.0	17.0	23.0	33.0	31.0	33.0
7	23.0	21.0	9.0	12.0	---	8.5	25.0	26.0	27.0	31.5	27.0	31.0
8	24.0	17.0	11.0	6.0	2.0	9.0	24.0	23.0	24.0	32.0	32.0	28.0
9	20.0	14.0	9.0	4.0	---	11.0	22.0	23.5	24.0	33.0	33.0	22.0
10	21.0	9.0	5.0	2.0	---	12.0	17.0	24.0	26.0	32.0	32.0	30.0
11	15.0	15.0	5.0	---	---	15.0	19.0	26.0	27.0	35.0	---	26.0
12	20.0	14.0	8.0	2.0	4.0	12.5	20.0	27.0	28.0	31.0	32.0	29.0
13	22.0	15.0	11.5	6.0	7.0	15.0	25.0	27.0	26.0	33.0	33.0	31.5
14	15.0	18.0	12.0	4.0	5.0	16.0	23.0	27.0	27.0	33.0	32.0	30.0
15	19.0	20.0	4.0	4.0	6.0	12.0	24.0	31.0	28.0	33.0	33.0	32.5
16	19.0	14.0	12.0	5.0	7.0	14.0	26.0	23.0	30.0	35.0	31.0	32.0
17	20.0	16.0	12.0	3.0	---	17.0	21.0	20.0	31.0	34.0	32.0	32.0
18	16.0	18.0	14.0	3.0	3.0	19.0	19.0	28.0	27.0	26.0	32.0	31.5
19	17.0	16.5	10.0	---	5.0	19.0	21.0	30.0	32.0	36.0	27.0	31.5
20	23.0	21.0	12.0	2.0	6.0	19.0	21.0	28.0	30.0	33.0	32.0	32.5
21	25.0	10.5	6.0	3.0	4.0	23.0	20.0	24.0	29.0	33.0	33.0	26.0
22	20.0	12.0	4.0	2.0	8.0	17.0	22.0	27.0	28.0	32.0	29.0	26.0
23	18.5	13.0	9.0	.0	10.0	19.0	22.0	28.0	31.0	29.0	33.0	29.0
24	21.0	12.0	10.0	3.0	14.0	15.0	23.0	29.0	31.0	31.0	30.0	28.0
25	19.0	13.0	7.0	4.0	13.0	12.0	23.0	27.0	33.0	33.0	32.0	28.0
26	24.0	12.0	3.0	4.0	12.0	15.0	18.0	33.0	28.0	34.0	28.0	24.0
27	20.0	14.0	6.0	4.0	7.0	18.0	25.0	28.0	30.5	32.0	33.0	25.0
28	23.5	10.0	12.0	5.0	9.0	19.0	23.0	25.0	30.0	33.0	32.0	21.5
29	25.0	9.5	11.0	3.0	---	22.0	26.0	20.0	32.0	34.5	31.0	29.0
30	22.0	9.0	7.0	4.0	---	23.0	26.0	16.0	32.5	35.0	29.0	27.0
31	23.0	---	9.0	2.0	---	25.0	---	29.0	---	32.0	32.0	---

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 mi² (102,872 km²), of which 5,936 mi² (15,374 km²) 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, auxiliary 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 1962 survey, 5,392,900 acre-ft (6.65 km³) at elevation 640.0 ft (195.07 m), crest of spillway, 2,733,300 acre-ft (3.37 km³) at elevation 617.0 ft (188.06 m), maximum power pool, 1,049,200 acre-ft (1.29 km³) at elevation 590.0 ft (179.83 m), minimum power pool, in Denison pool. Dead storage, 11,000 acre-ft (13.6 hm³) at elevation 610.0 ft (185.93 m) in Cumberland pool. When contents are below 2,167,900 acre-ft (2.67 km³), 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 1962, used since Oct. 1, 1963.
COOPERATION.--Records furnished by Corps of Engineers.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,991,300 acre-ft (7.39 km³) 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 km³) Sept. 16, 1964; minimum elevation, 599.96 ft (182.868 m) Mar. 1, 2, 1957.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,914,000 acre-ft (3.59 km³) June 10, elevation, 619.94 ft (188.958 m). Minimum, 2.063,000 acre-ft (2.54 km³) Mar. 5, elevation, 609.39 ft (185.742 m).

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

609	2,095,000	614	2,479,000
610	2,168,000	617	2,733,000
612	2,319,000	620	3,010,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2495000	2381000	2334000	2241000	2107000	2074000	2163000	2227000	2587000	2638000	2542000	2390000
2	2492000	2373000	2330000	2236000	2105000	2080000	2164000	2233000	2670000	2635000	2540000	2387000
3	2486000	2375000	2330000	2229000	2102000	2075000	2167000	2242000	2715000	2636000	2539000	2386000
4	2478000	2372000	2331000	2223000	2102000	2067000	2163000	2237000	2733000	2639000	2543000	2386000
5	2473000	2372000	2329000	2223000	2100000	2067000	2165000	2235000	2744000	2641000	2547000	2378000
6	2470000	2371000	2314000	2215000	2095000	2070000	2163000	2242000	2768000	2640000	2545000	2371000
7	2469000	2366000	2310000	2218000	2093000	2078000	2164000	2244000	2788000	2640000	2545000	2368000
8	2466000	2366000	2310000	2208000	2087000	2080000	2164000	2245000	2817000	2638000	2539000	2363000
9	2465000	2366000	2305000	2198000	2087000	2083000	2171000	2248000	2867000	2633000	2532000	2367000
10	2464000	2364000	2301000	2187000	2085000	2083000	2194000	2249000	2908000	2626000	2527000	2364000
11	2463000	2361000	2299000	2186000	2084000	2091000	2202000	2254000	2907000	2619000	2523000	2357000
12	2459000	2358000	2296000	2182000	2100000	2094000	2210000	2253000	2873000	2614000	2518000	2352000
13	2457000	2357000	2299000	2179000	2100000	2103000	2213000	2255000	2842000	2610000	2513000	2345000
14	2456000	2353000	2296000	2116000	2094000	2104000	2220000	2254000	2825000	2606000	2505000	2338000
15	2456000	2353000	2290000	2174000	2096000	2106000	2224000	2249000	2816000	2601000	2502000	2310000
16	2454000	2352000	2291000	2181000	2098000	2107000	2228000	2245000	2802000	2600000	2492000	2323000
17	2453000	2350000	2290000	2165000	2102000	2103000	2233000	2241000	2794000	2593000	2482000	2319000
18	2451000	2346000	2288000	2160000	2101000	2103000	2235000	2244000	2781000	2589000	2474000	2314000
19	2448000	2345000	2289000	2151000	2102000	2104000	2234000	2246000	2761000	2587000	2469000	2307000
20	2440000	2351000	2285000	2140000	2106000	2107000	2233000	2242000	2740000	2584000	2463000	2303000
21	2433000	2346000	2278000	2133000	2096000	2112000	2231000	2241000	2724000	2579000	2459000	2299000
22	2434000	2341000	2275000	2128000	2096000	2110000	2237000	2237000	2710000	2577000	2455000	2299000
23	2432000	2343000	2273000	2123000	2091000	2125000	2239000	2240000	2691000	2577000	2449000	2299000
24	2427000	2344000	2271000	2125000	2085000	2145000	2241000	2243000	2674000	2576000	2445000	2297000
25	2421000	2341000	2267000	2126000	2084000	2154000	2240000	2251000	2656000	2573000	2438000	2293000
26	2410000	2340000	2265000	2119000	2083000	2162000	2240000	2259000	2640000	2571000	2433000	2293000
27	2403000	2339000	2259000	2116000	2080000	2166000	2235000	2270000	2641000	2569000	2430000	2293000
28	2391000	2336000	2256000	2115000	2074000	2167000	2235000	2295000	2642000	2560000	2422000	2290000
29	2390000	2334000	2253000	2112000	---	2169000	2235000	2326000	2642000	2554000	2414000	2290000
30	2388000	2337000	2248000	2111000	---	2166000	2236000	2396000	2640000	2551000	2403000	2289000
31	2386000	---	2248000	2104000	---	2163000	---	2489000	---	2545000	2391000	---
MAX	2495000	2381000	2334000	2241000	2107000	2169000	2241000	2489000	2908000	2641000	2547000	2390000
MIN	2386000	2334000	2248000	2104000	2074000	2067000	2163000	2227000	2587000	2545000	2391000	2289000
†	613.83	613.19	612.00	609.98	609.55	610.82	611.83	615.15	616.96	615.85	613.90	612.55
‡	-197,000	-49,000	-89,000	-144,000	-30,000	+89,000	+73,000	+253,000	+151,000	-95,000	-154,000	-102,000

CAL YR 1977 MAX 2997000 MIN 2144000 ‡ + 7,000
WTR YR 1978 MAX 2908000 MIN 2067000 ‡ -294,000

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

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 good. 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) 34 years (water years 1945-1978), 4,343 ft^3/s (123.0 m^3/s), 3,147,000 acre-ft/yr (3.88 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, 31,400 ft^3/s (889 m^3/s) June 13, gage height, 15.16 ft (4.621 m); minimum daily, 72 ft^3/s (2.04 m^3/s) July 4.

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	3230	4060	667	3200	1110	790	467	3840	210	2790	1170	2010
2	462	3410	1010	1970	1080	886	704	163	4850	2650	1230	1430
3	2390	284	572	2000	1340	3450	480	142	10700	258	1450	1420
4	2690	1300	438	3160	1070	2110	2480	1880	10700	72	146	432
5	2740	582	1630	1080	1070	467	185	3190	10700	245	136	4590
6	810	600	3910	3230	1900	464	2320	335	14900	258	1610	2840
7	132	2400	1810	1070	3540	442	314	1900	25100	262	180	2820
8	1350	2630	663	3670	3190	443	432	2580	30900	2190	3360	2730
9	160	604	1970	3250	1870	448	649	1380	30900	2890	3780	3090
10	120	469	798	4510	1000	1920	151	1220	30900	3330	2690	1560
11	136	1880	814	3770	1350	435	406	120	30900	2990	2650	4380
12	1200	930	491	2490	1430	341	1530	2370	30900	2990	2340	3510
13	109	478	692	631	1300	381	2450	177	28200	2420	2370	4110
14	101	2590	1610	1630	4240	282	484	1050	21400	2460	4290	4380
15	98	504	1580	1040	999	293	427	3410	15400	2380	2500	3350
16	96	1210	906	1960	837	1330	350	1870	15400	1380	3610	3110
17	96	805	903	4310	2210	2840	443	2120	15400	2210	4320	834
18	1750	1280	920	4200	1180	295	438	1860	15400	1990	3480	2290
19	976	498	914	3850	1090	107	435	570	15400	1420	3830	3670
20	3480	446	1160	4040	2410	375	445	3410	15500	1410	2730	4040
21	3570	451	1050	3620	2520	391	133	2740	12800	1520	3770	1630
22	2380	454	1490	2240	1830	1050	404	2760	10800	1160	2450	1510
23	2900	451	1310	2940	3520	271	124	221	10800	1290	3270	166
24	3510	450	1240	604	3980	623	1430	180	10900	2250	2410	1230
25	3670	455	1250	357	2130	115	461	413	11000	2270	4170	1720
26	4920	449	1660	2360	599	111	1300	203	10900	1340	3310	1700
27	4780	449	2000	1830	3860	572	1950	189	1500	1320	2310	1100
28	5550	454	1930	1070	4070	971	746	212	1710	3010	4230	3100
29	196	1740	2620	1090	---	1240	684	205	2480	2600	4700	1590
30	1590	477	1330	1430	---	3100	854	745	1590	1230	5360	1530
31	3950	---	1930	3270	---	1630	---	231	---	3180	5450	---
TOTAL	59142	32790	41268	75872	56725	28173	23676	41686	448240	57765	89302	71872
MEAN	1908	1093	1331	2447	2026	909	789	1345	14940	1863	2881	2396
MAX	5550	4060	3910	4510	4240	3450	2480	3840	30900	3330	5450	4590
MIN	96	284	438	357	599	107	124	120	210	72	136	166
AC-FT	117300	65040	81860	150500	112500	55880	46960	82680	889100	114600	177100	142600

CAL YR 1977 TOTAL 1401492 MEAN 3840 MAX 41300 MIN 75 AC-FT 2780000
WTR YR 1978 TOTAL 1026511 MEAN 2812 MAX 30900 MIN 72 AC-FT 2036000

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 current year.

GAGE.--Water-stage recorder. Datum of gage is 896.75 ft (273.329 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

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.--Peak discharges above base of 1,800 ft^3/s (51.0 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. 23	2200	2,270	64.3	9.10	2.774	May 28	2030	*6,330	179	11.64	3.548
Apr. 10	1115	2,200	62.3	9.04	2.755						

Minimum daily discharge, 29 ft^3/s (0.82 m^3/s) Jan. 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	41	52	34	32	32	42	64	63	88	62	52	45
2	40	33	33	32	31	42	65	61	83	62	52	46
3	40	33	34	32	31	41	65	72	83	60	52	45
4	40	32	34	33	31	40	69	79	79	60	52	43
5	42	32	33	33	31	41	65	68	109	59	51	45
6	43	33	31	32	31	42	63	65	670	57	51	44
7	42	33	32	32	33	117	60	422	268	55	51	44
8	42	37	34	29	32	121	59	80	539	55	49	44
9	42	37	32	31	33	62	60	69	192	54	49	58
10	40	37	32	31	31	56	649	67	117	52	51	44
11	40	37	32	36	31	54	124	66	99	52	51	42
12	40	37	33	33	103	51	92	65	90	52	51	43
13	41	37	33	32	65	52	79	61	88	52	49	44
14	42	37	34	31	44	51	77	61	83	54	48	42
15	41	37	34	31	43	50	75	61	79	57	48	41
16	42	37	36	32	42	49	74	60	77	59	48	40
17	43	37	37	34	42	50	73	119	75	59	48	40
18	44	36	36	33	41	50	70	74	75	59	48	40
19	44	37	34	33	40	50	68	69	75	57	46	40
20	44	37	33	34	40	49	68	63	73	57	46	40
21	45	35	33	33	39	55	68	62	71	57	46	38
22	48	36	33	33	39	48	69	90	73	57	46	40
23	49	37	34	33	42	426	69	77	71	55	46	41
24	46	37	34	32	43	398	67	62	69	55	46	38
25	46	37	33	34	41	90	65	59	69	55	46	38
26	46	34	33	32	41	71	66	58	67	55	46	38
27	46	34	33	32	43	69	65	56	65	54	48	38
28	46	34	33	31	43	65	65	1740	64	54	46	38
29	46	33	36	31	---	65	66	433	64	54	46	37
30	48	34	36	31	---	64	65	145	64	54	45	37
31	51	---	33	31	---	64	---	111	---	52	45	---
TOTAL	1350	1079	1042	999	1138	2525	2684	4638	3719	1736	1499	1253
MEAN	43.5	36.0	33.6	32.2	40.6	81.5	89.5	150	124	56.0	48.4	41.8
MAX	51	52	37	36	103	426	649	1740	670	62	52	58
MIN	40	32	31	29	31	40	59	56	64	52	45	37
CFSM	.27	.22	.21	.20	.25	.50	.55	.93	.77	.35	.30	.26
IN.	.31	.25	.24	.23	.26	.58	.62	1.07	.85	.40	.34	.29
AC-FT	2680	2140	2070	1980	2260	5010	5320	9200	7380	3440	2970	2490

CAL YR 1977 TOTAL 26387 MEAN 72.3 MAX 3700 MIN 31 CFSM .45 IN 6.06 AC-FT 52340
WTR YR 1978 TOTAL 23662 MEAN 64.8 MAX 1740 MIN 29 CFSM .40 IN 5.43 AC-FT 46930

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 except for periods of no gage height record Dec. 18 to Jan. 24 and Aug. 8 to Sept. 11 which are fair.

AVERAGE DISCHARGE.--13 years, 144 ft^3/s (4.078 m^3/s), 9.63 in/yr (245 mm/yr), 104,300 acre-ft/yr (129 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.--Peak discharges above base of 2,200 ft^3/s (62.3 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. 24	0315	2,790	79.0	15.81	4.819	May 17	1515	2,800	79.3	15.84	4.828
Apr, 10	1530	2,410	68.3	14.75	4.496	May 29	0015	*4,800	136	*19.53	5.953

Minimum daily discharge, 29 ft^3/s (0.82 m^3/s) Jan. 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	35	285	36	31	35	59	87	77	128	72	46	37
2	34	100	35	30	35	60	85	74	117	71	46	36
3	34	49	36	30	34	58	85	110	114	70	47	35
4	35	42	37	31	34	54	118	97	109	70	50	35
5	36	40	36	32	35	53	94	92	116	67	49	35
6	35	39	35	31	34	54	94	83	780	66	47	35
7	36	37	35	30	37	155	84	517	466	64	44	34
8	35	42	37	29	36	286	80	128	552	63	43	35
9	34	48	35	30	39	114	79	94	399	62	41	86
10	34	39	35	31	36	93	1040	83	165	60	41	47
11	34	37	35	32	36	82	283	79	133	60	41	36
12	34	37	35	33	308	75	164	78	119	59	41	36
13	34	36	35	34	236	75	131	71	124	58	40	36
14	34	36	33	33	95	73	116	68	112	57	38	35
15	34	36	33	33	80	68	109	68	103	57	38	35
16	33	36	33	34	77	64	104	65	98	56	38	35
17	34	36	32	31	76	61	102	659	94	56	38	34
18	34	35	32	35	71	61	96	219	92	55	38	34
19	34	36	32	34	60	60	89	120	90	55	37	34
20	34	36	31	34	64	60	87	99	88	52	37	34
21	34	35	31	34	65	83	86	94	87	50	38	33
22	41	35	30	33	63	65	86	94	90	49	37	37
23	43	36	30	33	74	228	101	123	86	60	37	35
24	37	37	31	33	64	1100	90	85	83	59	37	34
25	35	37	31	40	61	186	84	76	81	61	37	34
26	35	36	31	41	57	128	81	72	78	50	38	34
27	35	35	31	38	57	111	79	72	76	49	39	34
28	35	35	30	35	63	103	78	1340	75	47	38	33
29	36	35	31	34	---	97	79	1410	75	47	37	33
30	36	36	32	33	---	93	79	228	74	47	36	33
31	38	---	31	34	---	89	---	154	---	47	36	---
TOTAL	1092	1439	1027	1026	1962	3948	3970	6629	4804	1796	1250	1104
MEAN	35.2	48.0	33.1	33.1	70.1	127	132	214	160	57.9	40.3	36.8
MAX	43	285	37	41	308	1100	1040	1410	780	72	50	86
MIN	33	35	30	29	34	53	78	65	74	47	36	33
CFSM	.17	.24	.16	.16	.35	.63	.65	1.05	.79	.29	.20	.18
IN.	.20	.26	.19	.19	.36	.72	.73	1.21	.88	.33	.23	.20
AC-FT	2170	2850	2040	2040	3890	7830	7870	13150	9530	3560	2480	2190

CAL YR 1977 TOTAL 34633 MEAN 94.9 MAX 7820 MIN 30 CFSM .47 IN 6.35 AC-FT 68690
WTR YR 1978 TOTAL 30047 MEAN 82.3 MAX 1410 MIN 29 CFSM .41 IN 5.51 AC-FT 59600

07332500 BLUE RIVER NEAR BLUE, OK

LOCATION.--Lat 33°59'49", long 96°14'27", on line between secs. 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 fair. 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 23 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--42 years, 298 ft^3/s (8.439 m^3/s), 8.50 in/yr (216 mm/yr), 215,900 acre-ft/yr (266 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.--Maximum discharge, 4,490 ft^3/s (127 m^3/s) at 1415 Mar. 24, gage height, 19.82 ft (6.041 m), no other peak above base of 4,000 ft^3/s (113 m^3/s); minimum, 19 ft^3/s (0.54 m^3/s) Aug. 31.

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	45	44	38	37	80	126	114	531	59	45	21
2	29	544	40	35	37	86	118	96	1140	58	44	25
3	27	218	40	34	37	82	112	785	233	56	44	25
4	34	77	37	34	37	75	110	390	165	59	51	25
5	33	55	37	33	36	69	148	193	145	60	56	23
6	34	47	36	36	35	66	128	229	625	58	59	22
7	36	46	35	34	37	68	116	180	1790	56	45	22
8	35	47	37	36	36	506	108	452	730	54	36	22
9	34	59	37	36	41	529	101	205	797	52	33	23
10	33	65	34	36	38	214	443	130	552	51	32	46
11	33	56	36	34	46	150	1820	110	223	46	31	75
12	33	46	35	36	542	125	476	103	157	45	32	37
13	31	43	36	40	2580	111	244	96	504	43	31	34
14	30	42	35	40	559	109	186	89	181	41	29	32
15	31	41	34	40	189	107	157	84	136	44	28	31
16	27	41	34	40	147	99	141	82	115	46	28	30
17	25	40	32	40	138	93	132	81	105	47	27	29
18	32	39	32	40	134	89	120	874	98	45	27	28
19	30	39	32	40	112	87	114	327	93	44	25	27
20	29	36	32	40	122	85	106	148	91	42	25	26
21	28	37	32	40	125	125	101	119	87	42	25	25
22	29	34	32	40	125	153	111	112	87	41	26	63
23	30	32	32	41	252	126	203	106	88	47	27	48
24	38	33	33	41	198	3430	325	116	83	76	25	34
25	39	34	33	44	113	2110	707	93	78	67	23	30
26	34	28	33	44	87	349	166	80	75	66	23	29
27	31	26	33	44	77	224	117	75	70	51	23	30
28	31	29	34	44	77	179	105	195	67	48	22	30
29	31	35	36	43	---	157	100	1610	61	49	24	29
30	32	38	38	43	---	141	105	1610	60	47	22	27
31	32	---	38	40	---	131	---	305	---	46	21	---
TOTAL	989	1952	1089	1206	5996	9955	7046	9189	9167	1586	989	948
MEAN	31.9	65.1	35.1	38.9	214	321	235	296	306	51.2	31.9	31.6
MAX	39	544	44	44	2580	3430	1820	1610	1790	76	59	75
MIN	25	26	32	33	35	66	100	75	60	41	21	21
CFSM	.07	.14	.07	.08	.45	.67	.49	.62	.64	.11	.07	.07
IN.	.08	.15	.09	.09	.47	.78	.55	.72	.72	.12	.08	.07
AC-FT	1960	3870	2160	2390	11890	19750	13980	18230	18180	3150	1960	1880

CAL YR 1977	TOTAL	83424	MEAN 229	MAX 15400	MIN 25	CFSM .48	IN 6.52	AC-FT	165500	
WTR YR 1978	TOTAL	50112	MEAN 137	MAX 3430	MIN 21	CFSM .29	IN 3.92	AC-FT	99400	

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	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)
OCT											
06...	1140	34	500	7.9	20.0	--	8.4	91	7	291	68
NOV											
22...	1330	31	500	8.1	12.0	3	10.8	101	10	--	--
DEC											
14...	1000	36	540	7.8	8.0	2	11.8	100	3	278	55
JAN											
25...	1600	46	518	8.3	1.0	3	14.8	106	7	--	--
FEB											
13...	1413	2380	--	--	4.0	--	--	--	--	--	--
22...	0800	126	527	7.9	.0	8	14.2	97	18	171	43
22...	1322	112	--	--	1.0	--	--	--	--	--	--
MAR											
21...	0940	91	466	8.3	15.0	1	9.9	98	13	--	--
APR											
18...	0900	122	430	8.2	19.5	4	8.2	91	13	199	50
MAY											
26...	1000	60	460	8.2	24.5	11	7.4	89	13	--	--
JUN											
28...	1240	67	--	7.8	29.5	11	6.9	90	37	295	62
JUL											
11...	0900	46	500	8.1	29.0	5	7.6	99	7	--	--
AUG											
15...	1330	28	560	8.5	29.5	10	7.1	92	7	239	47
SEP											
21...	0800	25	461	8.1	24.5	5	6.6	80	9	--	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
OCT										
06...	170	29	11	2.2	16	8.0	5.5	284	--	.20
NOV										
22...	--	--	--	--	20	10	--	--	4	.30
DEC										
14...	140	33	8.0	1.9	14	13	.2	--	2	.40
JAN										
25...	--	--	--	--	24	13	.1	--	3	.30
FEB										
13...	--	--	--	--	--	--	--	--	--	--
22...	109	14	16	1.9	37	13	.1	--	24	.40
22...	--	--	--	--	--	--	--	--	--	--
MAR										
21...	--	--	--	--	16	7.0	.1	--	11	.10
APR										
18...	127	17	10	2.2	8.0	12	.1	--	34	.20
MAY										
26...	--	--	--	--	<.0	7.0	.1	--	45	.30
JUN										
28...	156	33	<10	2.0	15	8.0	.1	--	24	.20
JUL										
11...	--	--	--	--	22	10	.1	--	24	.10
AUG										
15...	119	29	13	1.2	14	11	.1	--	19	.20
SEP										
21...	--	--	--	--	14	30	.1	--	51	.20

07332500 BLUE RIVER NEAR BLUE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, ORGANIC 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)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT 06...	--	1.1	1.3	6.2	.24	--	--	--	--	660
NOV 22...	1.9	--	2.2	--	.33	--	--	--	--	--
DEC 14...	--	1.6	2.0	8.9	.27	--	--	--	--	280
JAN 25...	--	1.9	2.2	9.8	.27	--	--	--	--	--
FEB 13...	--	--	--	--	--	--	--	--	--	--
22...	--	1.5	1.9	8.7	.22	1	<1	16	3	1850
22...	--	--	--	--	--	--	--	--	--	--
MAR 21...	--	1.5	1.6	7.5	.19	--	--	--	--	--
APR 18...	--	1.5	1.7	7.7	--	--	--	--	--	1000
MAY 26...	--	.82	1.1	5.0	.11	--	--	--	--	--
JUN 28...	--	1.6	1.8	8.3	.14	--	--	--	--	780
JUL 11...	--	1.4	1.5	7.0	.17	--	--	--	--	--
AUG 15...	--	.27	.47	2.1	.18	24	<1	20	5	430
SEP 21...	--	2.7	2.9	13	.34	--	--	--	--	--

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)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
OCT 06...	--	40	--	--	--	--	--	17	--	--
NOV 22...	--	--	--	--	--	--	--	--	--	--
DEC 14...	--	20	--	--	--	--	--	6.0	--	--
JAN 25...	--	--	--	--	--	--	--	1.0	--	--
FEB 13...	--	--	--	--	--	--	--	--	2310	14800
22...	12	80	<.5	13	<1	<2	390	4.0	--	--
22...	--	--	--	--	--	--	--	--	20	6.0
MAR 21...	--	--	--	--	--	--	--	6.0	--	--
APR 18...	--	80	--	--	--	--	--	3.0	--	--
MAY 26...	--	--	--	--	--	--	--	8.0	--	--
JUN 28...	--	70	--	--	--	--	--	<5.0	--	--
JUL 11...	--	--	--	--	--	--	--	<5.0	--	--
AUG 15...	8	80	.5	--	<1	<2	20	--	--	--
SEP 21...	--	--	--	--	--	--	--	5.0	--	--

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 September 1978.

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 CURRENT YEAR.--Maximum discharge, 1,820 ft^3/s (51.5 m^3/s) at 2230 Mar. 23, gage height, 11.23 ft (3.423 m), no other peaks above base of 200 ft^3/s (5.66 m^3/s); 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	.00	20	.02	.10	.25	.39	.52	.31	.30	.00	.00	.00
2	.00	3.3	.02	.10	.24	.53	.42	.22	3.0	.00	.00	.00
3	.00	.16	.02	.10	.21	.47	7.2	7.0	.86	.00	.00	.00
4	.00	.08	.02	.10	.25	.20	55	1.0	.88	.00	.00	.00
5	.00	.05	.02	.10	.23	.13	5.9	.55	.27	.00	.00	.00
6	.00	.03	.02	.10	.23	.13	3.2	.55	3.5	.00	.00	.00
7	.00	.02	.02	.10	.23	46	1.4	.52	3.0	.00	.00	.00
8	.00	.21	.03	.10	.23	41	.76	.46	2.4	.00	.00	.00
9	.00	1.1	.02	.10	.27	4.7	.72	.25	1.3	.00	.00	.00
10	.00	.20	.02	.10	.31	1.5	75	.15	.30	.00	.00	.00
11	.00	.07	.02	.10	.34	.77	12	.09	.16	.00	.00	.00
12	.00	.03	.02	.20	70	.49	3.6	.08	.08	.00	.00	.00
13	.00	.02	.02	.21	33	.40	1.6	.05	.03	.00	.00	.00
14	.00	.01	.02	.20	2.4	.41	.84	.05	.02	.00	.00	.00
15	.00	.00	.02	.20	.96	.30	.57	.02	.01	.00	.00	.00
16	.00	.00	.02	.20	.93	.20	.47	.02	.00	.00	.00	.00
17	.00	.00	.02	.20	.85	.15	.41	.07	.00	.00	.00	.00
18	.00	.00	.02	.20	.80	.14	.33	.03	.00	.00	.00	.00
19	.00	.01	.02	.20	.74	.13	.21	.03	.00	.00	.00	.00
20	.00	.01	.02	.20	.99	.19	.17	.02	.00	.00	.00	.00
21	.00	.01	.02	.20	1.3	40	.15	.03	.00	.00	.00	.00
22	.00	.01	.02	.20	5.1	2.5	.15	.03	.00	.00	.00	.00
23	.00	.01	.02	.60	6.8	208	.15	.03	.00	.00	.00	.00
24	.00	.01	.02	1.0	1.5	143	.13	.02	.00	.34	.00	.00
25	.00	.01	.02	1.2	.59	10	.13	.01	.00	.02	.00	.00
26	.00	.01	.02	.80	.30	4.5	.10	.03	.00	.00	.00	.00
27	.00	.01	.02	.60	.16	2.4	.09	.03	.00	.00	.00	.00
28	.00	.01	.05	.40	.31	1.6	.08	13	.00	.00	.00	.00
29	.00	.01	.10	.30	---	1.1	.08	15	.00	.00	.00	.00
30	.00	.03	.10	.30	---	.80	.23	1.1	.00	.00	.00	.00
31	.00	---	.10	.25	---	.68	---	.34	---	.00	.00	---
TOTAL	.00	25.42	.90	8.76	129.52	512.81	171.61	41.07	16.11	.36	.00	.00
MEAN	.000	.85	.029	.28	4.63	16.5	5.72	1.32	.54	.012	.000	.000
MAX	.00	20	.10	1.2	70	208	75	15	3.5	.34	.00	.00
MIN	.00	.00	.02	.10	.16	.13	.08	.01	.00	.00	.00	.00
AC-FT	.00	50	1.8	17	257	1020	340	81	32	.7	.00	.00

WTR YR 1978 TOTAL 906.56 MEAN 2.48 MAX 208 MIN .00 AC-FT 1800

07332900 COAL CREEK NEAR LEHIGH, OK.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to September 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	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)
JUN 14...	1500	.02	197	7.1	24.5	33	8.0	64	1	15	6.4	12

DATE	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	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)	SOLIDS, DISSOLVED (TONS PER AC-FT)	PHOSPHORUS, TOTAL (MG/L AS P)
JUN 14...	27	.7	4.1	63	13	7.5	.2	13	118	111	.16	.09

DATE	PHOSPHORUS, DISSOLVED (MG/L AS P)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	BORON, DISSOLVED (UG/L AS B)	ARSENIC DISSOLVED (UG/L AS AS)	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)
JUN 14...	.02	800	300	80	3	0	5	10	8	0	2700	380

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
JUN 14...	0	0	740	690	.0	.0	4	1	1	0	20	5

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, 3.7 mi (6.0 km) northwest of Farris and at mile 3.5 (5.6 km).

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	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)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)
NOV											
10...	1500	112	90	8.5	15.0	9.4	88	--	--	--	--
21...	1700	5.4	110	7.3	13.0	9.0	85	K72	230	--	--
21...	1701	5.4	110	7.3	13.0	9.0	85	--	--	31	6.5
DEC											
08...	--	8.4	120	7.6	8.0	10.4	--	--	--	33	7.6
13...	1315	10	195	7.8	7.5	14.4	122	32	620	--	--
JAN											
05...	--	2.8	--	--	--	--	--	--	--	37	7.4
11...	1200	2.4	78	3.1	3.0	14.8	110	--	--	--	--
11...	1201	2.4	78	3.1	3.0	14.8	110	--	--	31	11
FEB											
08...	1415	36	112	--	3.0	13.0	98	--	--	--	--
21...	1430	145	89	7.7	1.0	14.4	101	36	92	30	8.0
MAR											
08...	1130	2100	62	--	5.0	--	--	--	--	--	--
08...	1131	2100	62	--	5.0	--	--	--	--	18	4.5
20...	1345	27	89	7.2	15.0	10.3	103	K14	K20	--	--
20...	1346	27	89	7.2	15.0	10.3	103	--	--	22	4.9
APR											
05...	1130	443	75	7.0	18.5	13.2	143	--	--	21	4.7
17...	1800	39	85	7.2	20.5	8.2	93	--	88	--	--
19...	1800	27	92	7.2	18.5	9.0	97	--	--	--	--
MAY											
03...	1330	262	34	7.5	14.0	10.8	107	--	--	--	--
25...	1300	23	98	7.4	26.5	7.3	90	K26	56	--	--
25...	1301	23	98	7.4	26.5	7.3	90	--	--	31	6.8
JUN											
27...	1500	1.5	104	7.1	33.5	6.4	90	200	86	--	--
JUL											
10...	1600	.12	122	7.3	36.5	5.4	79	--	--	--	--
17...	1530	.04	134	7.1	34.5	5.6	79	K510	K3800	--	--
AUG											
01...	1415	.73	136	7.4	31.0	7.2	97	--	--	--	--
14...	1700	.28	149	7.6	34.0	5.6	79	K990	900	--	--
14...	1701	.28	149	7.6	34.0	5.6	79	--	--	34	313

0733910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
NOV											
10...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	28	0
21...	6.5	--	3.7	3.7	<10	<10	--	2.8	2.4	--	--
DEC											
08...	7.0	--	4.0	3.7	13	<5.0	--	2.6	2.9	--	--
13...	--	--	--	--	--	--	--	--	--	32	0
JAN											
05...	7.4	--	4.5	4.5	12	12	39	2.5	2.5	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	10	--	5.9	5.9	<5.0	<5.0	--	3.0	3.0	--	--
FEB											
08...	--	--	--	--	--	--	--	--	--	--	--
21...	8.0	--	2.2	2.4	<5.0	<5.0	--	1.5	1.0	8	0
MAR											
08...	--	--	--	--	--	--	--	--	--	--	--
08...	3.9	--	2.6	2.0	<10	<10	--	2.4	1.0	--	--
20...	--	--	--	--	--	--	--	--	--	16	0
20...	4.0	--	3.1	2.9	<10	<10	--	1.3	.9	--	--
APR											
05...	4.3	--	2.9	2.4	<10	<10	--	2.9	1.3	--	--
17...	--	--	--	--	--	--	--	--	--	24	0
19...	--	--	--	--	--	--	--	--	--	--	--
MAY											
03...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	27	0
25...	6.8	17	3.3	3.3	<10	<10	--	1.3	1.2	--	--
JUN											
27...	--	--	--	--	--	--	--	--	--	31	0
JUL											
10...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	38	0
AUG											
01...	8.0	--	--	3.9	--	11	--	--	1.4	--	--
14...	--	--	--	--	--	--	--	--	--	46	0
14...	6.3	16	86	4.5	17	17	50	2.0	2.0	--	35

DATE	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)	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, RESIDUE AT 105 DEG. C, 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)
NOV											
10...	--	--	--	--	--	--	--	--	--	--	--
21...	23	2.2	15	9.6	.1	6.5	77	--	.10	1.12	.01
21...	--	--	--	--	--	--	--	--	--	--	--
DEC											
08...	--	--	--	--	--	--	--	--	--	--	--
13...	26	.8	14	13	.1	6.3	82	--	.11	2.21	.01
JAN											
05...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
FEB											
08...	--	--	--	--	--	--	--	--	--	--	--
21...	7	.3	14	7.4	.1	7.5	55	--	.07	21.5	.25
MAR											
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
20...	13	1.6	14	8.2	.2	6.0	48	--	.07	3.50	.06
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
05...	--	--	--	--	--	--	--	--	--	--	--
17...	20	2.4	12	7.1	.1	8.5	62	--	.08	6.53	1.2
19...	--	--	--	--	--	--	--	--	--	--	--
MAY											
03...	--	--	--	--	--	--	--	--	--	--	--
25...	22	1.7	13	7.4	.0	.1	58	--	.08	3.60	.11
25...	--	--	<1.0	9.0	.1	--	--	89	--	--	--
JUN											
27...	25	3.9	11	8.6	.1	6.7	63	--	.09	.26	--
JUL											
10...	--	--	--	--	--	--	--	--	--	--	--
17...	31	4.8	6.6	11	.1	5.2	85	--	.12	.01	.37
AUG											
01...	--	--	--	--	--	--	--	--	--	--	--
14...	38	1.8	8.7	18	.1	4.3	83	--	.11	.06	.12
14...	68	--	7.0	14	.1	--	--	121	--	--	--

0733910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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 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, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
NOV										
10...	--	--	--	--	--	--	--	--	--	--
21...	.04	.00	.00	.01	.04	.05	.36	.40	--	.02
21...	--	--	--	--	--	--	--	--	--	--
DEC										
08...	--	--	--	--	--	--	--	--	--	--
13...	.04	.00	.00	.01	.06	.08	.29	.35	--	.02
JAN										
05...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
FEB										
08...	--	--	--	--	--	--	--	--	--	--
21...	1.1	.01	.03	.26	.04	.05	.11	.15	--	.01
MAR										
08...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
20...	.27	.01	.03	.07	.00	.00	.52	.52	--	.03
20...	--	--	--	.10	.09	.12	--	--	--	--
APR										
05...	--	--	--	--	--	--	--	--	--	--
17...	5.3	.00	.00	1.2	.00	.00	.76	.76	--	.00
19...	--	--	--	--	--	--	--	--	--	--
MAY										
03...	--	--	--	--	--	--	--	--	--	--
25...	.49	.01	.03	.12	.00	.00	.44	.44	--	.00
25...	--	--	--	<.10	.04	.05	--	--	.04	--
JUN										
27...	--	--	--	.02	--	--	--	--	--	.00
JUL										
10...	--	--	--	--	--	--	--	--	--	--
17...	1.6	.01	.03	.38	.03	.04	.86	.89	--	.03
AUG										
01...	--	--	--	--	--	--	--	--	--	--
14...	.53	.01	.03	.13	.05	.06	.38	.43	--	.01
14...	--	--	--	<.10	.17	.22	--	--	.04	--

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	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)
NOV									
21...	1700	--	--	--	--	--	--	--	--
21...	1701	1	<1	4	4	8	8	12	12
DEC									
08...	--	<1	<1	<1	<1	<5	<5	6	6
13...	1315	--	--	--	--	--	--	--	--
JAN									
05...	--	2	<1	<1	<1	7	<5	<7	<7
11...	1201	1	1	2	2	15	<5	3	30
FEB									
21...	1430	1	<1	<1	<1	21	21	2	2
MAR									
08...	1131	<1	<1	<1	<1	77	69	12	9
20...	1345	--	--	--	--	--	--	--	--
20...	1346	<1	3	<1	<1	10	6	2	3
APR									
05...	1130	<1	<1	<1	<1	80	75	6	6
17...	1800	--	--	--	--	--	--	--	--
MAY									
25...	1300	--	--	--	--	--	--	--	--
25...	1301	<1	<1	2	2	12	5	3	3
JUN									
27...	1500	--	--	--	--	--	--	--	--
JUL									
17...	1530	--	--	--	--	--	--	--	--
AUG									
01...	1415	--	<1	--	<1	--	8	--	7
14...	1700	--	--	--	--	--	--	--	--
14...	1701	<1	<1	<1	<1	8	8	4	2

0733910 MCGEE CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	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)
NOV									
21...	--	--	--	--	--	--	--	--	--
21...	1970	520	8	8	50	30	<.5	<.5	<5
DEC									
08...	1550	1040	5	<5	20	20	<.5	<.5	<5
13...	--	--	--	--	--	--	--	--	--
JAN									
05...	1730	130	90	39	<20	<20	<.5	<.5	<5
11...	1830	170	23	48	20	<20	<.5	<.5	7
FEB									
21...	1950	710	<5	<5	20	<10	<.5	<.5	<5
MAR									
08...	6916	1508	18	16	190	30	.6	<.5	9
20...	--	--	--	--	--	--	--	--	--
20...	2300	500	<5	<5	30	<10	<.5	<.5	5
APR									
05...	7400	1260	9	7	50	<20	<.5	<.5	11
17...	--	--	--	--	--	--	--	--	--
MAY									
25...	--	--	--	--	--	--	--	--	--
25...	1100	260	18	12	70	<10	<.5	<.5	<5
JUN									
27...	--	--	--	--	--	--	--	--	--
JUL									
17...	--	--	--	--	--	--	--	--	--
AUG									
01...	--	310	--	<5	--	<20	<.5	<.5	--
14...	--	--	--	--	--	--	--	--	--
14...	540	410	<5	<5	140	110	<.5	<.5	<5

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	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 TOTAL (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									
21...	--	--	--	--	13	--	--	--	--
21...	<5	34	85	--	--	--	--	--	--
DEC									
08...	<5	15	30	--	--	--	--	--	--
13...	--	--	--	--	--	.4	--	--	--
JAN									
05...	<5	11	42	--	--	--	--	--	--
11...	7	6	75	--	--	--	--	--	--
FEB									
21...	<5	15	33	--	5.5	1.2	--	--	--
MAR									
08...	<5	30	50	--	--	--	--	--	--
20...	--	--	--	--	4.1	--	--	--	--
20...	6	6	28	29	--	--	--	--	--
APR									
05...	<5	175	220	--	--	--	--	--	--
17...	--	--	--	--	6.6	.0	--	--	--
MAY									
25...	--	--	--	--	4.4	.7	--	--	--
25...	<5	7	38	6.0	--	--	--	--	--
JUN									
27...	--	--	--	7.0	--	--	27	.11	31
JUL									
17...	--	--	--	--	21	--	11	.00	48
AUG									
01...	<5	--	36	--	--	--	--	--	--
14...	--	--	--	6.6	--	--	7	.01	93
14...	<5	71	17	--	--	--	--	--	--

0733910 MCGEE CREEK NEAR FARRIS, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	126	117	145	109	77	94	38		---		
2	102	---	119	144	110	79	105	47		---		
3	106	---	119	143	107	86	122	58		---		
4	122	---	129	144	106	91	96	39		---		
5	127	---	135	141	108	93	76	48		---		
6	120	---	137	142	110	94	69	55		---		
7	144	---	133	142	112	85	87	60		---		
8	173	---	127	146	112	63	105	69		---		
9	155	---	131	149	112	59	132	74		---		
10	123	---	129	151	104	62	161	81		---		
11	113	87	128	151	118	65	62	85		---		
12	97	91	128	150	114	69	43	93		---		
13	90	97	123	148	76	70	58	98		---		
14	92	99	122	151	72	72	70	105		---		
15	85	99	125	155	78	76	75	---		---		
16	68	99	127	148	82	81	105	---		---		
17	66	104	131	143	89	82	121	---		---		
18	70	104	132	123	86	82	152	---		149		
19	78	102	132	114	92	87	---	---		---		
20	78	102	135	114	98	92	96	---		---		
21	96	109	136	118	100	65	98	---		---		
22	103	110	138	121	92	66	103	---		---		
23	112	108	136	113	87	72	100	---		---		
24	128	110	135	113	82	65	95	---		---		
25	127	114	139	115	76	80	89	---		---		
26	103	114	140	111	78	103	97	---		---		
27	106	115	140	106	80	---	95	---		---		
28	129	120	140	102	81	---	96	---		---		
29	150	120	140	104	---	79	97	---		---		
30	143	118	139	103	---	83	42	---		---		
31	116	---	139	106	---	89	---	---		---		

PH (UNITS), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	7.7						---	6.9	7.2	7.3	
2	6.2	---						---	7.0	7.2	---	
3	7.4	---						---	7.0	7.2	---	
4	7.5	---						---	7.0	7.1	---	
5	7.5	---						---	6.9	7.1	---	
6	7.5	---						---	7.0	7.2	---	
7	7.5	---						---	7.0	7.2	---	
8	7.6	---						---	7.3	7.4	---	
9	7.7	---						---	7.4	7.3	---	
10	7.7	---						---	7.4	7.4	---	
11	7.8	---						---	7.4	---	---	
12	7.9	---						---	7.4	---	---	
13	7.9	---						---	7.3	---	---	
14	7.8	---						---	7.3	---	---	
15	7.8	---						---	7.3	---	---	
16	7.8	---						7.0	7.3	---	---	
17	7.8	---						7.2	7.3	7.5	---	
18	7.7	---						7.3	7.3	---	---	
19	7.6	---						7.3	7.2	---	---	
20	7.5	---						7.4	7.2	---	---	
21	7.6	---						7.3	7.2	---	---	
22	7.6	---						7.3	7.2	---	---	
23	7.7	---						7.2	7.2	---	---	
24	7.7	---						7.4	7.3	---	---	
25	7.7	---						7.4	7.2	---	---	
26	7.7	---						7.7	7.3	---	---	
27	7.7	---						7.5	7.3	---	---	
28	7.7	---						7.4	7.3	---	---	
29	7.7	---						7.3	7.3	---	---	
30	7.7	---						6.9	7.2	---	---	
31	7.6	---						7.0	---	---	---	

0733910 MCGEE CREEK NEAR FARRIS, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	19.0	9.5	5.5	3.0	7.0	15.5	18.0		---		
2	23.5	---	9.0	4.5	3.0	6.5	17.0	18.0		---		
3	21.5	---	9.5	4.5	3.0	6.0	17.5	14.5		---		
4	20.0	---	10.0	5.0	4.0	5.0	18.0	14.0		---		
5	20.0	---	10.5	7.0	4.5	5.0	19.0	14.5		---		
6	21.5	---	8.5	6.5	4.5	6.0	19.5	15.0		---		
7	20.5	---	7.5	7.0	4.0	7.5	20.5	17.0		---		
8	20.5	---	8.0	6.0	3.5	7.0	21.0	18.5		---		
9	18.5	---	6.0	4.0	3.0	6.5	21.0	19.5		---		
10	18.5	---	5.5	4.5	3.0	7.5	21.0	20.0		---		
11	18.0	12.0	5.5	4.0	3.5	8.5	18.5	20.5		---		
12	15.5	12.0	6.0	5.0	4.0	9.0	17.5	22.0		---		
13	15.0	12.0	7.5	5.0	5.5	9.5	18.0	21.5		---		
14	16.0	12.5	7.0	4.5	5.5	10.0	18.5	22.5		---		
15	15.5	13.5	7.5	4.5	5.0	10.5	19.5	---		---		
16	14.5	14.5	8.5	---	4.5	10.0	20.5	---		---		
17	15.0	14.0	8.5	---	4.0	10.0	20.5	---		---		
18	16.0	13.0	6.0	---	2.5	11.0	20.5	---		31.5		
19	16.5	13.5	6.0	---	2.5	15.0	19.5	---		---		
20	17.5	14.5	7.0	2.0	2.5	14.0	18.0	---		---		
21	19.0	13.5	6.0	2.0	2.5	14.0	17.5	---		---		
22	19.5	13.0	5.5	2.0	2.5	14.0	17.0	---		---		
23	19.5	13.5	6.0	2.5	3.5	14.5	17.5	---		---		
24	18.5	13.5	6.5	3.0	5.0	13.5	18.0	---		---		
25	20.0	13.0	5.5	3.0	6.5	11.5	18.5	---		---		
26	19.0	11.5	4.5	2.0	7.5	11.0	18.0	---		---		
27	19.0	12.0	5.0	2.0	7.0	11.5	18.0	---		---		
28	20.0	11.0	6.0	2.0	7.0	12.5	18.5	---		---		
29	19.5	10.5	6.0	2.0	---	13.5	19.5	---		---		
30	20.0	10.0	6.5	2.5	---	14.0	17.5	---		---		
31	21.5	---	6.5	2.5	---	15.0	---	---		---		

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 good. 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 22 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--41 years, 899 ft^3/s (25.46 m^3/s), 651,300 acre-ft/yr (803 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.--Maximum discharge, 15,300 ft^3/s (433 m^3/s) at 1745 Mar. 24, gage height, 35.47 ft (10.811 m), no other peaks above base of 10,000 ft^3/s (283 m^3/s); 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	5.8	423	8.8	6.9	88	381	229	5770	694	18	4.5	.00
2	5.2	1540	12	7.6	83	334	187	4530	820	15	3.5	.00
3	4.7	519	17	7.7	80	437	157	6700	396	13	2.8	.00
4	4.2	190	27	7.9	76	307	2020	6340	305	12	3.3	.10
5	3.6	101	22	7.9	73	216	3830	4850	288	10	3.8	.30
6	3.4	67	19	7.8	73	167	1360	2320	201	9.2	3.9	.30
7	3.0	51	15	7.6	73	704	829	1660	353	8.4	3.4	.30
8	2.3	51	14	6.3	73	5140	740	1680	377	7.9	2.9	.00
9	1.8	180	13	5.8	72	4140	524	1850	880	7.3	2.6	.00
10	1.5	244	12	5.5	70	1530	817	767	804	6.5	2.5	.00
11	1.2	157	10	5.9	68	703	4730	428	418	5.7	2.3	.00
12	1.0	100	9.3	8.4	351	439	5910	300	195	5.0	2.0	.09
13	.95	72	11	12	3380	315	5060	260	129	4.6	1.8	.15
14	.87	56	13	16	3600	251	1200	207	102	4.0	1.5	.01
15	.76	47	12	16	1650	200	580	151	78	3.6	1.1	.00
16	.52	40	11	23	688	162	421	125	64	3.4	.93	.00
17	.37	32	11	88	511	136	325	108	54	2.8	.81	.00
18	.30	26	11	130	420	117	272	98	47	2.6	.54	.00
19	.11	22	10	96	336	103	240	91	41	2.1	.35	.00
20	.10	19	8.7	69	362	92	210	81	37	1.9	.30	.00
21	.17	18	7.6	55	386	2880	139	86	66	1.6	.30	.00
22	.33	14	6.8	47	317	4120	111	132	125	1.1	.21	.67
23	.63	12	6.2	43	429	3660	132	1820	78	19	.26	1.0
24	.67	10	5.6	48	618	13500	218	4480	147	42	.15	.93
25	.60	9.1	5.2	160	546	10500	399	4360	123	60	.00	.47
26	.57	7.6	5.0	188	408	7990	328	576	75	67	.00	.24
27	.46	6.6	4.9	185	286	4070	189	193	53	32	.00	.15
28	.46	5.6	4.7	172	377	825	127	718	39	16	.00	.22
29	.50	4.6	4.9	131	---	495	97	3990	29	10	.12	.22
30	.50	5.0	5.7	108	---	367	4110	4530	23	7.4	.14	.14
31	.63	---	6.1	96	---	285	---	3280	---	5.6	.00	---
TOTAL	47.20	4029.5	329.5	1768.3	15494	64566	35491	62481	7041	404.7	46.01	5.29
MEAN	1.52	134	10.6	57.0	553	2083	1183	2016	235	13.1	1.48	.18
MAX	5.8	1540	27	188	3600	13500	5910	6700	880	67	4.5	1.0
MIN	.10	4.6	4.7	5.5	68	92	97	81	23	1.1	.00	.00
AC-FT	94	7990	654	3510	30730	128100	70400	123900	13970	803	91	10

CAL YR 1977 TOTAL 215009.00 MEAN 589 MAX 26500 MIN .10 AC-FT 426500
WTR YR 1978 TOTAL 191703.50 MEAN 525 MAX 13500 MIN .00 AC-FT 380200

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
OCT 05...	1320	5.9	218	7.5	19.5	115	6.5	71	27	66
NOV 22...	1100	14	205	7.8	12.0	75	9.1	84	25	--
DEC 14...	1300	13	200	7.2	8.5	23	15.8	135	30	56
JAN 25...	1230	209	154	7.8	1.0	38	12.9	93	18	--
FEB 21...	1600	383	130	7.8	1.5	62	14.4	102	23	39
MAR 20...	1230	91	159	7.1	14.5	61	9.8	96	23	--
APR 18...	1545	272	130	7.4	20.0	50	8.6	96	20	52
MAY 25...	1045	5190	80	6.8	23.5	98	4.5	53	47	--
JUN 28...	1005	39	200	7.3	29.0	39	5.2	67	22	181
JUL 11...	1230	6.0	470	7.7	32.0	19	6.2	85	23	--
AUG 15...	1030	1.1	300	7.6	28.5	43	4.7	61	27	122

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 05...	16	40	6.1	15	3.4	26	23	.2	183	--
NOV 22...	--	--	--	--	--	38	14	--	--	128
DEC 14...	12	31	5.1	11	3.4	27	14	.3	--	13
JAN 25...	--	--	--	--	--	22	15	.1	--	13
FEB 21...	6.6	16	3.4	18	3.3	29	10	7.0	--	52
MAR 20...	--	--	--	--	--	27	12	.1	--	39
APR 18...	10	26	4.6	<10	2.9	11	8.0	9.0	--	55
MAY 25...	--	--	--	--	--	<.0	7.0	.1	--	389
JUN 28...	45	114	15	28	3.4	39	46	.2	--	61
JUL 11...	--	--	--	--	--	29	55	.2	--	51
AUG 15...	30	75	10	21	2.5	28	26	.2	--	126

07334000 MUDDY BOGGY CREEK NEAR FARRIS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, ORGANIC 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 05...	<.10	--	2.0	2.0	--	.19	--	--	--	--
NOV 22...	.10	--	1.6	1.7	7.9	.14	--	--	--	--
DEC 14...	<.10	--	1.2	1.2	--	.07	--	--	--	--
JAN 25...	.10	--	1.7	1.8	8.2	4.5	--	--	--	--
FEB 21...	5.3	--	.99	6.2	28	.11	1	<1	26	4
MAR 20...	.20	--	1.7	1.9	8.6	.10	--	--	--	--
APR 18...	.20	--	1.5	1.7	7.7	--	--	--	--	--
MAY 25...	.10	--	.82	.92	4.1	.19	--	--	--	--
JUN 28...	<.10	--	2.0	2.0	--	.12	--	--	--	--
JUL 11...	<.10	--	1.8	1.8	--	7.0	--	--	--	--
AUG 15...	.20	2.3	2.3	2.5	11	.12	1	1	15	12

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 05...	840	--	410	--	--	--	--	--	8.0
NOV 22...	--	--	--	--	--	--	--	--	--
DEC 14...	1540	--	140	--	--	--	--	--	5.0
JAN 25...	--	--	--	--	--	--	--	--	8.0
FEB 21...	4500	10	80	<.5	13	<1	<2	600	5.0
MAR 20...	--	--	--	--	--	--	--	--	3.0
APR 18...	3600	--	90	--	--	--	--	--	9.0
MAY 25...	--	--	--	--	--	--	--	--	24
JUN 28...	2300	--	210	--	--	--	--	--	11
JUL 11...	--	--	--	--	--	--	--	--	14
AUG 15...	2000	7	420	<.5	--	<1	<2	16	--

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.--19 years, 7.65 ft^3/s (0.217 m^3/s), 5,540 acre-ft/yr (6.83 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, 15 ft^3/s (0.42 m^3/s) May 12 gage height, 3.06 ft (0.933 m); no flow Apr. 1,2.

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	1.6	1.6	.67	.72	.53	.91	.00	6.7	7.9	12	4.5	2.2
2	1.4	1.5	1.1	.70	.47	.88	.00	6.7	7.9	12	4.5	2.1
3	1.4	1.4	1.6	.70	.46	.83	.02	6.9	7.9	11	4.3	2.1
4	1.4	1.4	1.6	.70	.45	.79	1.5	6.9	7.9	8.4	4.4	2.1
5	1.4	1.3	1.5	.67	.46	.82	3.9	6.8	8.9	7.1	4.3	2.0
6	1.3	1.3	1.5	.61	.46	.81	4.0	6.7	8.9	6.7	4.2	1.9
7	1.4	1.3	1.5	.22	.42	.84	4.0	6.9	8.9	6.7	4.0	1.9
8	1.2	1.3	1.3	.92	.41	1.1	4.1	6.8	9.4	6.7	4.0	1.9
9	1.0	1.2	1.1	1.0	.37	1.2	4.2	6.8	9.9	6.7	3.9	1.9
10	1.0	1.1	1.1	1.0	.35	1.4	4.7	6.7	10	6.3	3.9	1.9
11	.91	1.0	1.1	.99	.36	1.4	5.5	6.8	11	6.3	3.9	1.8
12	.87	1.0	1.1	.97	.50	1.4	5.7	8.1	11	6.3	3.8	1.8
13	.83	.99	1.1	.94	.70	1.3	5.9	6.3	11	5.9	3.6	1.8
14	.75	.97	1.1	.92	.73	1.3	6.0	6.3	11	5.9	3.4	1.7
15	.63	.97	1.1	.93	.74	1.3	5.9	6.3	12	5.9	3.4	2.3
16	.73	.93	1.1	.92	.76	1.3	6.2	6.3	12	5.9	3.3	2.0
17	.73	.89	1.1	.81	.74	1.3	6.3	6.2	12	5.9	3.3	2.1
18	1.2	.89	1.2	.75	.74	1.4	6.3	6.0	12	5.9	3.2	1.9
19	2.1	.88	1.1	.71	.75	1.4	6.6	5.9	12	5.5	3.2	1.9
20	2.0	.83	1.1	.70	.75	1.4	6.7	5.9	12	5.5	3.1	1.9
21	1.9	.77	1.1	.67	.68	1.5	6.7	5.9	12	5.2	2.9	1.8
22	1.9	.78	1.1	.67	.69	1.5	6.7	5.9	12	4.9	2.9	2.1
23	1.9	.74	1.0	.69	.80	1.8	6.7	5.9	12	4.9	2.7	2.7
24	1.9	.72	.99	.69	.89	2.5	6.6	5.9	12	5.2	2.7	2.5
25	1.8	.69	.94	.65	.89	2.7	6.7	5.8	12	5.2	2.6	2.5
26	1.7	.71	.92	.62	.90	2.9	6.7	5.8	12	5.2	2.5	2.4
27	1.7	.68	.87	.62	.98	3.1	6.7	5.6	12	4.9	2.5	2.3
28	1.7	.63	.88	.57	.92	3.3	6.7	7.6	12	4.5	2.5	2.4
29	1.7	.60	.86	.56	---	3.4	7.0	7.8	12	4.5	2.5	2.4
30	1.7	.54	.81	.56	---	3.7	6.7	7.9	12	4.9	2.4	2.3
31	1.6	---	.79	.55	---	2.4	---	7.9	---	4.5	2.3	---
TOTAL	43.35	29.61	34.33	22.73	17.90	51.88	154.72	204.0	323.6	196.5	104.7	62.6
MEAN	1.40	.99	1.11	.73	.64	1.67	5.16	6.58	10.8	6.34	3.38	2.09
MAX	2.1	1.6	1.6	1.0	.98	3.7	7.0	8.1	12	12	4.5	2.7
MIN	.63	.54	.67	.22	.35	.79	.00	5.6	7.9	4.5	2.3	1.7
AC-FT	86	59	68	45	36	103	307	405	642	390	208	124

CAL YR 1977 TOTAL 1257.64 MEAN 3.45 MAX 8.4 MIN .00 AC-FT 2490
WTR YR 1978 TOTAL 1245.92 MEAN 3.41 MAX 12 MIN .00 AC-FT 2470

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 good.

COOPERATION.--Gage-height record and 26 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--36 years, 489 ft^3/s (13.85 m^3/s), 9.22 in/yr (234 mm/yr), 354,300 acre-ft/yr (437 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. 25	1230	*6,980	198	*21.40	6.523	Apr. 12	0545	5,000	142	19.36	5.901

Minimum discharge, 3.2 ft^3/s (0.091 m^3/s) Sept. 4, 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	11	205	19	17	29	124	344	776	1410	36	12	5.3
2	10	852	19	17	30	116	283	385	2520	38	11	5.3
3	9.3	166	20	17	29	112	234	774	1120	32	11	4.9
4	8.9	81	22	17	30	98	523	1430	787	31	11	3.9
5	10	55	20	17	31	85	852	708	580	28	11	3.5
6	10	41	19	17	34	78	446	500	1450	27	11	3.9
7	9.3	33	17	17	34	132	305	583	1920	25	11	4.0
8	8.9	32	16	17	34	1640	226	2510	1250	22	12	4.0
9	8.5	39	16	16	34	1330	182	1240	1990	21	14	4.0
10	9.3	58	15	15	36	650	1580	744	1020	19	14	5.3
11	11	38	15	16	39	425	4330	496	627	18	14	7.0
12	11	37	15	20	650	317	4610	376	488	17	13	7.0
13	9.8	32	15	24	3040	246	1860	291	399	17	12	7.8
14	9.3	27	15	24	1270	202	1160	232	322	16	11	13
15	8.5	24	15	24	650	164	803	182	261	15	9.9	12
16	8.5	22	16	26	425	139	657	155	218	15	9.2	10
17	8.1	20	17	25	328	120	516	182	187	14	8.5	8.0
18	7.7	20	17	25	251	105	403	495	156	13	7.1	7.4
19	7.7	19	15	25	204	95	328	225	130	12	6.0	7.4
20	8.9	18	14	25	218	87	267	170	115	12	5.6	7.1
21	8.1	16	14	25	190	1740	225	146	108	12	5.3	6.1
22	8.1	16	13	25	165	882	193	146	102	12	5.3	6.6
23	11	14	13	24	285	546	174	685	101	59	5.3	6.1
24	11	14	14	26	265	5920	170	382	105	72	5.1	6.1
25	12	15	14	26	194	6620	177	226	84	62	3.9	5.2
26	13	19	14	25	156	3620	143	157	70	38	5.3	4.7
27	18	16	14	26	134	1520	124	127	54	24	6.5	4.1
28	16	15	14	27	128	1090	112	840	48	16	6.0	4.3
29	14	16	15	27	---	810	108	3880	43	15	6.0	4.3
30	14	17	16	28	---	629	182	4370	39	14	5.9	4.7
31	13	---	16	30	---	453	---	2310	---	13	5.6	---
TOTAL	323.9	1977	494	690	8913	30095	21517	25723	17704	765	274.5	183.0
MEAN	10.4	65.9	15.9	22.3	318	971	717	830	590	24.7	8.85	6.10
MAX	18	852	22	30	3040	6620	4610	4370	2520	72	14	13
MIN	7.7	14	13	15	29	78	108	127	39	12	3.9	3.5
CFSM	.01	.09	.02	.03	.44	1.35	1.00	1.15	.82	.03	.01	.008
IN.	.02	.10	.03	.04	.46	1.55	1.11	1.33	.91	.04	.01	.01
AC-FT	642	3920	980	1370	17680	59690	42680	51020	35120	1520	544	363

CAL YR 1977 TOTAL 134263.9 MEAN 368 MAX 19200 MIN 7.7 CFSM .51 IN 6.94 AC-FT 266300
WTR YR 1978 TOTAL 108659.4 MEAN 298 MAX 6620 MIN 3.5 CFSM .41 IN 5.61 AC-FT 215500

07335000 CLEAR BOGGY CREEK NEAR CANEY, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to 1975, October 1977 to September 1978.

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 U.S. Geological Survey and were analyzed by Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
OCT 06...	1250	10	625	8.3	21.0	1	9.0	100	11	300
NOV 22...	1200	16	655	8.1	11.5	6	9.1	83	17	--
DEC 14...	1200	15	670	7.8	8.5	3	11.7	100	8	291
JAN 26...	0915	50	--	7.7	-.5	12	12.8	88	12	--
FEB 22...	1155	163	444	8.1	1.5	14	14.5	104	17	180
MAR 21...	1055	2380	144	7.4	14.0	145	8.7	84	120	--
APR 18...	1730	385	400	8.1	20.5	31	8.2	92	20	154
MAY 26...	1130	157	365	8.0	24.5	44	7.3	88	22	--
JUN 28...	1115	47	--	7.5	29.0	14	7.3	95	12	261
JUL 11...	1030	18	770	8.1	30.0	4	6.2	82	10	--
AUG 15...	1200	10	760	8.4	29.0	15	6.2	80	13	277
SEP 21...	0915	6.3	762	8.2	25.0	32	6.5	78	18	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 06...	105	263	9.1	31	3.3	41	34	.2	417	--
NOV 22...	--	--	--	--	--	28	57	--	--	5
DEC 14...	99	248	10	30	3.6	24	59	.2	--	2
JAN 26...	--	--	--	--	--	31	79	.1	--	19
FEB 22...	50	126	11	18	3.4	37	32	.1	--	55
MAR 21...	--	--	--	--	--	27	11	.2	--	979
APR 18...	46	116	8.9	11	3.4	14	27	.1	--	110
MAY 26...	--	--	--	--	--	<.0	18	.1	--	133
JUN 28...	75	188	17	24	2.9	29	49	.2	--	26
JUL 11...	--	--	--	--	--	22	81	.2	--	14
AUG 15...	67	169	26	56	2.7	38	100	.2	--	32
SEP 21...	--	--	--	--	--	17	138	.2	--	50

07335000 CLEAR BOGGY CREEK NEAR CANEY, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 06...	<.10	1.0	1.1	--	.03	--	--	--	--
NOV 22...	<.10	1.0	1.0	--	.09	--	--	--	--
DEC 14...	<.10	1.1	1.1	--	.03	--	--	--	--
JAN 26...	<.10	1.4	1.4	--	.13	--	--	--	--
FEB 22...	.10	.99	1.0	4.8	.13	1	<1	25	4
MAR 21...	.40	3.4	3.8	17	.77	--	--	--	--
APR 18...	.20	1.6	1.8	8.3	--	--	--	--	--
MAY 26...	.20	1.5	1.7	7.9	.13	--	--	--	--
JUN 28...	.20	1.9	2.1	9.4	6.0	--	--	--	--
JUL 11...	<.10	1.3	1.3	--	6.0	--	--	--	--
AUG 15...	.30	2.1	2.4	11	8.5	<1	<1	13	9
SEP 21...	.10	2.2	2.2	10	.10	--	--	--	--

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 06...	480	--	240	--	--	--	--	--	24
NOV 22...	--	--	--	--	--	--	--	--	--
DEC 14...	470	--	70	--	--	--	--	--	6.0
JAN 26...	--	--	--	--	--	--	--	--	4.0
FEB 22...	3100	14	40	<.5	15	<1	<2	555	13
MAR 21...	--	--	--	--	--	--	--	--	44
APR 18...	1030	--	140	--	--	--	--	--	9.0
MAY 26...	--	--	--	--	--	--	--	--	14
JUN 28...	780	--	90	--	--	--	--	--	5.0
JUL 11...	--	--	--	--	--	--	--	--	<5.0
AUG 15...	470	21	130	<.5	--	<1	<2	10	--
SEP 21...	--	--	--	--	--	--	--	--	9.0

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 good. Flow regulated since October 1943 by Lake Texoma (station 07331500), 92.8 miles (149.3 km) above station.

COOPERATION.--Gage-height record and 21 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) 34 years, (water years 1945-78), 7,855 ft^3/s (225.5 m^3/s), 5,691,000 acre-ft/yr (7.02 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, 37,800 ft^3/s (1,070 m^3/s) June 9, gage height, 16.61 ft (5.063 m); minimum daily, 234 ft^2/s (6.63 m^3/s) Oct. 20.

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	3480	1450	916	2520	1850	3590	4420	3220	7840	3130	2170	4890
2	3470	3800	1680	1860	3190	5200	3680	6250	6530	2710	1820	5180
3	3380	6820	1030	2790	2500	3260	2950	9330	5140	2950	2260	3350
4	2510	6090	968	3130	1690	1810	1900	10800	6380	3310	1400	1840
5	1350	3380	1210	2410	1680	3490	2350	11200	12100	2630	1310	1440
6	2490	1640	871	2780	1620	3790	5600	10900	12200	1380	1440	1400
7	2680	1610	753	2440	1510	2400	5700	10300	12600	1050	890	1730
8	2130	1220	1650	2410	1740	2070	3330	6840	24900	933	714	2920
9	1080	1690	4000	2370	3370	5360	3420	4790	36500	975	1160	2450
10	617	2660	2000	2750	4080	8130	2220	6890	37300	1040	1100	2420
11	1080	2410	950	3980	3010	6580	2230	5620	35800	2690	2750	2650
12	616	1440	1900	4630	1990	3980	6550	3780	33700	3410	2910	2240
13	401	1530	1200	4730	4190	3230	9410	2410	33800	3560	2440	2750
14	403	1780	1150	3610	12000	1980	9250	1860	32800	3200	2290	3510
15	844	1300	978	2010	11800	1620	10200	2650	25900	2790	2050	3760
16	472	1310	1130	1970	10700	1420	7570	1430	18600	2610	3010	4010
17	315	2240	1850	1610	5720	1220	3290	2320	17100	2440	2960	3630
18	277	1120	1830	1870	3370	1410	2300	3380	16800	2140	2650	3100
19	254	1390	1200	4210	3570	2390	1870	2430	16800	1680	3750	2360
20	234	1200	1200	4770	3100	2230	1680	3460	16700	2040	3400	1390
21	916	1480	1190	4530	2540	1340	1550	2610	16600	1830	3620	2440
22	1810	960	1180	4830	3390	3740	1420	2390	16200	1450	2790	3500
23	3150	809	1380	4430	3940	7140	1340	3330	12800	1430	3020	2880
24	2840	769	1410	3070	3700	13500	1430	3990	12000	1620	2830	1700
25	2670	750	1730	3330	4820	20800	2650	6180	11900	1390	2550	1450
26	3160	723	1540	2470	5580	19200	3510	5720	11900	1720	2760	863
27	3480	712	1540	1400	4560	15200	2880	3420	11800	2410	3110	1190
28	4460	710	1580	2460	2550	14000	1730	1460	9540	2230	3490	1530
29	5130	686	1980	2720	---	13100	2070	1180	3800	1540	2690	1490
30	5960	707	2290	1970	---	10300	2430	4050	2760	1850	3170	1590
31	3100	---	2580	1690	---	5010	---	7550	---	2620	4150	---
TOTAL	64759	54386	46866	91750	113760	188490	110930	151740	518790	66758	76654	75653
MEAN	2089	1813	1512	2960	4063	6080	3698	4895	17290	2153	2473	2522
MAX	5960	6820	4000	4830	12000	20800	10200	11200	37300	3560	4150	5180
MIN	234	686	753	1400	1510	1220	1340	1180	2760	933	714	863
AC-FT	128400	107900	92960	182000	225600	373900	220000	301000	1029000	132400	152000	150100

CAL YR 1977 TOTAL 2282305 MEAN 6253 MAX 106000 MIN 234 AC-FT 4527000
WTR YR 1978 TOTAL 1560536 MEAN 4275 MAX 37300 MIN 234 AC-FT 3095000

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	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										
05...	1100	1000	1800	8.2	19.5	13	8.7	94	10	377
12...	1115	619	--	--	16.0	--	--	--	--	--
NOV										
02...	1100	3620	1800	7.8	16.0	42	9.3	96	18	--
03...	1208	7180	--	--	15.5	--	--	--	--	--
16...	1132	1030	--	--	18.0	--	--	--	--	--
DEC										
01...	1108	746	--	--	6.5	--	--	--	--	--
07...	1245	753	1700	8.2	5.0	7	12.7	100	18	377
22...	1120	1220	--	--	4.0	--	--	--	--	--
JAN										
05...	1230	2340	1810	8.3	8.0	2	11.2	95	20	--
FEB										
09...	1400	3650	1800	8.2	.0	16	14.5	100	3	390
23...	1135	4140	--	--	4.5	--	--	--	--	--
MAR										
09...	1130	5480	--	--	5.5	--	--	--	--	--
09...	1200	5390	570	8.0	6.5	90	11.4	93	26	--
APR										
06...	1400	5690	339	7.5	21.5	--	7.7	88	--	--
MAY										
04...	1645	10800	645	8.1	15.0	79	8.2	82	50	--
JUN										
22...	1300	16400	1460	8.1	27.0	24	7.3	91	17	458
JUL										
20...	1300	1920	1950	8.2	31.0	3	7.3	99	18	--
AUG										
09...	1700	1310	1750	8.6	31.5	7	7.8	107	15	402
SEP										
07...	0945	915	192	8.3	27.0	4	7.0	88	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 RECUV-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, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)
OCT										
05...	104	260	28	187	6.2	237	318	.2	725	--
12...	--	--	--	--	--	--	--	--	--	--
NOV										
02...	--	--	--	--	--	252	342	--	--	130
03...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
DEC										
01...	--	--	--	--	--	--	--	--	--	--
07...	98	246	31	220	6.2	10	298	.4	--	5
22...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	--	--	--	--	--	274	362	.3	--	14
FEB										
09...	97	253	29	155	6.0	278	388	.3	--	5
23...	--	--	--	--	--	--	--	--	--	--
MAR										
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	68	87	.2	--	274
APR										
06...	--	--	--	--	--	--	--	--	--	--
MAY										
04...	--	--	--	--	--	81	99	.3	--	525
JUN										
22...	125	313	35	230	6.7	285	494	.3	--	64
JUL										
20...	--	--	--	--	--	289	412	.3	--	26
AUG										
09...	108	270	32	188	5.4	237	318	.3	--	22
SEP										
07...	--	--	--	--	--	266	366	.3	--	18

07335500 RED RIVER AT ARTHUR CITY, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT										
05...	<.10	1.1	1.2	--	.10	--	--	--	--	800
12...	--	--	--	--	--	--	--	--	--	--
NOV										
02...	.20	2.2	2.4	11	.16	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
DEC										
01...	--	--	--	--	--	--	--	--	--	--
07...	.30	1.3	1.6	7.3	.11	--	--	--	--	450
22...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	.10	1.6	1.7	7.5	.08	--	--	--	--	--
FEB										
09...	.10	1.6	1.7	7.7	.15	2	<1	14	4	1170
23...	--	--	--	--	--	--	--	--	--	--
MAR										
09...	--	--	--	--	--	--	--	--	--	--
09...	.20	2.0	2.2	10	.39	--	--	--	--	--
APR										
06...	--	--	--	--	--	--	--	--	--	--
MAY										
04...	.40	2.4	2.8	12	.19	--	--	--	--	--
JUN										
22...	.30	1.5	1.8	8.1	4.5	--	--	--	--	540
JUL										
20...	<.10	1.6	1.3	--	7.0	--	--	--	--	--
AUG										
09...	<.10	1.6	1.6	--	.11	2	2	11	15	430
SEP										
07...	.10	1.6	1.7	7.8	6.0	--	--	--	--	--

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)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
OCT										
05...	--	130	--	--	--	--	--	2.0	--	--
12...	--	--	--	--	--	--	--	--	90	150
NOV										
02...	--	--	--	--	--	--	--	6.0	--	--
03...	--	--	--	--	--	--	--	--	660	12800
16...	--	--	--	--	--	--	--	--	140	389
DEC										
01...	--	--	--	--	--	--	--	--	100	201
07...	--	80	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	20	66
JAN										
05...	--	--	--	--	--	--	--	16	--	--
FEB										
09...	18	70	<.5	43	<1	4	12	14	--	--
23...	--	--	--	--	--	--	--	--	150	1680
MAR										
09...	--	--	--	--	--	--	--	--	990	14600
09...	--	--	--	--	--	--	--	11	--	--
APR										
06...	--	--	--	--	--	--	--	--	--	--
MAY										
04...	--	--	--	--	--	--	--	19	--	--
JUN										
22...	--	90	--	--	--	--	--	<5.0	--	--
JUL										
20...	--	--	--	--	--	--	--	6.0	--	--
AUG										
09...	30	110	<.5	--	<1	<2	13	--	--	--
SEP										
07...	--	--	--	--	--	--	--	8.0	--	--

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 fair.

AVERAGE DISCHARGE.--13 years, 73.7 ft^3/s (2.087 m^3/s), 24.96 in/yr (634 mm/yr), 53,400 acre-ft/yr (65.8 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.--Maximum discharge, 6,670 ft^3/s (189 m^3/s) at 0200 Mar. 24, gage height, 12.85 ft (3.917 m), no other peak above base of 2,000 ft^3/s (56.6 m^3/s); no flow July 12 to Sept. 26.

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	4.0	5.5	45	4.7	33	145	52	8.1	4.4	1.1	.00	.00
2	2.8	29	39	4.4	30	177	46	7.1	4.1	.87	.00	.00
3	2.0	16	33	4.2	26	169	40	56	3.9	1.1	.00	.00
4	1.8	11	30	4.0	23	130	37	104	3.6	.91	.00	.00
5	1.7	8.0	40	4.0	22	103	37	97	3.4	.73	.00	.00
6	1.6	6.8	32	3.9	21	86	55	90	3.6	.49	.00	.00
7	1.5	5.7	28	3.8	20	304	43	301	3.8	.38	.00	.00
8	1.6	7.9	25	3.6	19	287	40	383	152	.28	.00	.00
9	1.5	43	21	3.3	20	192	40	175	61	.19	.00	.00
10	1.3	28	18	3.5	17	139	79	107	38	.09	.00	.00
11	1.2	20	16	3.6	17	110	126	78	27	.01	.00	.00
12	1.1	16	14	3.6	96	86	100	64	18	.00	.00	.00
13	1.1	13	15	4.1	329	83	80	51	12	.00	.00	.00
14	1.1	11	19	4.1	177	72	64	39	7.5	.00	.00	.00
15	1.0	10	19	4.1	121	62	54	31	5.5	.00	.00	.00
16	.99	27	19	13	92	54	46	23	4.3	.00	.00	.00
17	.94	19	18	32	78	49	40	17	3.5	.00	.00	.00
18	.90	15	17	28	66	44	39	15	3.7	.00	.00	.00
19	.85	12	15	24	58	41	32	11	3.5	.00	.00	.00
20	.80	12	12	21	53	39	27	8.1	2.8	.00	.00	.00
21	.74	12	11	28	47	78	22	22	2.4	.00	.00	.00
22	.71	10	9.4	38	43	68	18	34	2.3	.00	.00	.00
23	.66	9.0	8.4	31	50	164	20	27	2.0	.00	.00	.00
24	1.0	8.4	7.8	42	64	1590	14	17	1.7	.00	.00	.00
25	1.7	7.9	6.9	96	81	322	11	12	1.4	.00	.00	.00
26	1.4	7.3	5.9	79	93	197	9.0	8.9	1.2	.00	.00	.00
27	1.3	7.9	5.3	67	92	141	7.5	6.8	1.0	.00	.00	.01
28	1.3	7.0	5.1	57	170	110	6.6	12	.91	.00	.00	.11
29	1.3	7.3	5.2	47	---	86	6.9	8.9	.84	.00	.00	.15
30	1.3	13	5.3	41	---	71	7.9	6.3	.78	.00	.00	.14
31	1.4	---	5.0	36	---	60	---	5.1	---	.00	.00	---
TOTAL	42.59	405.7	550.3	738.9	1958	5259	1199.9	1825.3	380.13	6.15	.00	.41
MEAN	1.37	13.5	17.8	23.8	69.9	170	40.0	58.9	12.7	.20	.000	.014
MAX	4.0	43	45	96	329	1590	126	383	152	1.1	.00	.15
MIN	.66	5.5	5.0	3.3	17	39	6.6	5.1	.78	.00	.00	.00
CFSM	.03	.34	.44	.59	1.74	4.24	1.00	1.47	.32	.005	.000	.000
IN.	.04	.38	.51	.69	1.82	4.88	1.11	1.69	.35	.01	.00	.00
AC-FT	84	805	1090	1470	3880	10430	2380	3620	754	12	.00	.8

CAL YR 1977 TOTAL 18820.53 MEAN 51.6 MAX 4200 MIN .00 CFSM 1.29 IN 17.46 AC-FT 37330
WTR YR 1978 TOTAL 12366.38 MEAN 33.9 MAX 1590 MIN .00 CFSM .85 IN 11.47 AC-FT 24530

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
03...	1715	2.0	27	8.1	20.0	12	7.8	87	8	--	--	--
31...	1800	1.4	34	7.3	22.0	3	6.6	78	13	--	--	--
DEC												
05...	1630	40	41	7.9	10.5	10	10.0	92	5	--	--	--
JAN												
03...	1645	6.7	28	8.2	2.5	--	13.5	100	--	--	--	--
03...	1646	6.7	20	8.2	2.5	5	13.5	100	<3	--	--	--
FEB												
06...	1645	21	29	7.2	4.5	--	14.0	110	--	K4	K19	K4
06...	1646	21	20	7.2	4.5	6	14.0	110	<3	--	--	--
MAR												
07...	1215	405	21	6.7	7.5	--	11.9	102	--	--	--	--
07...	1216	405	23	6.7	7.5	12	11.9	102	12	--	--	--
APR												
04...	1345	37	28	6.6	18.5	--	10.0	109	--	K31000	72	72
MAY												
02...	1700	6.8	21	6.5	16.5	4	9.4	99	5	--	--	--
03...	1500	69	21	6.7	13.0	--	9.5	93	--	--	--	--
JUN												
20...	1030	3.0	25	6.8	24.5	--	6.4	78	--	--	--	--
20...	1031	3.0	25	6.8	24.5	5	6.4	78	5	--	--	--
JUL												
18...	1200	.00	42	7.3	34.0	4	10.4	148	14	K260	K20	K45

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	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)
OCT												
03...	--	--	--	--	--	--	--	--	--	--	--	--
31...	12	3	1.0	2.5	3	1.1	1.3	--	2.3	27	.3	--
DEC												
05...	7	1	--	1.3	--	--	.9	--	4.5	56	.7	--
JAN												
03...	7	2	--	1.4	--	--	.8	--	2.6	42	.4	--
03...	--	--	<1.0	--	<3	.9	--	<10	--	--	--	.4
FEB												
06...	8	5	--	1.9	--	--	.8	--	2.2	35	.3	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
07...	6	4	--	1.0	--	--	.9	--	1.5	32	.3	--
07...	--	--	<1.0	--	<1	1.0	--	--	--	--	--	--
APR												
04...	8	4	--	2.1	--	--	.6	--	2.0	34	.3	--
MAY												
02...	--	--	1.0	--	2	.8	--	--	--	--	--	--
03...	10	4	--	2.0	--	--	1.2	--	2.9	37	.4	--
JUN												
20...	9	1	--	1.9	--	--	1.0	--	2.4	35	.4	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
18...	13	0	4.0	2.7	10	2.0	1.5	<5.0	4.2	39	.5	.6

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)
OCT												
03...	--	--	--	--	--	--	--	.1	--	--	--	47
31...	1.3	11	0	9	.9	2.6	2.6	.2	.0	6.8	30	48
DEC												
05...	.7	7	0	6	.1	3.7	4.7	.0	.0	8.6	32	--
JAN												
03...	.7	6	0	5	.1	4.2	2.4	--	.1	7.8	20	--
03...	--	--	--	--	--	--	--	<6.0	--	--	--	--
FEB												
06...	.6	4	0	3	.4	3.0	2.1	--	.1	5.6	20	--
06...	--	--	--	--	--	--	--	7.0	--	--	--	--
MAR												
07...	.6	3	0	2	1.0	4.6	1.8	--	.0	7.0	21	--
07...	--	--	--	--	--	--	--	<6.0	--	--	--	--
APR												
04...	.5	4	0	3	1.6	3.9	1.9	--	.0	7.8	18	--
MAY												
02...	--	--	--	--	--	--	--	<6.0	--	--	--	--
03...	.7	7	0	6	2.2	7.2	3.4	--	.0	7.8	21	--
JUN												
20...	.5	--	--	8	--	3.2	1.9	--	.0	8.6	20	--
20...	--	--	--	--	--	--	--	<6.0	--	--	--	--
JUL												
18...	1.0	--	--	13	--	2.0	2.2	<6.0	.1	8.2	32	--

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	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)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
OCT												
03...	--	--	--	--	<.10	1.1	1.1	--	.03	--	--	--
31...	25	.04	.11	--	.01	2.0	2.0	8.9	.01	--	--	--
DEC												
05...	28	.04	3.46	9	.05	1.6	1.7	7.3	.00	--	--	--
JAN												
03...	23	.03	.56	--	.01	--	--	--	.02	0	0	5
03...	--	--	--	2	<.10	2.0	2.0	--	2.0	<1	--	2
FEB												
06...	18	.03	1.13	--	.02	--	--	--	.01	--	--	--
06...	--	--	--	2	<.10	.87	.87	--	2.0	--	--	--
MAR												
07...	19	.03	23.0	--	.02	--	--	--	.04	--	--	--
07...	--	--	--	11	.20	1.3	1.5	6.8	5.7	--	--	--
APR												
04...	21	.02	1.80	--	.05	--	--	--	.01	--	--	--
MAY												
02...	--	--	--	3	3.3	1.5	4.8	21	.12	--	--	--
03...	29	.03	3.91	--	.02	--	--	--	.04	--	--	--
JUN												
20...	25	.03	.16	--	.00	--	--	--	.01	0	400	0
20...	--	--	--	1	<.10	2.0	2.0	--	4.5	--	--	--
JUL												
18...	30	.04	.00	11	.05	1.0	1.1	5.0	.02	<1	--	2

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)
OCT												
03...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	330	--	20	--	--	--	--	--	--	--
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
03...	0	8	260	15	0	.1	--	0	1	60	--	--
03...	<5	<2	500	51	<20	2.0	<5	<1	<2	8	--	--
FEB												
06...	--	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	780	--	20	--	--	--	--	--	--	--
APR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
02...	--	--	490	--	<20	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
20...	0	6	620	7	20	.0	--	0	0	10	1.1	1.0
20...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
18...	7	6	1820	8	20	<.5	<5	<1	<2	18	--	--

DATE	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM DISSOLVED, EXTRACTION (UG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)
OCT												
03...	--	--	--	--	--	--	2.0	--	--	--	--	--
31...	--	--	--	--	--	--	3.0	--	--	--	--	--
DEC												
05...	--	--	--	--	--	--	2.0	--	--	--	--	--
JAN												
03...	--	--	--	--	--	--	--	.00	--	--	--	--
03...	--	--	--	--	--	--	<1.0	--	--	--	--	--
MAR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	3.0	--	--	--	--	--
APR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
02...	--	--	--	--	--	--	<1.0	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
20...	<.5	<.5	<.4	<.4	.04	.02	--	.91	.0	--	.00	.00
20...	--	--	--	--	--	--	<5.0	--	--	--	--	--
JUL												
18...	--	--	--	--	--	--	8.0	--	--	0	--	--

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT												
03...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
02...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
20...	--	.0	--	.00	--	.00	--	.00	--	.00	.00	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
18...	.0	--	0	--	.0	--	.1	--	.0	--	--	.0

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL, (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
OCT												
03...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
02...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
20...	.00	.00	--	.00	.00	--	.00	--	.00	--	.00	.00
20...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
18...	--	--	.0	--	--	.0	--	.0	--	.0	--	--

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED, SUSP, SIEVE DIAM, % FINER THAN .062 MM
OCT												
03...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	10	.04	90
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
03...	--	--	--	--	--	--	--	--	--	3	.05	64
03...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
07...	--	--	--	--	--	--	--	--	--	15	16	71
07...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
04...	--	--	--	--	--	--	--	--	--	7	.70	69
MAY												
02...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	11	2.0	94
JUN												
20...	.00	.00	.00	0	--	.00	.00	.00	.00	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
18...	--	--	--	--	0	--	--	--	--	--	--	--

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 fair. Small diversion above station for municipal water supply of city of Antlers.

COOPERATION.-Gage height record, 18 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--6 years, 1,579 ft^3/s (44.72 m^3/s), 18.84 in/yr (479 mm/yr), 1,144,000 acre-ft/yr (1.41 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 Oct. 1-21, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,800 ft^3/s (532 m^3/s) at 0630 Mar. 25, gage height, 22.64 ft (6.901 m), no other peak above base of 18,000 ft^3/s (510 m^3/s); no flow Aug. 16 to Sept. 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	19	100	52	38	366	2690	812	4740	227	39	.41	.00
2	16	1360	62	38	341	2070	678	1930	212	36	.19	.00
3	15	500	99	37	327	2200	582	7810	173	33	.04	.00
4	14	300	142	36	315	1790	731	8250	145	84	.27	.00
5	11	200	158	36	288	1290	927	3600	388	136	.41	.00
6	8.8	150	158	36	263	1040	735	2530	358	95	.50	.00
7	7.5	120	146	35	246	1450	640	2070	278	71	.52	.00
8	6.9	104	127	31	235	6810	612	2080	259	58	.52	.00
9	15	102	115	30	228	5430	527	2010	438	48	.55	.00
10	20	184	109	28	219	2980	573	1430	473	41	.78	.00
11	20	270	103	28	211	1990	1530	967	430	35	.78	.00
12	20	257	97	29	500	1470	1720	741	318	30	.78	.00
13	19	194	91	31	6340	1160	1210	584	242	26	.55	.00
14	15	170	88	31	6360	1060	898	471	192	23	.31	.00
15	12	143	86	31	2830	1070	708	392	159	20	.08	.00
16	10	123	84	42	1790	840	576	330	136	18	.00	.00
17	9.8	108	80	182	1460	686	490	284	118	16	.00	.00
18	8.6	90	76	335	1240	580	446	253	107	15	.00	.00
19	7.7	76	72	433	1070	500	394	229	97	14	.00	.00
20	6.6	66	67	317	982	449	343	210	87	13	.00	.00
21	4.4	56	62	268	964	3880	304	195	80	12	.00	.00
22	2.4	48	61	237	860	3520	271	207	76	8.9	.00	.00
23	2.2	46	60	212	864	2100	682	235	72	7.5	.00	29
24	2.2	47	57	217	1110	13900	832	219	67	10	.00	223
25	2.1	49	53	468	1100	18000	632	222	62	11	.00	146
26	1.8	49	51	925	1010	8970	451	240	59	7.4	.00	101
27	1.8	44	48	968	909	3230	334	201	56	4.7	.00	76
28	1.8	42	46	724	1380	2170	271	179	53	3.5	.00	60
29	1.8	40	43	548	---	1570	233	681	48	2.5	.00	48
30	1.8	41	42	455	---	1220	4760	467	43	1.3	.00	39
31	1.8	---	41	398	---	980	---	283	---	.60	.00	---
TOTAL	286.0	5079	2576	7224	33808	97095	23902	44040	5453	920.40	6.69	722.00
MEAN	9.23	169	83.1	233	1207	3132	797	1421	182	29.7	.22	24.1
MAX	20	1360	158	968	6360	18000	4760	8250	473	136	.78	223
MIN	1.8	40	41	28	211	449	233	179	43	.60	.00	.00
CFSM	.008	.15	.07	.21	1.06	2.75	.70	1.25	.16	.03	.000	.02
IN.	.01	.17	.08	.24	1.11	3.17	.78	1.44	.18	.03	.00	.02
AC-FT	567	10070	5110	14330	67060	192600	47410	87350	10820	1830	13	1430

CAL YR 1977 TOTAL 335228.00 MEAN 918 MAX 49200 MIN 1.8 CFSM .81 IN 10.96 AC-FT 664900
WTR YR 1978 TOTAL 221112.09 MEAN 606 MAX 18000 MIN .00 CFSM .53 IN 7.23 AC-FT 438600

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	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)
OCT											
05...	1445	9.5	60	7.2	20.5	26	7.2	79	14	21	2.5
NOV											
22...	0930	5.2	50	7.9	12.0	24	9.1	84	16	--	--
DEC											
14...	0830	88	92	7.4	5.5	16	11.0	88	13	22	4.2
JAN											
25...	1415	522	89	8.1	2.0	35	13.6	100	13	--	--
31...	1312	382	--	--	1.5	--	--	--	--	--	--
FEB											
21...	1338	992	--	--	1.0	--	--	--	--	--	--
22...	1015	865	70	7.6	1.0	28	14.9	103	13	16	3.0
MAR											
08...	1407	8060	--	--	5.5	--	--	--	--	--	--
21...	0715	2480	63	7.0	14.0	26	9.8	95	21	--	--
24...	1245	15000	--	--	9.0	--	--	--	--	--	--
29...	1338	1540	--	--	12.0	--	--	--	--	--	--
APR											
17...	1252	496	--	--	19.0	--	--	--	--	--	--
18...	1230	449	70	7.2	20.0	13	8.3	92	11	21	3.7
MAY											
08...	1342	2165	--	--	18.5	--	--	--	--	--	--
16...	1322	325	--	--	22.0	--	--	--	--	--	--
26...	0815	247	80	6.9	25.5	6	6.5	79	12	--	--
JUN											
14...	1312	182	--	--	26.5	--	--	--	--	--	--
28...	0900	54	--	7.8	28.0	17	5.4	68	14	23	4.2
JUL											
11...	1330	35	70	7.3	34.5	10	7.4	104	12	--	--
AUG											
15...	0900	.15	89	7.5	30.0	9	5.9	78	11	28	5.6
SEP											
25...	--	144	--	--	--	--	--	--	--	--	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
OCT										
05...	6	2.4	10	1.5	11	2.0	.1	77	--	<.10
NOV										
22...	--	--	--	--	23	7.0	--	--	11	.10
DEC										
14...	10	2.3	5.0	2.1	9.0	7.0	.1	--	44	<.10
JAN										
25...	--	--	--	--	15	8.0	7.0	--	17	.10
31...	--	--	--	--	--	--	--	--	--	--
FEB										
21...	--	--	--	--	--	--	--	--	--	--
22...	7	1.9	10	1.3	22	8.0	6.0	--	6	.50
MAR										
08...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	32	4.0	9.0	--	190	.10
24...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
APR										
17...	--	--	--	--	--	--	--	--	--	--
18...	9	2.2	<10	1.1	5.0	7.0	<6.0	--	19	.10
MAY										
08...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	<.0	6.0	7.0	--	7	<.10
JUN										
14...	--	--	--	--	--	--	--	--	--	--
28...	10	2.2	<10	1.3	15	3.0	7.0	--	21	<.10
JUL										
11...	--	--	--	--	19	6.0	7.0	--	6	<.10
AUG										
15...	14	3.0	14	1.2	3.0	7.0	9.0	--	--	.20
SEP										
25...	--	--	--	--	--	--	--	--	--	--

07336200 KIAMICHI RIVER NEAR ANTLERS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
OCT										
05...	--	130	--	--	--	--	--	4.0	--	--
NOV										
22...	--	--	--	--	--	--	--	--	--	--
DEC										
14...	--	70	--	--	--	--	--	4.0	--	--
JAN										
25...	--	--	--	--	--	--	--	4.0	--	--
31...	--	--	--	--	--	--	--	--	910	939
FEB										
21...	--	--	--	--	--	--	--	--	90	241
22...	9	30	<.5	<5	<1	<2	210	2.0	--	--
MAR										
08...	--	--	--	--	--	--	--	--	470	10200
21...	--	--	--	--	--	--	--	4.0	--	--
24...	--	--	--	--	--	--	--	--	340	13800
29...	--	--	--	--	--	--	--	--	150	624
APR										
17...	--	--	--	--	--	--	--	--	40	54
18...	--	30	--	--	--	--	--	1.0	--	--
MAY										
08...	--	--	--	--	--	--	--	--	110	643
16...	--	--	--	--	--	--	--	--	140	123
26...	--	--	--	--	--	--	--	7.0	--	--
JUN										
14...	--	--	--	--	--	--	--	--	70	34
28...	--	80	--	--	--	--	--	6.0	--	--
JUL										
11...	--	--	--	--	--	--	--	7.0	--	--
AUG										
15...	<5	130	<.5	--	<1	<2	6	--	--	--
SEP										
25...	--	--	--	--	--	--	--	--	30	12

DATE	NITROGEN, ORGANIC 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)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT										
05...	--	1.0	1.0	--	.08	--	--	--	--	2620
NOV										
22...	1.1	--	1.2	--	.07	--	--	--	--	--
DEC										
14...	--	1.6	1.6	--	.07	--	--	--	--	1050
JAN										
25...	--	1.9	2.0	8.9	4.7	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
FEB										
21...	--	--	--	--	--	--	--	--	--	--
22...	--	.85	1.3	6.0	5.0	1	<1	19	<2	200
MAR										
08...	--	--	--	--	--	--	--	--	--	--
21...	--	1.5	1.6	7.5	.14	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
APR										
17...	--	--	--	--	--	--	--	--	--	--
18...	--	1.2	1.3	5.8	--	--	--	--	--	1580
MAY										
08...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
26...	--	.82	.82	--	6.0	--	--	--	--	--
JUN										
14...	--	--	--	--	--	--	--	--	--	--
28...	--	2.0	2.0	--	7.0	--	--	--	--	1670
JUL										
11...	--	1.6	1.6	--	5.0	--	--	--	--	--
AUG										
15...	--	2.5	2.7	12	.23	1	<1	8	5	670
SEP										
25...	--	--	--	--	--	--	--	--	--	--

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 fact 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, 120,500 acre-ft (149 hm^3) Sept. 12, 1977, elevation, 401.50 ft (122.377 m).

EXTREMES FOR CURRENT YEAR.-Maximum contents, 244,800 acre-ft (301 hm^3) Mar. 26, elevation, 410.28 ft (125.053 m); minimum, 100,000 acre-ft (123 hm^3) Sept. 30, elevation, 399.60 ft (121.798 m).

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

398	84,240	405	164,300
400	103,900	408	207,600
402	126,100	411	257,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122000	117300	127300	131000	153600	169000	174200	185300	163000	155300	131200	111700
2	121400	120100	127600	131000	154200	170300	168400	184300	163300	154500	130300	111200
3	121100	122300	127700	131000	154900	170900	164800	194700	163000	153800	129700	110700
4	120700	123200	127800	130900	155900	170600	164100	195000	162700	153100	129300	110400
5	120400	123800	128100	131200	156200	169200	163500	183500	162900	152400	128700	109900
6	120100	124000	128200	131200	156500	168000	163300	176800	163400	152300	127800	109000
7	119800	124200	128000	131800	157000	169400	161800	169100	164600	151500	126800	108800
8	119300	125100	129300	130900	157300	175900	162000	162600	165200	150800	125900	108200
9	119200	124900	128600	130800	158400	174700	162500	161100	165200	149900	125200	107700
10	119000	125200	128700	130800	158700	176100	165200	159700	165200	149300	124400	106900
11	118600	125700	126600	131400	159100	171500	165000	159100	165400	148200	123500	106800
12	118100	125800	128800	131700	163500	164300	166500	160300	166100	147700	122800	106500
13	117800	126000	129300	132500	176500	161600	165600	161100	165700	147200	122000	106000
14	117600	126600	129400	132400	187400	160700	163700	161600	165400	146200	121500	105800
15	117000	126700	129600	132400	189300	160100	163500	162300	164800	145900	120800	105300
16	116900	127300	129700	134100	189500	159900	163400	162500	164200	144900	120100	104600
17	116700	127100	129900	134400	188700	160700	162200	162700	163700	143900	119800	103800
18	116600	126800	130100	136200	187400	161500	162200	162900	163700	143300	119300	103300
19	116400	126700	130500	137200	185300	162000	159600	163400	162700	142500	119200	102900
20	116100	126800	130300	138100	183700	163100	158700	163400	162000	141500	118900	102600
21	115700	126800	130100	138400	180400	174400	158800	164600	161500	140900	117800	102300
22	115700	126700	129900	139200	177900	178300	159300	165200	161200	140100	117400	101600
23	115600	126700	130200	139900	175600	180100	161000	165200	160700	139900	117100	101300
24	115700	126700	130400	141400	174000	212400	164100	165200	159700	139100	116800	100900
25	115400	126600	130200	142800	172600	235100	164100	165200	159100	138100	116000	100900
26	115400	126500	130200	144900	169200	242900	162500	165300	158300	137000	115400	100600
27	115100	126500	130200	147200	168000	231300	160600	165400	158000	136500	114700	100500
28	114700	126600	130300	148900	167500	217300	158700	166400	157300	135400	114200	100600
29	114800	126500	130500	150200	---	201800	161200	166900	156800	134400	113800	100400
30	114400	127100	130700	151300	---	188900	175600	166400	155700	133400	113200	100000
31	114400	---	131000	152300	---	180400	---	163700	---	132200	112200	---
MAX	122000	127300	131000	152300	189500	242900	175600	195000	166100	155300	131200	111700
MIN	114400	117300	127300	130800	153600	159900	158700	159100	155700	132200	112200	100000
†	400.95	402.08	402.40	404.11	405.23	406.17	405.83	404.95	404.36	402.49	400.75	399.60
‡	-8,000	+12,700	+3,900	+21,300	+15,200	+12,900	-4,800	-11,900	-8,000	-23,500	-20,000	-12,200

CAL YR 1977 MAX 536000 MIN 114400 ‡ -22,500
WTR YR 1978 MAX 242900 MIN 100000 ‡ -22,400

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

07336700 KIAMICHI RIVER NEAR SAWYER, OK

LOCATION.--Lat 54°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, October 1977 to September 1978.

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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
OCT 05...	1245	120	7.4	22.5	--	8.5	96	--	--	--
NOV 02...	1215	140	7.6	16.0	--	9.3	96	--	--	--
DEC 07...	1130	77	8.2	8.0	--	12.3	103	--	--	--
JAN 05...	1330	86	8.1	7.5	--	11.6	97	--	--	--
FEB 09...	1145	110	7.7	.0	6	15.0	103	12	--	47
MAR 09...	1015	100	7.3	5.0	26	14.6	115	17	--	--
APR 06...	1245	58	6.5	15.5	38	10.9	110	24	--	24
MAY 04...	1600	59	6.8	16.5	33	10.0	104	32	--	--
JUN 22...	1130	73	7.2	23.5	13	6.7	79	18	--	40
JUL 20...	1400	99	6.8	27.5	17	6.8	86	20	--	--
AUG 09...	1530	92	7.6	28.5	6	7.9	103	17	--	36
SEP 07...	0830	100	6.9	20.0	9	7.8	96	--	17	--

DATE	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 105 DEG. C, SUSPENDED (MG/L)
OCT 05...	--	--	--	--	--	--	--	--	--
NOV 02...	--	--	--	--	--	--	--	--	--
DEC 07...	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	--
FEB 09...	9.4	29	213	23	1.3	8.0	10	9.0	10
MAR 09...	--	--	--	--	--	11	12	.1	20
APR 06...	5.5	13	1.9	<10	1.6	13	6.0	6.0	35
MAY 04...	--	--	--	--	--	11	6.0	8.0	57
JUN 22...	8.0	20	2.2	<10	1.1	6.0	7.0	6.0	30
JUL 20...	--	--	--	--	--	23	7.0	6.0	23
AUG 09...	9.3	23	2.3	1.0	1.0	59	8.0	7.0	12
SEP 07...	--	--	--	--	--	<1.0	10	6.0	16

07336700 KIAMICHI RIVER NEAR SAWYER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 05...	--	--	--	--	--	--	--	--	--
NOV 02...	--	--	--	--	--	--	--	--	--
DEC 07...	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	--
FEB 09...	.30	1.5	1.8	8.0	5.0	<1	<1	25	<2
MAR 09...	.20	1.6	1.8	8.1	.11	--	--	--	--
APR 06...	.10	1.5	1.6	7.3	6.5	--	--	--	--
MAY 04...	.10	2.2	2.3	10	7.0	--	--	--	--
JUN 22...	<.10	1.8	1.8	--	9.5	--	--	--	--
JUL 20...	<.10	2.1	2.1	--	.23	--	--	--	--
AUG 09...	<.10	1.2	1.3	--	5.0	1	1	10	21
SEP 07...	.40	1.1	1.5	7.0	4.5	--	--	--	--

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 05...	--	--	--	--	--	--	--	--	--
NOV 02...	--	--	--	--	--	--	--	--	--
DEC 07...	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	--
FEB 09...	390	8	90	<.5	8	<1	<2	12	23
MAR 09...	--	--	--	--	--	--	--	--	3.0
APR 06...	1440	--	110	--	--	--	--	--	9.0
MAY 04...	--	--	--	--	--	--	--	--	12
JUN 22...	2300	--	2800	--	--	--	--	--	10
JUL 20...	--	--	--	--	--	--	--	--	7.0
AUG 09...	1150	10	810	<.5	--	<1	<2	130	--
SEP 07...	--	--	--	--	--	--	--	--	5.0

07336820 RED RIVER NEAR DE KALB, TX

LOCATION.--Lat 33°41'15", long 94°41'39", Bowie County, TX-McCurtain County, OK 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 mi^2 (122,631 km^2), of which 5,936 mi^2 (15,374 km^2) probably is noncontributing.

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.--10 years (water years 1969-78), 11,760 ft^3/s (333.0 m^3/s), 8,520,000 acre-ft/yr (10.5 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 189,000 ft^3/s (5,350 m^3/s) Dec. 11, 1971, gage height, 31.55 ft (9.616 m), from graph based on gage readings; minimum, 431 ft^3/s (12.2 m^3/s) Sept. 4,5, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since 1957, 205,000 ft^3/s (5,800 m^3/s) June 1957, gage height, 32.2 ft (9.81 m), from rating curve extended above 186,500 ft^3/s (5,280 m^3/s). Greatest flood since 1936 occurred in February 1938, stage unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 34,500 ft^3/s (977 m^3/s) June 11, gage height, 18.82 ft (5.736 m), from graph based on gage readings; minimum, 648 ft^3/s (18.4 m^3/s) Oct. 22, gage height, 7.38 ft (2.249 m), from graph based on gage readings.

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	4300	5680	1170	2310	2240	6780	13000	2780	6460	4920	2580	3770
2	4030	3380	1160	2550	1990	5640	9270	3260	9390	4250	3170	4740
3	3790	2310	1240	2500	2150	6920	8900	7970	8440	4210	2710	5470
4	3750	4340	1680	2130	3000	7130	7080	13900	6780	3980	2640	5560
5	3600	6630	1490	2730	2630	5520	4960	21200	5950	3960	2970	4140
6	2700	5750	1270	3020	2040	5140	4320	22600	9600	4170	2580	2700
7	1980	3400	1420	2590	1940	7510	5500	19000	13300	3380	2080	2150
8	2610	2320	1240	2830	1880	8850	7410	18300	13600	2560	2020	1960
9	2870	2140	1160	2480	1820	7310	5510	15400	22000	2180	1630	2240
10	2390	1850	2420	2510	2070	9330	4850	10100	32300	1980	1460	3190
11	1650	2060	2870	2560	3330	12900	4940	8750	34200	1950	1760	2980
12	1210	2680	2040	3100	3860	13500	4110	9100	33800	2110	1890	2970
13	1320	2430	1700	4040	3730	10900	5540	6430	32600	3360	3170	3120
14	1160	1840	1960	4670	3990	8390	10300	4670	32900	4190	3650	2790
15	882	1850	1670	4540	10900	5680	10500	3590	32300	4350	3300	3060
16	932	1960	1470	3700	13600	4300	10000	3280	27700	4000	3120	3860
17	1100	1670	1330	2680	12800	3650	9610	3350	22700	3610	2880	4100
18	972	1690	1360	2390	10100	2860	6440	2670	19400	3360	3520	4380
19	796	2080	1700	2120	7380	2270	4800	3320	18700	3260	3830	4140
20	730	1620	1720	2270	6380	2300	4140	3840	18400	2940	3510	3650
21	684	1580	1510	3980	6290	3420	3490	3470	18100	2550	4330	2880
22	658	1500	1410	4730	5710	3920	2680	4010	17900	2640	4330	2100
23	930	1590	1400	4660	5600	4820	2440	3480	17200	2640	4360	2710
24	1830	1410	1410	4760	6190	14000	2330	3410	15300	2340	3790	3640
25	2990	1270	1490	4350	6410	24700	2400	3970	13200	2230	3740	3330
26	2910	1130	1560	3560	6510	29800	2830	4970	12900	2340	3650	2340
27	2760	1070	1740	3470	7620	28700	4610	6130	12700	2160	3340	1940
28	3190	1040	1740	2680	8020	25400	4810	5690	12500	2390	3480	1490
29	3670	1090	1710	1990	---	24200	3880	4110	12400	2920	3840	1580
30	4660	1150	1780	2500	---	23500	2650	2600	7730	2750	4240	1910
31	5430	---	2040	2690	---	20100	---	2530	---	2440	3580	---
TOTAL	72484	70510	49860	97090	150180	339440	173300	227880	540450	96120	97150	94890
MEAN	2338	2350	1608	3132	5364	10950	5777	7351	18020	3101	3134	3163
MAX	5430	6630	2870	4760	13600	29800	13000	22600	34200	4920	4360	5560
MIN	658	1040	1160	1990	1820	2270	2330	2530	5950	1950	1460	1490
AC-FT	143800	139900	98900	192600	297900	673300	343700	452000	1072000	190700	192700	188200

CAL YR 1977 TOTAL 3092334 MEAN 8472 MAX 106000 MIN 658 AC-FT 6134000
WTR YR 1978 TOTAL 2009354 MEAN 5505 MAX 34200 MIN 658 AC-FT 3986000

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 mi² (839 km²).

PERIOD OF RECORD.--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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	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												
03...	1400	80	7.8	24.0	--	9.5	112	--	--	--	--	--
31...	1400	70	8.5	25.0	--	10.1	123	--	--	--	--	--
DEC												
05...	1315	47	7.6	11.0	--	10.7	98	--	--	--	--	--
JAN												
03...	1345	50	7.9	6.0	--	12.6	101	--	--	--	--	--
FEB												
08...	1215	45	7.5	2.0	20	14.0	102	4	11	1.8	18	1.2
MAR												
08...	0930	20	6.7	6.0	21	12.0	97	8	--	--	--	--
APR												
05...	1430	40	6.7	20.0	8	9.3	102	7	16	2.4	6	2.2
MAY												
04...	1000	28	6.8	13.0	3	10.0	97	14	--	--	--	--
JUN												
21...	1430	33	7.7	31.5	2	7.7	105	6	14	3.0	7	1.4
JUL												
20...	1030	50	7.4	29.0	9	6.4	85	16	--	--	--	--
AUG												
07...	1400	47	8.6	31.5	4	8.8	120	10	14	2.5	6	1.6
SEP												
27...	1130	64	7.4	21.0	3	6.9	78	14	--	--	--	--

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												
03...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
08...	6.0	.8	10	5.0	<6.0	<1	.10	1.2	1.3	5.8	6.2	1
MAR												
08...	--	--	6.0	6.0	7.0	21	.30	.88	1.1	5.2	5.3	--
APR												
05...	<10	.7	9.0	2.0	<6.0	14	.10	.98	1.0	4.8	3.4	--
MAY												
04...	--	--	11	9.0	9.0	12	.10	1.8	1.9	8.5	3.5	--
JUN												
21...	<10	<1.0	<.0	4.0	<6.0	1	<.10	1.5	1.6	--	3.5	--
JUL												
20...	--	--	23	6.0	<6.0	9	.40	14	15	68	3.0	--
AUG												
07...	4.0	.9	9.0	7.0	<6.0	1	.10	1.1	1.2	5.7	4.0	--
SEP												
27...	--	--	7.0	<1.0	<.1	2	<.10	1.3	1.3	--	<.10	--

07337100 LITTLE RIVER NEAR CLOUDY, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT												
03...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
05...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
08...	2	15	<2	1000	6	<20	<.5	<5	<1	<2	9	24
MAR												
08...	--	--	--	--	--	--	--	--	--	--	--	1.0
APR												
05...	--	--	--	920	--	<20	--	--	--	--	--	1.0
MAY												
04...	--	--	--	--	--	--	--	--	--	--	--	5.0
JUN												
21...	--	--	--	400	--	<20	--	--	--	--	--	<5.0
JUL												
20...	--	--	--	--	--	--	--	--	--	--	--	7.0
AUG												
07...	2	14	10	410	16	30	<.5	<5	--	<2	22	--
SEP												
27...	--	--	--	--	--	--	--	--	--	--	--	3.0

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, 92,950 acre-ft (115 hm^3) Mar. 26, elevation, 446.36 ft (136.051 m); minimum, 38,310 acre-ft (47.2 hm^3) Sept. 30, elevation, 433.31 ft (132.073 m).

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

433	37,430	442	70,490
436	46,650	445	85,440
439	57,610	447	96,650

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46650	43080	43270	41170	51830	57770	62610	68340	56120	52560	48040	42700
2	46320	43400	43170	41140	52080	58610	60440	68660	56350	52340	47900	42550
3	46150	43490	43140	41040	52340	59090	58050	74990	56700	52380	47800	42330
4	45920	43650	43050	40980	52600	59210	55890	73880	56940	52490	47700	42300
5	45820	43550	42920	41010	52820	59170	54540	68890	56940	52490	47560	42140
6	45650	43460	42890	40950	52930	58490	54050	67300	56740	52410	47490	41990
7	45460	43330	42830	40920	53000	59580	53750	64400	56820	52300	47330	41780
8	45290	43740	42740	40680	53120	61220	53860	60600	58130	52120	47190	41590
9	45100	44190	42670	40560	53300	61720	54010	57180	58250	51970	47020	41440
10	44930	44480	42580	40470	53410	60930	54890	55380	57490	51790	46890	41290
11	44710	44580	42520	40680	54890	59380	56240	54700	56590	51570	46720	41260
12	44510	44610	42450	40680	56630	57410	56940	54700	55690	51390	46550	41140
13	44350	44610	42610	40830	61180	55850	56900	54890	54810	51250	46320	41010
14	44190	44680	42450	40710	63410	54060	56510	54930	54280	50990	46320	40890
15	43940	44680	42330	40680	62730	54200	55890	54890	54280	50850	46120	40740
16	43810	44680	42360	41840	60520	54730	55150	54620	54280	50600	45920	40530
17	43650	44610	42270	42830	59580	55000	54810	54390	54240	50390	45690	40350
18	43520	44580	42140	43620	59580	55310	54700	54240	54200	50170	45490	40180
19	43360	44480	42050	44130	59500	55380	54510	54130	54090	49960	45230	40060
20	43210	44450	41930	44550	59290	55730	54390	54280	54010	49780	45030	39910
21	43080	44420	41740	44870	58970	56700	54580	54510	53750	49570	44870	39760
22	42920	44260	41680	45160	58650	57250	54930	55120	53710	49320	44640	39610
23	42800	44190	41680	45490	58290	63800	57100	55380	53640	49150	44450	39470
24	42890	44100	41650	46080	58010	88480	58770	55500	53530	49040	44290	39320
25	42860	43970	41500	47260	57610	92500	58970	55620	53340	48910	44100	39170
26	42740	43840	41440	48320	57060	92670	57930	55690	53150	48730	43870	39000
27	42640	43680	41410	49220	56660	88040	56590	55690	52970	48730	43650	38830
28	42450	43550	41380	49960	56860	80680	55850	56040	52820	48730	43430	38710
29	42330	43430	41380	50070	---	72740	55890	56040	52670	48700	43300	38510
30	42140	43330	41380	51070	---	67530	63610	56120	52560	48560	43140	38310
31	42050	---	41320	51460	---	64790	---	56120	---	48320	42860	---
MAX	46650	44680	43270	51460	63410	92670	63610	74990	58250	52560	48040	42700
MIN	42050	43080	41320	40470	51830	54200	53750	54130	52560	48320	42860	38310
†	434.57	434.98	434.33	437.38	438.81	440.73	440.47	438.62	437.68	436.49	434.83	433.31
‡	-4,700	+1,280	-2,010	+10,140	+5,400	+7,930	-1,180	-7,490	-3,560	-4,240	-5,460	-4,550

CAL YR 1977 MAX 154400 MIN 41320 ‡ -13,990
WTR YR 1978 MAX 92670 MIN 38310 ‡ - 8,440

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

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 good. 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 15 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) 8 years (water years 1971-78), 939 ft^3/s (26.59 m^3/s), 680,300 acre-ft/yr (839 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, 5,790 ft^3/s (164 m^3/s) May 5, gage height, 19.91 ft (6.069 m); minimum daily, 10 ft^3/s (0.28 m^3/s) Jan. 10, June 17, 18.

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	26	35	50	19	21	818	1420	413	17	17	13	27
2	23	38	41	20	21	832	1400	1330	18	14	13	27
3	24	26	37	21	21	826	1390	2510	19	14	14	27
4	24	21	36	23	21	811	1390	4180	16	14	16	27
5	27	21	34	23	20	808	1030	5200	63	14	17	27
6	30	21	33	24	21	1030	587	3590	250	17	16	27
7	30	21	32	23	21	1980	423	3460	273	14	16	27
8	29	29	37	17	19	1890	230	3440	296	14	17	27
9	24	44	31	12	21	1710	237	2960	347	14	17	30
10	23	27	32	10	20	1650	333	1560	558	14	16	30
11	21	25	36	11	20	1630	283	822	552	14	17	30
12	19	25	39	20	43	1610	396	474	547	14	15	33
13	20	24	46	24	140	1460	590	232	546	14	15	33
14	19	25	43	24	487	1210	589	237	325	12	16	27
15	17	27	43	22	1260	806	587	238	17	12	17	27
16	18	25	42	46	1820	232	585	234	15	11	17	27
17	20	25	40	54	1330	229	430	237	10	12	17	24
18	18	24	41	34	590	229	227	242	10	12	21	21
19	17	24	40	27	588	230	228	148	11	12	21	24
20	17	24	39	24	585	233	172	19	12	14	21	24
21	17	24	37	21	584	317	27	20	11	12	24	24
22	18	26	21	21	585	557	27	28	14	12	24	23
23	18	27	23	22	583	1030	26	24	14	12	24	22
24	47	28	42	28	582	3950	27	16	14	14	24	22
25	37	30	52	41	577	3870	283	12	14	19	24	21
26	24	30	62	41	576	2830	818	12	14	19	27	21
27	20	30	57	32	647	3480	816	14	14	18	30	22
28	19	32	47	27	844	5070	596	37	12	14	27	24
29	21	40	33	26	---	5040	219	23	13	13	27	24
30	21	44	26	26	---	4050	265	17	14	12	27	25
31	20	---	22	23	---	1970	---	16	---	12	27	---
TOTAL	708	842	1194	786	12047	52388	15631	31765	4036	430	617	774
MEAN	22.8	28.1	38.5	25.4	430	1690	521	1025	135	13.9	19.9	25.8
MAX	47	44	62	54	1820	5070	1420	5200	558	19	30	33
MIN	17	21	21	10	19	229	26	12	10	11	13	21
AC-FT	1400	1670	2370	1560	23900	103900	31000	63010	8010	853	1220	1540

CAL YR 1977 TOTAL 193591.7 MEAN 530 MAX 6250 MIN 4.0 AC-FT 384000
WTR YR 1978 TOTAL 121218.0 MEAN 332 MAX 5200 MIN 10 AC-FT 240400

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 good.

COOPERATION.--Gage height record and 10 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--17 years, 444 ft^3/s (12.57 m^3/s), 19.14 in/yr (486 mm/yr), 321,700 acre-ft/yr (397 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.--Maximum discharge, 18,800 ft^3/s (532 m^3/s) at 1045 Mar. 24, gage height, 15.48 ft (4.718 m), no other peak above base of 8,000 ft^3/s (227 m^3/s); 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	3.9	1380	122	20	183	961	256	918	50	14	.00	.00
2	3.3	1250	161	20	165	828	219	607	64	13	.00	.00
3	2.7	452	170	20	148	1060	190	1690	149	9.0	.00	.00
4	2.4	257	138	20	131	762	183	1870	184	7.0	.00	.00
5	2.1	189	116	20	117	537	195	1340	144	34	.00	.00
6	1.8	134	99	19	109	430	227	1320	96	27	.00	.00
7	1.8	102	80	19	101	2450	290	1630	350	20	.00	.00
8	1.8	102	67	19	99	2780	238	1520	849	15	.00	.00
9	1.7	1070	60	18	97	1560	203	917	515	12	.00	.00
10	1.4	623	52	18	93	1020	607	518	252	9.7	.00	.00
11	1.2	352	46	18	86	675	1070	336	142	7.0	.00	.26
12	1.1	231	41	20	129	493	610	240	94	5.5	.00	2.1
13	1.4	165	39	21	2520	380	423	175	76	4.5	.00	2.1
14	2.1	126	37	27	1550	360	318	132	87	3.5	.00	.92
15	2.1	100	35	41	875	301	251	100	58	2.7	.00	.25
16	2.3	85	33	384	581	241	205	80	42	2.2	.00	.00
17	2.4	73	34	1370	443	201	177	64	33	1.8	.00	.00
18	2.4	65	34	754	396	170	159	55	27	1.5	.00	.00
19	2.4	54	37	470	348	149	138	51	22	1.3	.00	.00
20	2.3	49	34	327	335	136	121	46	20	1.1	.00	.00
21	2.0	44	32	243	332	146	106	42	17	.63	.00	.00
22	1.9	40	29	199	299	459	93	53	15	.16	.00	.00
23	1.7	37	27	168	307	376	652	202	13	.69	.00	.00
24	58	33	25	183	380	9230	764	169	12	.98	.00	.00
25	149	32	24	915	398	2920	515	100	10	.60	.00	.00
26	52	30	22	1040	353	1570	366	69	9.0	1.4	.00	.00
27	26	28	22	584	301	1040	266	52	8.4	3.6	.00	.00
28	16	27	21	365	738	697	206	55	7.6	2.5	.00	.00
29	12	29	20	298	---	506	171	71	6.5	1.7	.00	.00
30	9.5	30	20	245	---	388	328	72	6.3	.95	.00	.00
31	9.8	---	20	210	---	311	---	64	---	.16	.00	---
TOTAL	380.5	7189	1697	8075	11614	33137	9547	14558	3356.8	205.17	.00	5.63
MEAN	12.3	240	54.7	260	415	1069	318	470	112	6.62	.000	.19
MAX	149	1380	170	1370	2520	9230	1070	1870	849	34	.00	2.1
MIN	1.1	27	20	18	86	136	93	42	6.3	.16	.00	.00
CFSM	.04	.76	.17	.83	1.32	3.39	1.01	1.49	.36	.02	.000	.001
IN.	.04	.85	.20	.95	1.37	3.91	1.13	1.72	.40	.02	.00	.00
AC-FT	755	14260	3370	16020	23040	65730	18940	28880	6660	407	.00	11

CAL YR 1977 TOTAL 113569.90 MEAN 311 MAX 11400 MIN 1.1 CFSM .99 IN 13.41 AC-FT 225300
WTR YR 1978 TOTAL 89765.10 MEAN 246 MAX 9230 MIN .00 CFSM .78 IN 10.60 AC-FT 178000

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
OCT										
05...	1615	1.8	90	8.3	19.5	10	10.5	114	4	31
NOV										
03...	1200	429	40	7.4	14.0	32	9.3	95	17	--
DEC										
07...	1500	78	58	8.0	6.0	9	12.0	97	10	16
JAN										
06...	1000	19	59	8.2	6.0	6	12.4	100	4	--
FEB										
08...	1445	100	40	7.2	3.5	10	14.4	108	4	11
13...	1135	3310	--	--	6.0	--	--	--	--	--
MAR										
08...	1230	2730	30	6.7	7.0	33	11.8	98	12	--
APR										
05...	1615	198	52	6.7	20.5	6	9.2	102	6	16
11...	1245	1020	--	--	16.0	--	--	--	--	--
MAY										
03...	1410	1810	--	--	15.5	--	--	--	--	--
04...	1115	1570	28	6.9	13.0	28	10.2	98	13	--
JUN										
21...	1645	17	47	7.3	31.5	2	6.4	88	4	21
28...	1240	7.4	--	--	30.5	--	--	--	--	--
JUL										
20...	1050	1.1	--	--	26.5	--	--	--	--	--
20...	1630	1.1	78	7.8	33.5	2	7.5	106	10	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT										
05...	8.7	21	2.2	3.0	.8	6.0	<2.0	.1	68	--
NOV										
03...	--	--	--	--	--	7.0	5.0	--	--	31
DEC										
07...	3.6	9	1.4	5.0	.7	<3.0	6.0	.1	--	3
JAN										
06...	--	--	--	--	--	9.0	4.0	.0	--	8
FEB										
08...	2.8	12	1.1	5.0	.5	8.0	1.0	<6.0	--	<1
13...	--	--	--	--	--	--	--	--	--	--
MAR										
08...	--	--	--	--	--	4.0	5.0	<6.0	--	32
APR										
05...	3.6	9	1.3	<10	.6	9.0	2.0	<6.0	--	1
11...	--	--	--	--	--	--	--	--	--	--
MAY										
03...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	11	3.0	6.0	--	8
JUN										
21...	6.0	15	1.4	<10	<1.0	<.0	4.0	<6.0	--	3
28...	--	--	--	--	--	--	--	--	--	--
JUL										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	15	7.0	6.0	--	4

07337900 GLOVER CREEK NEAR GLOVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT										
05...	<.10	1.0	1.0	--	.02	--	--	--	--	200
NOV										
03...	.30	2.0	2.3	10	.05	--	--	--	--	--
DEC										
07...	<.10	1.1	1.1	--	.03	--	--	--	--	570
JAN										
06...	<.10	.80	.80	--	.02	--	--	--	--	--
FEB										
08...	.10	1.3	1.4	6.4	4.0	1	2	13	<2	570
13...	--	--	--	--	--	--	--	--	--	--
MAR										
08...	.20	1.1	1.3	6.1	9.5	--	--	--	--	--
APR										
05...	.10	1.2	1.3	6.0	5.4	--	--	--	--	850
11...	--	--	--	--	--	--	--	--	--	--
MAY										
03...	--	--	--	--	--	--	--	--	--	--
04...	<.10	1.5	1.5	--	--	--	--	--	--	--
JUN										
21...	<.10	1.6	1.6	--	3.0	--	--	--	--	290
28...	--	--	--	--	--	--	--	--	--	--
JUL										
20...	--	--	--	--	--	--	--	--	--	--
20...	<.10	1.7	1.7	--	6.0	--	--	--	--	--

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)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
OCT										
05...	--	20	--	--	--	--	--	1.0	--	--
NOV										
03...	--	--	--	--	--	--	--	4.0	--	--
DEC										
07...	--	10	--	--	--	--	--	--	--	--
JAN										
06...	--	--	--	--	--	--	--	22	--	--
FEB										
08...	39	<20	<.5	<5	<1	<2	8	15	--	--
13...	--	--	--	--	--	--	--	--	180	1610
MAR										
08...	--	--	--	--	--	--	--	2.0	--	--
APR										
05...	--	<20	--	--	--	--	--	1.0	--	--
11...	--	--	--	--	--	--	--	--	30	83
MAY										
03...	--	--	--	--	--	--	--	--	60	293
04...	--	--	--	--	--	--	--	2.0	--	--
JUN										
21...	--	<20	--	--	--	--	--	<5.0	--	--
28...	--	--	--	--	--	--	--	--	10	.20
JUL										
20...	--	--	--	--	--	--	--	--	10	.03
20...	--	--	--	--	--	--	--	<5.0	--	--

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 good. Flow regulated since June 1969 by Pine Creek Lake 41.9 miles (67.4 km) upstream. (Station 07337300).

COOPERATION.--Gage-height record and 16 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) 8 years (water years 1971-78) 1,750 ft^3/s (49.56 m^3/s), 1,268,000 acre-ft/yr (1.56 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, 9,910 ft^3/s (281 m^3/s) Mar. 25, gage height 22.96 ft (6.998 m); minimum daily, 7.8 ft^3/s (0.22 m^3/s) Aug. 19.

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	41	93	184	79	388	2290	2740	1080	200	36	17	29
2	42	1450	267	73	353	2220	2070	1580	177	130	15	23
3	43	1310	316	68	334	2340	1960	2860	164	85	16	20
4	41	607	304	64	304	2290	1910	5030	249	63	17	23
5	36	391	273	64	275	1970	1900	6240	313	52	16	23
6	33	295	238	63	253	1750	1460	6730	314	40	17	22
7	33	214	205	63	235	3300	1170	6650	441	53	19	21
8	33	180	183	61	223	5630	907	6210	968	66	19	23
9	36	337	165	58	230	5340	645	5530	1240	56	17	25
10	37	1040	149	56	220	4000	954	4230	1010	47	15	25
11	36	645	139	60	213	3140	2470	2540	939	41	13	27
12	33	434	133	70	248	2740	1880	1490	820	38	11	41
13	32	321	131	78	1140	2530	1460	959	768	36	11	91
14	31	254	129	95	2990	2260	1360	645	734	31	13	58
15	26	213	125	111	2480	2040	1210	564	548	26	14	37
16	31	183	121	183	2670	1270	1100	506	239	24	13	30
17	37	163	114	1100	2780	693	1050	461	147	20	12	27
18	38	146	110	1570	2080	619	788	431	114	17	11	27
19	40	136	108	995	1420	580	546	408	93	15	7.8	27
20	40	127	108	705	1350	548	487	340	77	14	8.6	24
21	40	118	103	548	1330	643	408	214	67	15	13	23
22	39	109	100	455	1300	894	256	246	60	13	23	26
23	40	103	96	396	1300	1460	208	365	52	16	27	25
24	42	100	85	374	1330	5070	844	466	46	19	27	25
25	90	100	80	564	1380	9350	815	391	43	20	29	26
26	258	98	88	1480	1330	9240	1060	277	41	19	27	25
27	199	96	96	1280	1250	6700	1340	211	36	29	25	23
28	128	98	100	877	1530	5420	1240	212	32	33	26	20
29	93	104	97	651	---	5800	814	296	29	31	31	18
30	77	127	89	525	---	5770	609	300	24	28	38	18
31	69	---	81	442	---	4640	---	235	---	22	36	---
TOTAL	1794	9592	4517	13208	30936	102537	35661	57697	9985	1135	584.4	852
MEAN	57.9	320	146	426	1105	3308	1189	1861	333	36.6	18.9	28.4
MAX	258	1450	316	1570	2990	9350	2740	6730	1240	130	38	91
MIN	26	93	80	56	213	548	208	211	24	13	7.8	18
AC-FT	3560	19030	8960	26200	61360	203400	70730	114400	19810	2250	1160	1690

CAL YR 1977 TOTAL 416444.0 MEAN 1141 MAX 17300 MIN 15 AC-FT 826000
WTR YR 1978 TOTAL 268498.4 MEAN 736 MAX 9350 MIN 7.8 AC-FT 532600

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
NOV										
02	1400	6.8	115	7.5	17.0	16	6.4	67	19	--
DEC										
07	0945	202	68	8.0	7.0	9	11.5	94	15	31
JAN										
05	1500	66	124	8.0	5.5	6	11.0	83	>9	--
FEB										
09	0930	493	85	7.3	.0	10	13.8	95	5	15
15	1140	2460	--	--	4.5	--	--	--	--	--
MAR										
08	1730	5630	50	7.0	7.0	32	11.8	98	20	--
APR										
06	1045	1440	57	6.5	16.0	125	9.1	93	16	17
MAY										
04	1440	5370	40	7.2	15.5	29	9.0	92	18	--
JUN										
22	0930	59	114	7.1	28.0	2	5.7	73	19	38
JUL										
20	1530	15	260	8.5	33.0	5	9.5	132	25	--
AUG										
09	1330	17	300	7.8	29.0	1	6.3	82	13	47
SEP										
06	1600	21	400	7.1	29.0	2	7.5	97	14	--

DATE	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 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
NOV										
02	--	--	--	--	--	7.0	9.0	--	43	.20
DEC										
07	7.8	19	2.2	5.0	1.3	3.0	9.0	.1	6	.10
JAN										
05	--	--	--	--	--	9.0	21	.0	--	<.10
FEB										
09	5.1	10	1.4	7.0	.6	10	7.0	<.0	4	.10
15	--	--	--	--	--	--	--	--	--	--
MAR										
08	--	--	--	--	--	4.0	4.0	<.0	--	.20
APR										
06	3.4	8	1.4	<10	1.1	11	3.0	<.0	32	.10
MAY										
04	--	--	--	--	--	13	4.0	.1	66	.10
JUN										
22	11	27	2.2	21	1.5	<.0	18	.0	19	.10
JUL										
20	--	--	--	--	--	19	49	.0	13	<.10
AUG										
09	12	31	3.6	44	1.9	58	69	.1	5	<.10
SEP										
06	--	--	--	--	--	<1.0	93	.0	1	.10

07338500 LITTLE RIVER BELOW LUKFATA CREEK NEAR IDABEL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
NOV										
02...	2.1	2.3	10	.12	--	--	--	--	--	--
DEC										
07...	1.5	1.6	7.3	.04	--	--	--	--	1000	--
JAN										
05...	1.0	1.0	--	.03	--	--	--	--	--	--
FEB										
09...	1.3	1.4	6.4	6.2	1	<1	18	<2	730	5
15...	--	--	--	--	--	--	--	--	--	--
MAR										
08...	1.4	1.6	7.4	.11	--	--	--	--	--	--
APR										
06...	1.5	1.6	7.3	8.7	--	--	--	--	1440	--
MAY										
04...	1.5	1.6	7.1	.20	--	--	--	--	--	--
JUN										
22...	2.7	2.8	13	3.0	--	--	--	--	830	--
JUL										
20...	2.1	2.1	--	.34	--	--	--	--	--	--
AUG										
09...	1.5	1.6	--	1.2	1	14	13	9	380	225
SEP										
06...	1.7	1.8	8.3	4.0	--	--	--	--	--	--

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)
NOV									
02...	--	--	--	--	--	--	2.0	--	--
DEC									
07...	70	--	--	--	--	--	--	--	--
JAN									
05...	--	--	--	--	--	--	>17	--	--
FEB									
09...	60	<.5	3	<1	<2	8	28	--	--
15...	--	--	--	--	--	--	--	120	797
MAR									
08...	--	--	--	--	--	--	2.0	--	--
APR									
06...	110	--	--	--	--	--	5.0	--	--
MAY									
04...	--	--	--	--	--	--	7.0	--	--
JUN									
22...	180	--	--	--	--	--	6.0	--	--
JUL									
20...	--	--	--	--	--	--	10	--	--
AUG									
09...	200	<.5	--	<1	<2	6	--	--	--
SEP									
06...	--	--	--	--	--	--	<3.0	--	--

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 mi² (1,248 km).

PERIOD OF RECORD.--October 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 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	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)
OCT										
04...	1200	--	8.0	19.0	13	8.8	96	12	16	3.3
31...	1730	48	8.0	21.0	9	8.9	101	15	--	--
DEC										
05...	1445	26	7.9	9.5	26	10.7	96	10	14	2.1
JAN										
03...	1530	34	8.1	5.0	7	12.5	98	7	--	--
FEB										
08...	1000	30	7.2	1.5	10	14.2	103	<3	15	1.8
MAR										
07...	1015	30	6.9	6.0	32	12.2	100	9	--	--
APR										
04...	1650	38	6.7	19.0	5	9.7	105	5	8	1.2
MAY										
02...	1545	32	6.7	17.0	13	9.7	102	8	--	--
JUN										
21...	1230	34	7.5	30.0	2	7.6	100	7	10	2.0
JUL										
20...	0900	49	7.6	28.0	2	5.7	73	9	--	--
AUG										
07...	1600	55	8.9	32.0	1	8.3	114	9	14	2.8
SEP										
27...	1315	73	7.5	24.0	2	9.4	113	12	--	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT									
04...	8	1.5	5.0	1.8	5.0	<2.0	.1	57	--
31...	--	--	--	--	5.0	8.0	--	56	--
DEC									
05...	5	1.1	10	1.2	5.0	4.0	.1	--	13
JAN									
03...	--	--	--	--	7.0	2.0	.0	--	11
FEB									
08...	16	.9	12	.4	8.0	3.0	<6.0	--	1
MAR									
07...	--	--	--	--	9.0	4.0	6.0	--	39
APR									
04...	3	.9	<10	.5	<3.0	4.0	9.0	--	7
MAY									
02...	--	--	--	--	6.0	3.0	8.0	--	7
JUN									
21...	5	1.1	<10	<1.0	<.0	4.0	<6.0	--	4
JUL									
20...	--	--	--	--	<1.0	5.0	<6.0	--	2
AUG									
07...	7	1.8	5.0	.6	9.0	5.0	<6.0	--	0
SEP									
27...	--	--	--	--	5.0	<1.0	.1	--	1

07338840 MOUNTAIN FORK NEAR SMITHVILLE, OK

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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									
04...	.10	1.2	1.3	5.9	.05	--	--	--	--
31...	<.10	2.7	2.7	--	.06	--	--	--	--
DEC									
05...	.10	1.0	1.1	5.0	.12	--	--	--	--
JAN									
03...	<.10	.85	.85	--	.03	--	--	--	--
FEB									
08...	.10	1.3	1.4	6.4	4.0	1	2	20	<2
MAR									
07...	.40	1.1	1.5	7.0	.47	--	--	--	--
APR									
04...	.10	1.4	1.5	6.9	4.5	--	--	--	--
MAY									
02...	.10	1.3	1.4	6.4	.12	--	--	--	--
JUN									
21...	<.10	1.5	1.5	--	7.5	--	--	--	--
JUL									
20...	.10	1.3	1.4	6.5	3.0	--	--	--	--
AUG									
07...	.10	1.7	1.8	8.4	3.0	--	2	10	6
SEP									
27...	<.10	1.3	1.3	--	<.10	--	--	--	--

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									
04...	1050	--	50	--	--	--	--	--	3.0
31...	--	--	--	--	--	--	--	--	7.0
DEC									
05...	1980	--	<10	--	--	--	--	--	14
JAN									
03...	--	--	--	--	--	--	--	--	1.0
FEB									
08...	520	18	<20	<.5	<5	<1	<2	8	21
MAR									
07...	--	--	--	--	--	--	--	--	1.0
APR									
04...	810	--	10	--	--	--	--	--	1.0
MAY									
02...	--	--	--	--	--	--	--	--	1.0
JUN									
21...	400	--	<20	--	--	--	--	--	<5.0
JUL									
20...	--	--	--	--	--	--	--	--	<5.0
AUG									
07...	210	11	50	<.5	<5	<1	<2	17	--
SEP									
27...	--	--	--	--	--	--	--	--	3.0

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-generating 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, 970,700 acre-ft (1.20 km^3) Mar. 27, elevation, 603.14 ft (183.837 m); minimum, 777,200 acre-ft (958 hm^3) Oct. 10, elevation, 589.06 ft (179.545 m).

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

589	776,500	598	897,000
592	815,400	601	939,500
595	855,600	604	983,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	796500	784800	788700	786000	797000	842500	936200	931200	916400	896700	861700	823000
2	796100	785800	789700	784800	798000	847500	935500	931000	917200	896700	860500	822700
3	794100	786600	791300	783200	797400	851500	935000	934200	919100	895400	860400	822700
4	793900	786500	793000	783000	798700	855600	933200	930600	920800	895400	859400	821600
5	793900	786500	792800	783400	799200	858700	930600	924000	920300	893900	859000	820600
6	793900	786900	792200	781900	797100	862300	929600	931800	920500	891900	858900	819900
7	792600	785100	791500	782500	795700	875600	927000	952800	920300	890200	857500	819000
8	793200	786000	793100	782100	793400	886900	924000	956200	921500	889700	857200	817300
9	791900	787400	790600	780400	789600	890500	921800	948500	920800	889600	855600	817200
10	790800	787500	790500	779200	789200	892300	923200	938400	921800	887900	855900	817200
11	792800	787300	790600	779800	789500	896400	926000	927600	922200	887800	854600	817000
12	791700	787300	790100	778600	793500	899200	926200	922300	920600	886100	854100	817200
13	790600	787300	790800	778100	802300	897000	924500	923500	918500	884300	854000	816400
14	789100	786500	789800	777900	809000	895300	921900	925200	915200	882900	851400	816200
15	789300	786900	790400	778000	811900	891500	922000	923800	913000	882900	848800	815200
16	789300	786600	790200	781200	815300	888400	921800	923200	910600	882600	846400	815200
17	788200	788200	789600	782800	818100	888300	918800	922800	910300	881000	844800	814600
18	788000	787400	789800	784400	819900	890000	914800	922600	910300	880500	843000	813100
19	786900	787500	790500	783800	821400	891200	909400	922500	908900	878900	842900	812200
20	786600	789000	789700	782500	823000	892100	905900	922900	908500	878600	842300	811200
21	785700	787300	788400	783400	823900	899000	905100	923900	907000	877200	841000	811100
22	785400	787600	787900	784200	824600	902800	907000	924500	906600	876700	838700	809600
23	785300	787600	787900	782900	826000	908900	917400	924300	905600	877100	837000	809400
24	785500	787100	787800	784400	827200	949300	920900	920800	905400	875800	834600	809300
25	781900	786600	787800	790000	829600	962400	922000	919800	904900	873600	831900	807800
26	778900	786600	786900	793100	832000	969500	922600	917900	903700	871000	831700	807300
27	777600	786900	786800	795300	833500	968200	921800	918200	901800	868700	831200	806200
28	777200	786900	785500	797200	836400	961700	921800	919100	899800	866400	828800	806000
29	777200	786900	785700	799200	---	954300	922600	919100	896100	866100	827600	804800
30	778100	786600	785800	798900	---	946000	928200	918500	894300	865700	825900	804500
31	780700	---	785200	795900	---	936900	---	916800	---	862700	824000	---
MAX	796500	789000	793100	799200	838400	969500	936200	956200	922200	896700	861700	823000
MIN	777200	784800	785200	777900	789200	842500	905100	916800	894300	862700	824000	804500
†	589.33	589.79	589.68	590.51	593.73	600.82	600.21	599.41	597.81	595.52	592.65	597.17
‡	-15,200	+5,900	-1,400	+10,700	+42,500	+98,500	-8,700	-11,400	-22,500	-31,600	-38,700	-19,500

CAL YR 1977 MAX 1079000 MIN 716100 ‡ +22,100
WTR YR 1978 MAX 969500 MIN 777200 ‡ + 8,600

† 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 mi² (2,040 km²).

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 mi² (85 km²) 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 ft³/s (36.56 m³/s), 934,600 acre-ft/yr (1.15 km³/yr); since regulation by Broken Bow Dam, 9 years (water years 1970-78), 1,337 ft³/s (37.86 m³/s), 968,700 acre-ft/yr (1.19 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 101,000 ft³/s (2,850 m³/s) May 20, 1960, gage height, 26.73 ft (8.147 m), from rating curve extended above 65,000 ft³/s (1,840 m³/s0; 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 ft³/s (2,620 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,860 ft³/s (223 m³/s) May 5, gage height, 7.55 ft (2.301 m); minimum daily, 83 ft³/s (2.35 m³/s) July 2.

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	376	220	302	123	810	371	2390	195	991	520	798	625
2	154	433	452	111	142	248	1220	1130	691	83	483	417
3	201	245	229	771	499	375	1060	2540	344	120	409	154
4	300	401	138	277	248	233	1550	6460	110	241	166	151
5	147	236	249	123	117	126	2130	7770	300	219	241	366
6	136	138	169	424	504	287	2290	2630	617	711	121	410
7	132	889	375	240	1160	733	2260	1580	871	847	119	329
8	226	579	207	117	1680	715	2230	3320	954	497	285	537
9	143	392	407	406	2350	1670	2340	7490	1360	94	209	549
10	139	472	218	283	1570	2270	3300	7490	973	188	369	164
11	226	479	132	612	314	791	3300	7510	151	351	248	201
12	139	421	257	525	147	155	2830	4270	769	222	422	334
13	263	143	186	1060	569	1470	2720	1780	1730	553	153	263
14	880	308	137	258	521	2710	2680	186	1800	598	491	395
15	241	209	264	126	556	2920	1480	332	1480	416	1430	226
16	136	434	142	530	266	3050	1030	999	1170	111	1380	420
17	130	457	362	900	338	1930	2240	596	688	144	944	154
18	279	436	128	880	208	309	2730	466	137	257	590	252
19	137	237	117	1020	127	117	3140	452	177	185	557	657
20	424	139	323	1560	276	245	2780	331	312	313	164	409
21	206	273	137	794	401	190	1490	129	220	200	265	333
22	406	201	307	149	337	922	611	1010	351	329	795	248
23	130	145	145	641	356	1310	154	2040	226	113	951	382
24	319	272	312	687	496	2790	129	2270	353	131	1090	153
25	1360	149	128	621	242	1080	543	1900	125	825	1360	186
26	786	285	118	615	119	211	575	1250	166	1110	754	314
27	142	137	188	689	350	2200	961	773	651	1230	158	219
28	501	290	407	467	256	4880	762	155	956	1280	422	393
29	230	204	213	135	---	5460	603	195	1310	623	857	214
30	129	163	128	764	---	5880	144	454	1310	135	759	392
31	282	---	285	2020	---	5630	---	755	---	513	761	---
TOTAL	9300	9387	7162	17928	14959	51278	51672	68458	21293	13159	17751	9847
MEAN	300	313	231	578	534	1654	1722	2208	710	424	573	328
MAX	1360	889	452	2020	2350	5880	3300	7770	1800	1280	1430	657
MIN	129	137	117	111	117	117	129	129	110	83	119	151
AC-FT	18450	18620	14210	35560	29670	101700	102500	135800	42230	26100	35210	19530

CAL YR 1977 TOTAL 352244 MEAN 965 MAX 7800 MIN 117 AC-FT 698700
WTR YR 1978 TOTAL 292194 MEAN 801 MAX 7770 MIN 83 AC-FT 579600

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 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CACO3)
OCT 05	1730	127	38	7.6	19.5	1	9.1	99	4	13
NOV 02	1500	844	30	7.7	16.5	2	9.4	96	7	--
DEC 08	0915	204	28	8.2	9.0	1	11.2	98	10	10
JAN 06	0900	116	32	8.2	8.0	0	12.1	102	>6	--
FEB 08	1600	2440	40	7.0	4.0	1	14.0	107	3	13
MAR 08	1400	1260	40	6.9	6.0	3	12.4	100	7	--
APR 06	0800	1310	40	7.0	10.5	24	11.1	100	5	13
MAY 04	1230	7510	27	6.8	12.0	5	10.3	97	5	--
JUN 21	1800	148	32	7.3	24.5	1	7.9	95	6	12
JUL 19	1530	124	39	7.0	27.5	2	8.2	104	11	--
AUG 09	1000	154	39	8.0	22.5	1	8.2	93	5	11
SEP 06	1245	279	40	7.2	21.5	1	8.7	99	5	--

DATE	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 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 05	3.4	8	1.1	5.0	.6	6.0	<2.0	.2	38	--
NOV 02	--	--	--	--	--	40	2.0	--	--	8
DEC 08	2.2	5	1.0	5.0	.7	5.0	2.0	.1	--	1
JAN 06	--	--	--	--	--	7.0	2.0	.0	--	10
FEB 08	2.7	8	1.0	14	.5	8.0	1.0	<6.0	--	1
MAR 08	--	--	--	--	--	4.0	4.0	<6.0	--	13
APR 06	2.7	6	1.2	<10	.5	9.0	5.0	<6.0	--	3
MAY 04	--	--	--	--	--	11	2.0	6.0	--	8
JUN 21	3.0	7	1.0	12	<1.0	<.0	4.0	<6.0	--	10
JUL 19	--	--	--	--	--	19	7.0	<6.0	--	14
AUG 09	2.5	6	1.1	<5.0	<.5	51	4.0	<6.0	--	2
SEP 06	--	--	--	--	--	<1.0	8.0	<6.0	--	1

07339000 MOUNTAIN FORK NEAR EAGLETOWN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 05...	<.10	.83	.89	--	.03	--	--	--	--
NOV 02...	.10	2.0	2.1	9.3	.02	--	--	--	--
DEC 08...	<.10	1.4	1.4	--	.02	--	--	--	--
JAN 06...	.10	1.4	1.5	6.9	.01	--	--	--	--
FEB 08...	.10	1.6	1.7	7.7	3.0	<1	1	25	<2
MAR 08...	.10	1.1	1.2	5.7	4.5	--	--	--	--
APR 06...	.10	1.2	1.3	6.0	2.7	--	--	--	--
MAY 04...	.10	1.2	1.3	5.8	2.0	--	--	--	--
JUN 21...	.10	1.1	1.2	5.4	8.5	--	--	--	--
JUL 19...	.10	2.3	2.4	11	2.0	--	--	--	--
AUG 09...	<.10	.97	.97	--	3.5	--	<1	20	6
SEP 06...	.40	1.1	1.5	7.0	1.5	--	--	--	--

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 05...	390	--	50	--	--	--	--	--	<1.0
NOV 02...	--	--	--	--	--	--	--	--	2.0
DEC 08...	110	--	30	--	--	--	--	--	--
JAN 06...	--	--	--	--	--	--	--	--	>16
FEB 08...	160	5	90	.7	<5	<1	<2	7	14
MAR 08...	--	--	--	--	--	--	--	--	1.0
APR 06...	680	--	60	--	--	--	--	--	<1.0
MAY 04...	--	--	--	--	--	--	--	--	<1.0
JUN 21...	340	--	70	--	--	--	--	--	<5.0
JUL 19...	--	--	--	--	--	--	--	--	<5.0
AUG 09...	110	8	150	<.5	--	<1	<2	8	11
SEP 06...	--	--	--	--	--	--	--	--	<3.0

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 mi² (6,926 km²).

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 1977 TO SEPTEMBER 1978

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW (CFS)	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)
OCT											
06...	0935	1028	--	--	208	--	--	20.0	--	--	--
06...	1030	--	--	198	--	130	7.4	19.5	--	--	8.0
10...	1200	9827	9827	191	--	113	7.2	18.0	35	--	7.3
NOV											
03...	1000	--	--	1920	--	200	8.1	17.0	--	--	7.5
07...	1200	9827	9827	430	--	72	6.5	17.0	20	--	7.0
DEC											
05...	1215	9827	9827	445	--	96	--	11.0	15	--	9.4
08...	1045	--	--	581	--	78	8.0	8.5	--	--	10.3
JAN											
05...	1630	--	--	307	--	58	7.9	8.0	--	--	10.8
09...	1215	9827	9827	219	--	83	7.2	5.0	10	--	11.0
FEB											
06...	1030	9827	9827	489	--	74	6.9	2.0	15	--	12.2
08...	1535	1028	--	--	1160	--	--	3.0	--	--	--
08...	1715	1028	9740	1210	--	50	7.5	3.0	--	6	13.8
MAR											
06...	1100	9827	9827	2110	--	67	6.5	5.0	50	--	11.6
08...	1530	1028	9740	7520	--	70	7.1	7.0	--	45	11.2
APR											
06...	0925	1028	9740	3850	--	50	6.9	13.5	--	12	10.6
06...	1020	1028	--	--	4450	--	--	14.5	--	--	--
06...	1145	--	--	--	4450	--	--	14.5	--	--	--
18...	1115	9827	9827	3920	--	44	6.7	14.0	30	--	9.6
MAY											
01...	1130	9827	9827	1300	--	60	6.8	18.0	40	--	8.3
04...	1340	1028	9740	9800	--	40	6.9	14.0	--	16	9.5
11...	1520	--	--	--	12100	--	--	17.0	--	--	--
11...	1525	1028	--	--	11700	--	--	17.0	--	--	--
JUN											
05...	1130	9827	9827	581	--	81	6.9	24.0	30	--	6.8
15...	1200	--	--	--	2210	--	--	22.0	--	--	--
15...	1625	1028	--	--	2210	--	--	22.0	--	--	--
21...	1930	1028	9740	361	--	57	7.3	28.5	--	5	6.8
26...	1115	9827	9827	234	--	73	6.7	28.0	20	--	6.3
JUL											
19...	1330	1028	9740	270	--	62	7.5	31.0	--	3	7.4
19...	1505	1028	--	--	228	--	--	29.5	--	--	--
31...	1100	9827	9827	255	--	54	6.9	25.0	20	--	7.6
AUG											
09...	1130	1028	9740	299	--	67	7.2	27.5	--	1	7.6
28...	1130	9827	9827	250	--	55	7.0	26.0	5	--	--
SEP											
06...	1415	1028	9740	460	--	96	7.3	26.5	--	4	7.6
08...	1110	1028	--	--	303	--	--	26.0	--	--	--
25...	0915	9827	9827	218	--	96	6.5	22.0	10	--	6.7

07340000 LITTLE RIVER NEAR HORATIO, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	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)
OCT											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	86	--	--	--	--	--	--	--	--	--	--
10...	77	--	22	5.0	--	2.0	12	1.7	5.0	20	--
NOV											
03...	77	--	--	--	--	--	--	--	--	--	--
07...	72	--	--	--	--	--	--	--	--	9.5	--
DEC											
05...	85	--	--	--	--	--	--	--	7.0	16	--
08...	89	--	--	--	--	--	--	--	--	--	--
JAN											
05...	92	--	--	--	--	--	--	--	--	--	--
09...	86	--	15	3.0	--	1.6	7.5	1.4	5.0	--	--
FEB											
06...	88	--	--	--	--	--	--	--	8.0	10	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	103	7	54	3.4	36	1.0	10	.7	8.0	2.0	<6.0
MAR											
06...	92	--	--	--	--	--	--	--	8.0	7.0	--
08...	92	22	--	--	--	--	--	--	6.0	4.0	<6.0
APR											
06...	96	10	17	3.4	8	1.5	<10	.6	7.0	2.0	<6.0
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
18...	92	--	10	1.6	--	1.1	3.8	1.2	--	6.5	--
MAY											
01...	87	--	--	--	--	--	--	--	5.0	8.5	--
04...	92	16	--	--	--	--	--	--	11	2.0	6.0
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
JUN											
05...	80	--	--	--	--	--	--	--	8.0	12	--
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
21...	88	7	17	4.0	10	1.4	13	<1.0	<.0	8.0	<6.0
26...	80	--	--	--	--	--	--	--	5.0	8.0	--
JUL											
19...	99	6	--	--	--	--	--	--	23	10	<6.0
19...	--	--	--	--	--	--	--	--	--	--	--
31...	90	--	12	3.0	--	1.0	5.4	1.2	7.0	--	--
AUG											
09...	95	9	15	3.6	9	1.3	<5.0	.5	58	12	<6.0
28...	94	--	--	--	--	--	--	--	5.0	7.0	--
SEP											
06...	94	8	--	--	--	--	--	--	<1.0	17	<6.0
08...	--	--	--	--	--	--	--	--	--	--	--
25...	76	--	--	--	--	--	--	--	5.0	16	--

07340000 LITTLE RIVER NEAR HORATIO, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA 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											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
10...	.15	.16	.32	--	--	--	.04	<5	<10	<5	<10
NOV											
03...	--	--	--	--	--	--	--	--	--	--	--
07...	.25	.27	.19	--	--	--	.05	--	--	--	--
DEC											
05...	.16	.17	.21	--	--	--	.05	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	--	--	--	--	--	--	--	--	--	--	--
09...	.14	.15	.06	--	--	--	.07	<5	<10	7	<20
FEB											
06...	.19	.21	.13	--	--	--	.07	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	.10	--	1.2	1.3	5.8	4.7	<1	<1	25	<2
MAR											
06...	.26	.28	.11	--	--	--	.06	--	--	--	--
08...	--	.30	--	1.7	2.0	9.1	.19	--	--	--	--
APR											
06...	--	.10	--	1.4	1.5	6.7	.54	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
18...	.12	.13	.05	--	--	--	--	<5	<10	<5	30
MAY											
01...	.13	.15	.06	--	--	--	.08	--	--	--	--
04...	--	.10	--	1.5	1.6	7.1	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
JUN											
05...	.16	.17	.07	--	--	--	.08	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
21...	--	.10	--	1.6	1.7	7.8	.17	--	--	--	--
26...	.12	.15	.11	--	--	--	.05	--	--	--	--
JUL											
19...	--	.10	--	1.2	1.3	5.9	3.0	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
31...	.12	.13	.07	--	--	--	.11	<5	<10	--	140
AUG											
09...	--	<.10	--	.97	.97	--	5.0	<1	1	11	6
28...	.12	.13	.07	--	--	--	.06	--	--	<5	--
SEP											
06...	--	.20	--	.47	.67	3.0	3.5	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
25...	.23	.24	.10	--	--	--	.07	--	--	--	--

07340000 LITTLE RIVER NEAR HORATIO, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)	SEDIMENT, SUSPENDED (MG/L)
OCT										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
10...	810	20	110	--	--	--	--	20	--	--
NOV										
03...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	--	--	--	--	--	--	--	--	--	--
09...	370	30	190	--	--	--	--	10	--	--
FEB										
06...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
08...	290	8	60	<.5	<5	<1	<2	5	12	--
MAR										
06...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	4.0	--
APR										
06...	1370	--	90	--	--	--	--	--	3.0	--
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	20
18...	800	60	85	--	--	--	--	20	--	--
MAY										
01...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	6.0	--
11...	--	--	--	--	--	--	--	--	--	20
11...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	20
15...	--	--	--	--	--	--	--	--	--	--
21...	680	--	130	--	--	--	--	--	<5.0	--
26...	--	--	--	--	--	--	--	--	--	--
JUL										
19...	--	--	--	--	--	--	--	--	<5.0	--
19...	--	--	--	--	--	--	--	--	--	--
31...	240	20	91	<1.0	--	--	--	<10	--	--
AUG										
09...	410	16	90	<.5	--	<1	<2	38	--	--
28...	--	--	--	--	--	--	--	--	--	--
SEP										
06...	--	--	--	--	--	--	--	--	<3.0	--
08...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--

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 No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Red River Basin					
07300150	Bear Creek near Vinson, Okla.	Lat 34°54'10", long 99°58'50", in NW 1/4 NE 1/4 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	1964-78	06-06-78	11.34	1,240
07301455	Turkey Creek near Erick, Okla.	Lat 35°12'05", long 99°47'55", in NW 1/4 NW 1/4 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	05-28-78	7.27	2,610
07301480	Short Creek near Sayre, Okla.	Lat 35°18'20", long 99°39'15", in SW 1/4 SE 1/4 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	1964-78	05-28-78	13.59	448
07312850	Nine Mile Beaver Creek near Elgin, Okla.	Lat 34°46'40", long 98°15'25", in SE 1/4 NW 1/4 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	1964-78	05-28-78	11.85	3,740
07313600	Cow Creek at Waurika, Okla.	Lat 34°10'55", long 98°00'05", in SE 1/4 NE 1/4 sec.26, T.4 S., R.8 W., Jefferson County, at Chicago, Rock Island and Pacific Railway Co. bridge, near north edge of Waurika.		1967-70† 1971-78	05-28-78	22.58	5,210
07315680	Cottonwood Creek tributary near Loco, Okla.	Lat 34°18'40", long 97°34'00", in SE 1/4 NE 1/4 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	1964-78	05-28-78	8.25	530
07316140	Brier Creek near Powell, Okla.	Lat 33°59'54", long 96°49'35", in NW 1/4 NW 1/4 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	1965-78	03-23-78	8.18	1,030
07329500	Rush Creek near Maysville, Okla.	Lat 34°44'36", long 97°24'18", in SW 1/4 SW 1/4 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† 1977-78	05-28-78	10.74	3,430
07329870	Honey Creek near Davis, Okla.	Lat 34°26'50", long 97°07'40", in NW 1/4 NE 1/4 sec.30, T.1 S., R.2 E., Murray County, at bridge on State Highway.	18.7	1964-78	05-27-78	11.39	2,110
07335310	Rock Creek near Boswell, Okla.	Lat 33°57'57", long 95°52'02", in NE 1/4 NE 1/4 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	1965-78	03-23-78	6.94	483
07336000	Tenmile Creek near Miller, Okla.	Lat 34°17'55", long 95°44'40", in NW 1/4 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† 1971-78	02-12-78	20.13	2,040
07336520	Frazier Creek near Oleta, Okla.	Lat 34°11'50", long 95°21'00", in NW 1/4 NE 1/4 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	1965-78	03-23-78	13.36	2,760
07338520	Yanubbee Creek near Broken Bow, Okla.	Lat 34°03'35", long 94°44'22", in NW 1/4 SW 1/4 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	1964-78	03-23-78	8.16	515
07338780	Mountain Fork tributary near Smithville, Okla.	Lat 34°29'48", long 94°40'06", in NW 1/4 SE 1/4 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	1965-78	03-23-78	3.90	143

† operated as a continuous-record station

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 (sq mi)	Measured previous (water years)	Measurements Date	Measurements Discharge (cfs)
341534096483701 Mill Creek	Washita River	Lat. 34°15'34", long 96°48'37" NW 1/4 NW 1/4 NW 1/4, 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 1976-77	8-24-78	1.65
341540096485101 Daube Spring	Mill Creek	Lat. 34°15'40", long 96°48'51", SW 1/4 SE 1/4 SE 1/4, sec. 30, T.3 S., R.5 E., Johnston County, Hydrologic Unit 11130304, 2.6 mi (4.2 km) west of State Highway 12 and 4.5 mi (7.2 km) south of Troy.		1977	10-19-77	0.09
341749096544701 Oil Creek	Washita River	Lat 34°17'49", long 96°54'47", SE 1/4 SW 1/4 NW 1/4, 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	10-10-77 8-22-78	1.10 1.06
341835096342901 Blue River	Red River	Lat 34°18'35", long 96°34'29", SW 1/4 NW 1/4 SE 1/4, sec. 9, T.3 S., R.7 E., Pontotoc County, Hydrologic Unit 11140102, on Pexton Ranch, 7 mi (11 km) southeast of Reagan.	190	1976-77	8-22-78	31.2
34192096422001 Pennington Creek	Washita River	Lat 34°19'20", long 96°42'20", SW 1/4 NW 1/4 SW 1/4, 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	8-22-78	21.0
341927096541801 Unnamed Spring	Oil Creek	Lat 34°19'27", long 96°54'18", NW 1/4 NW 1/4 SE 1/4, sec.5, T.3 S., R.4 E., Johnston County, Hydrologic Unit 11130304, 3 mi (4.8 km) east of State Highway 18 and 3.6 mi (5.8 km) southeast of Nebo.		1977	10-18-77	0.02
341927097021401 Cool Creek	Washita River	Lat. 34°19'27", long 97°02'14", NW 1/4 NW 1/4 SW 1/4, 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	8-21-78	0.05
342035096554101 Buck Irving Spring	Oil Creek	Lat 34°20'35", long 96°55'41", NW 1/4 SE 1/4 NW 1/4 sec. 31, T.2 S., R.4 E., Murray County, Hydrologic Unit 11130304, near old grain silo, 1.8 mi (2.9 km) southeast of Nebo.		1977	10-18-77	0.77
342058096420501 Keel Creek	Pennington Creek	Lat 34°20'58", long 96°42'05", NE 1/4 SW 1/4 SW 1/4, 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	8-21-78	0

Geohydrology of the Arbuckle aquifer, south-central Oklahoma.--Continued

Site No. and Stream	Tributary to	Location	Drainage area (sq mi)	Measured previous (water years)	Measurements Date	Measurements Discharge (cfs)
342109097153101 Ed Ivan Keys Spring	Hickory Creek	Lat 34°21'09", long 97°15'31", SW 1/4 NE 1/4 SW 1/4 sec. 25, T.2 S., R.1 W., Carter County, Hydrologic Unit 11130303, 1.35 mi (2.17 km) north of State Highway 53, 1.8 mi (2.9 km) northeast of Woodford.			2-23-78	0.05
342140096471801 Rock Creek	Washita River	Lat 34°21'40", long 96°47'18", SW 1/4 SE 1/4 SW 1/4 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	8-22-78	0.03
342146096392701 Buzzard Creek	Washita River	Lat 34°21'46", long 96°39'27", SW 1/4 NE 1/4 NE 1/4 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		8-21-78	0
342212096432001 Pennington Creek	Washita River	Lat 34°22'12", long 96°43'20", SW 1/4 SW 1/4 NW 1/4 sec. 19, T.2 S., R.6 E., Johnston County, Hydrologic Unit 11130304, above confluence with Spring Creek, 1.75 mi (2.82 km) north of Reagan.	44.5	1976-77	10-21-77 8-22-78	6.84 10.5
342215096430501 Spring Creek	Pennington Creek	Lat 34°22'15", long 96°43'05", NW 1/4 SE 1/4 NW 1/4 sec. 19, T.2 S., R.6 E., Johnston County, Hydrologic Unit 11130304, above confluence with Pennington Creek, 1.75 mi (2.28 km) north of Reagan.	19.6	1976-77	10-21-77 8-22-78	2.2 9.3
342228097141701 Jennings Spring	Henryhouse Creek	Lat 34°22'28", long 97°14'17", NW 1/4 NW 1/4 NE 1/4 sec.19, T.2 S., R.1 E., Carter County, Hydrologic Unit 11130303, on Fitzgerald Ranch, 2.9 mi (4.7 km) north of Highway 53, 6.7 mi (10.8 km) northwest of Springer.			2-23-78	0.65
342247097143301 Unnamed Spring	Henryhouse Creek	Lat 34°22'47", long 97°14'33", NE 1/4 SW 1/4 SW 1/4 sec. 18, T.2 S., R.1 E., Murray County, Hydrologic Unit 11130303, 3.4 mi (5.5 km) north of State Highway 53, 7.2 mi (11.6 km) northwest of Springer.			4-13-78	1.27
342253097165802 Cold Spring	Hickory Creek	Lat 34°22'53", long 97°16'58", SE 1/4 NE 1/4 SE 1/4, 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 (3.5 km) north of Woodford.			8-24-78	0.20
342253097165801 Hickory Creek	Caddo Creek	Lat 34°22'53", long 97°16'58", SE 1/4 NE 1/4 SE 1/4 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.			8-24-78 9-08-78	0.43 0.37

Geohydrology of the Arbuckle aquifer, south-central Oklahoma.--Continued

Site No. and Stream	Tributary to	Location	Drainage area (sq mi)	Measured previous (water years)	Measurements Date	Measurements Discharge (cfs)
342254096425501 Unnamed Spring	Spring Creek	Lat 34°22'54", long 96°42'55", NE 1/4 NE 1/4 SW 1/4 sec. 18, T.2 S., R.6 E., Johnston County, Hydrologic Unit 11130304, on Daube Inc. property, 2.0 mi (3.2 km) north of Tishomingo National Fish Hatchery at Reagan.		1976	10-20-77	4.6
342342097134701 Unnamed Spring	Henryhouse Creek	Lat 34°23'42", long 97°13'47", SW 1/4 NW 1/4 SW 1/4 sec. 8, T.2 S., R.1 E., Murray County, Hydrologic Unit 11130303, on the Butterly Ranch, 4.4 mi (7.1 km) north of State Highway 53, 7.7 mi (12.4 km) northwest of Springer.			4-12-78	0.50
342417096514701 Mill Creek	Washita River	Lat 34°24'17", long 96°51'47", NW 1/4 NW 1/4 NW 1/4, 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 1976-77	10-20-77 8-21-78	2.43 3.53
34241909636450 Diamond Spring Creek	Blue River	Lat 34°24'19", long 96°36'45", NE 1/4 NE 1/4 NW 1/4, sec. 7, T.2 S., R.7 E., Johnston County, Hydrologic Unit 11140102, 250 ft (76 m) downstream from springhouse, 1.3 mi (2.1 km) east of State Highway 99 and 3.0 mi (4.8 km) south of Connerville.	8.6	1977	2-23-77 11-04-77	3.5 0.35
342421097065401 Unnamed Spring	Falls Creek	Lat.34°24'21", long 97°06'54", SW 1/4 SW 1/4 SE 1/4 sec. 5, T.2 S., R.2 E., Murray County, Hydrologic Unit 11130303, 2.2 mi (3.5 km) southeast of Turner Falls, and 3.5 mi (5.6 km) west of Dougherty.			12-30-77	0.20
342425096252801 Delaware Creek	Clear Boggy Creek	Lat 34°24'25", long 96°25'28", NE 1/4 SW 1/4 SW 1/4, sec. 2, T.2 S., R.8 E., Johnston County, Hydrologic Unit 11140104, at bridge on State Highway 48, 2.0 mi (3.2 km) north of Wapanucka.	45.8	1977	8-21-78	0
342505097094401 Unnamed Spring	Honey Creek	Lat 34°25'05", long 97°09'44", NE 1/4 NE 1/4 NE 1/4 sec. 2, T.2 S., R.1 E., Murray County, Hydrologic Unit 11130303, 200 ft (61 m) upstream from dam, 1.0 mi (1.6 km) west of Turner Falls, 4.0 mi (6.4 km) south of Davis.			1-31-78	0.74
342508096355401 Blue River	Red River	Lat 34°25'08", long 96°35'54", NW 1/4 NW 1/4 NW 1/4 sec. 5, T.2 S., R.7 E., Pontotoc County, Hydrologic Unit 11140102, at upstream side of road crossing, 1.7 mi (2.7 km) southeast of Connerville.	151	1976-77	8-21-78	32.0
342508097094001 Honey Creek	Washita River	Lat 34°25'08", long 97°09'40", NE 1/4 NE 1/4 NE 1/4 sec. 2, T.2 S., R.1 E., Murray County, Hydrologic Unit 11130303, at upstream dam, 1.0 mi (1.6 km) west of Turner Falls, 4.0 mi (6.4 km) south of Davis.			1-31-77	0.77
342512096453001 Pennington Creek	Washita River	Lat 34°25'12", long 96°45'30", SE 1/4 SE 1/4 SE 1/4 sec. 34, T.1 S., R.5 E., Johnston County, Hydrologic Unit 11130304, at bridge on county road near entrance to Gray's Ranch, 3.6 mi (5.8 km) northeast of Mill Creek.	32.8	1977	8-22-78	8.83

Geohydrology of the Arbuckle aquifer, south-central Oklahoma.--Continued

Site No. and Stream	Tributary to	Location	Drainage area (sq mi)	Measured previous (water years)	Measurements Date	Measurements Discharge (cfs)
342517096314901 Houghtubby Branch	Delaware Creek	Lat 34°25'17", long 96°31'49", SW 1/4 SW 1/4 SE 1/4 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	8-21-78	0
342517096453401 Unnamed Spring	Pennington Creek	Lat 34°25'17", long 96°45'34", SE 1/4 SE 1/4 SE 1/4, sec. 34, T.1 S., R.5 E., Johnston County, Hydrologic Unit 11130304, 300 ft (91.4 m) upstream from bridge, 3.6 mi (5.9 km) northeast of Mill Creek.			11-03-77	2.07
342534096270501 Walnut Branch	Delaware Creek	Lat 34°25'34", long 96°27'05" NW 1/4 NW 1/4 SW 1/4 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	8-22-78	0
342537096454701 Unnamed Spring	Pennington Creek	Lat 34°25'37", long 96°45'47" SE 1/4 SW 1/4 NE 1/4 sec. 34, T.1 S., R.5 E., Johnston County, Hydrologic Unit 11130304, 0.5 mi (0.8 km) north of State Road 7, and 3.6 mi (5.7 km) northeast of Mill Creek.			8-09-78	1.13
342604097062301 Falls Creek	Washita River	Lat 34°26'04", long 97°06'23", NW 1/4 NW 1/4 SW 1/4 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	8-21-78 8-31-78	1.54 1.56
342613096521101 Colvert Spring	Mill Creek	Lat 34°26'13", long 96°52'11", NE 1/4 SW 1/4 SE 1/4 sec. 27, T.1 S., R.4 E., Johnston County, Hydrologic Unit 11130304, 3.3 mi (5.3 km) northwest of Mill Creek.		1977	2-04-77 10-20-77	1.82 1.11
342648097075901 Honey Creek	Washita River	Lat 34°26'48", long 97°07'59", NW 1/4 SE 1/4 SW 1/4 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	8-21-78 9-01-78	1.96 2.02
342652096563501 Buckhorn Creek	Rock Creek	Lat 34°26'52", long 96°56'35" SE 1/4 SE 1/4 SW 1/4 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	8-22-78	3.23
342654096332301 Delaware Creek	Clear Boggy Creek	Lat 34°26'54", long 96°33'23", SW 1/4 SW 1/4 SE 1/4 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	11-15-77	1.47

Geohydrology of the Arbuckle aquifer, south-central Oklahoma.--Continued

Site No. and Stream	Tributary to	Location	Drainage area (sq mi)	Measured previous (water years)	Measurements Date	Measurements Discharge (cfs)
342654096364801 Little Blue Creek	Blue River	Lat 34°26'54", long 96°36'48", SW 1/4 SE 1/4 SW 1/4 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	11-15-77 8-21-78	1.95 2.21
342712096273101 Cummings Spring	Blue River	Lat 34°27'12", long 96°27'31", SE 1/4 NE 1/4 SW 1/4 sec. 24, T.1 S., R.6 E., Johnston County, Hydrologic Unit 11140102, at cabin, 0.5 mi (0.8 km) northeast of Connerville.		1956 1977	11-15-77	2.5
342716096380801 Blue River	Red River	Lat 34°27'16", long 96°38'08", NW 1/4 NW 1/4 SW 1/4 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	11-14-77 8-23-78	21.9 26.0
342721097192001 Unnamed Spring	Eightmile Creek	Lat 34°27'21", long 97°19'20", SE 1/4 SW 1/4 NE 1/4 sec. 20, T.1 S., R.1 W., Murray County, Hydrologic Unit 11130303, on the Sparks Ranch, 3.7 mi (6.0 km) southeast of Hennepin.			8-11-78	0.03
342731096563001 Lowrance Spring	Little Buckhorn Creek	Lat 34°27'31", long 96°56'30" NE 1/4 SE 1/4 NW 1/4 sec. 24, T.1 S., R.3 E., Murray County, Hydrologic Unit 11130303, 0.5 mi (0.8 km) east of State Highway 18 and 4 mi (6.4 km) southeast of Sulphur.		1949, 1952 1953-54 1977	10-18-77	4.0
342757097195501 Unnamed Spring	Eightmile Creek	Lat 34°27'57", long 97°19'55", NE 1/4 SW 1/4 SW 1/4 sec. 17, T.1 S., R.1 W., Murray County, Hydrologic Unit 11130303, on Sparks Ranch, 3.2 mi (5.1 km) southeast of Hennepin.			4-25-78	2.13
342819097123301 Boiling Spring	Colbert Creek	Lat 34°28'19", long 97°12'23", SE 1/4 SW 1/4 NW 1/4 sec.16, T.1 S., R.1 E., Murray County, Hydrologic Unit 11130303, 3.4 mi (5.4 km) south of State Highway 7, 4.8 mi (7.7 km) west of Davis.			8-10-78	0.29
342825097114001 Colbert Creek	Washita River	Lat 34°28'25", long 97°11'40" NW 1/4 SW 1/4 NW 1/4 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.			8-22-78 9-07-78	0.14 0.17
342852097185601 Unnamed Spring	Fivemile Creek	Lat 34°28'52", long 97°18'56", NW 1/4 SW 1/4 SW 1/4 sec. 9, T.1 S., R.1 W., Murray County, Hydrologic Unit 11130303, at Washburn residence, 2.5 mi (4.0 km) southeast of Hennepin.			4-25-78	0.07

Geohydrology of the Arbuckle aquifer, south-central Oklahoma.--Continued

Site No. and Stream	Tributary to	Location	Drainage area (sq mi)	Measured previous (water years)	Measurements Date	Measurements Discharge (cfs)
342911097203601 Eightmile Creek	Wildhorse Creek	Lat 34°29'11", long 97°20'36", SW 1/4 SW 1/4 SE 1/4 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.			8-22-78	0.20
342914096370701 Little Blue Creek	Blue River	Lat 34°29'14", long 96°37'07", NW 1/4 SW 1/4 NE 1/4 sec. 12, T.1 S., R.6 E., Johnston County, Hydrologic Unit 11140102, at bridge on State Highway 99, at Pontotoc.	11.6	1977	8-22-78	0.58
343137096320201 Goose Creek	Clear Boggy Creek	Lat 34°31'37", long 96°32'02", NW 1/4 NE 1/4 SE 1/4 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	8-22-78	0
343239096331301 Coal Creek	Clear Boggy Creek	Lat 34°32'39", long 96°33'13", NE 1/4 SW 1/4 NE 1/4 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	8-22-77	0
343241096360201 Canyon Spring	Canyon Creek	Lat 34°32"41', long 96°36"02', NE 1/4 SE 1/4 NE 1/4 sec. 19, T.1 N., R.7 E., Pontotoc County, Hydrologic Unit 11140104, 4.3 mi (6.9 km) south of Harden City.		1977	11-15-77	0.54
343247097181901 Five Mile Spring	Fivemile Creek	Lat 34°32'47", long 97°18'19" SW 1/4 NW 1/4 SE 1/4 sec.9, T.1 S., R.1 W., Murray County, Hydrologic Unit 11130303, on Washburn Ranch, 3.3 mi (5.3 km) southeast of Hennepin.			4-25-78	0.19
343418096384901 Sheep Creek Spring	Clear Boggy Creek	Lat 34°34'18", long 96°38'49", SW 1/4 SW 1/4 NW 1/4 sec. 11, T.1 N., R.6 E., Pontotoc County, Hydrologic Unit 11140104, at recreation lodge, 2.9 mi (4.7 km) southwest of Fittstown.		1976	11-16-77	1.59
343445096380001 Sheep Creek	Clear Boggy Creek	Lat 34°34'45", long 96°38'00", SW 1/4 SW 1/4 SE 1/4 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	8-22-78	4.84

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 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT) (00003)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)
OCT										
14...	1054	60	1825	9.8	18.0	--	--	880	44	1510
14...	1102	30	1824	9.9	18.0	--	--	860	42	1510
14...	1108	--	1826	9.9	18.0	--	--	870	44	1520
NOV										
09...	1119	1.0	2080	8.6	12.0	--	--	1000	50	1790
29...	1352	60	1877	8.1	9.9	--	--	980	42	1550
29...	1356	30	1893	8.1	10.3	--	--	980	39	1540
29...	1359	1.0	1903	8.2	10.5	--	--	1000	42	1540
DEC										
15...	1352	55	1550	7.5	6.4	11.3	98	910	41	1550
15...	1357	50	1750	7.6	6.5	11.4	99	--	--	--
15...	1359	45	1750	7.5	6.5	11.4	99	--	--	--
15...	1401	40	1750	7.5	6.5	11.4	99	--	--	--
15...	1402	35	1750	7.6	6.5	11.2	97	--	--	--
15...	1403	30	1750	7.5	6.5	11.2	97	--	--	--
15...	1404	25	1550	7.5	6.3	11.2	97	930	41	1550
15...	1405	20	1750	7.5	6.5	11.2	97	--	--	--
15...	1406	15	1750	7.5	6.5	11.2	97	--	--	--
15...	1407	10	1750	7.5	6.5	11.2	97	--	--	--
15...	1408	5.0	1750	7.5	6.5	11.2	97	--	--	--
15...	1409	1.0	1550	7.5	6.3	11.2	97	940	42	1550
APR										
25...	1030	--	1930	7.6	14.5	--	--	--	--	--
25...	1032	60	1940	7.4	14.5	--	--	930	34	1550
25...	1034	--	1940	7.5	14.5	--	--	--	--	--
25...	1036	--	1940	7.6	14.5	--	--	--	--	--
25...	1038	30	1950	7.6	14.5	--	--	920	35	1550
25...	1040	--	1950	7.7	14.5	--	--	--	--	--
25...	1042	--	1940	7.8	15.0	--	--	--	--	--
25...	1044	1.0	1940	7.8	15.0	--	--	920	35	1570
MAY										
22...	1150	60	1780	8.3	17.0	--	--	900	45	1560
22...	1156	30	1810	8.4	18.5	--	--	870	45	1560
22...	1202	1.0	1810	8.4	19.0	--	--	870	46	1560
JUN										
16...	1226	60	1910	8.0	17.7	--	--	880	46	1500
16...	1232	30	1870	8.4	22.8	--	--	870	46	1510
16...	1238	1.0	2000	8.4	23.0	--	--	860	47	1500
JUL										
11...	1210	60	1792	7.8	22.5	--	--	880	47	1560
11...	1216	30	1774	8.2	26.5	--	--	900	46	1550
11...	1222	1.0	1772	8.3	27.5	--	--	890	45	1550
SEP										
29...	1115	--	1900	8.3	20.5	--	--	900	46	1580
29...	1120	--	1900	8.4	20.5	--	--	900	47	1580
29...	1125	--	1900	8.6	21.5	--	--	900	46	1580

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 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT) (00003)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG, C DISSOLVED (MG/L) (70300)
OCT										
14...	1118	40	1818	9.8	18.0	--	--	860	41	1510
14...	1126	20	1824	9.8	18.0	--	--	860	41	1510
14...	1131	1.0	1824	9.9	18.0	--	--	880	43	1510
NOV										
29...	1415	40	1868	8.1	9.6	--	--	970	41	1540
29...	1420	20	1877	8.3	9.9	--	--	970	40	1540
29...	1424	1.0	1890	8.2	10.2	--	--	940	41	1540
DEC										
15...	1407	1.0	1900	8.2	5.8	--	--	950	46	1560
15...	1423	40	1903	8.1	5.9	11.4	98	940	46	1550
15...	1424	35	1800	8.0	6.0	11.3	97	--	--	--
15...	1425	30	1800	7.9	6.0	11.3	97	--	--	--
15...	1426	25	1800	7.9	5.5	11.3	96	--	--	--
15...	1427	20	1900	7.9	5.7	11.3	96	940	45	1550
15...	1428	15	1800	8.0	5.5	11.3	96	--	--	--
15...	1429	10	1800	8.0	5.5	11.4	97	--	--	--
15...	1430	5.0	1800	8.0	6.0	11.4	98	--	--	--
15...	1431	1.0	1800	8.2	6.0	11.4	98	--	--	--
APR										
25...	1110	--	1950	7.8	15.0	7.7	79	--	--	--
25...	1112	40	1960	7.6	15.0	7.8	80	940	34	1550
25...	1114	30	1960	7.8	15.0	7.9	81	--	--	--
25...	1116	20	1960	7.9	15.0	7.9	81	940	33	1590
25...	1118	10	1940	7.9	15.5	8.4	88	--	--	--
25...	1120	1.0	1940	7.9	15.5	8.0	84	920	32	1560
25...	1122	--	2200	8.3	15.0	9.5	98	--	--	--
MAY										
22...	1230	40	1810	8.4	17.5	--	--	900	46	1580
22...	1234	20	1810	8.4	18.5	--	--	900	45	1570
22...	1238	1.0	1820	8.5	20.0	--	--	900	45	1560
JUN										
16...	1326	40	1880	8.2	22.5	--	--	890	55	1560
16...	1330	20	1910	8.4	23.5	--	--	870	55	1500
16...	1334	1.0	1900	8.4	23.5	--	--	840	54	1510
JUL										
11...	1300	40	1758	8.0	25.5	--	--	880	45	1530
11...	1304	20	1774	8.2	26.5	--	--	890	45	1550
11...	1308	1.0	1765	8.3	28.5	--	--	890	46	1540
SEP										
29...	1235	--	1870	8.5	--	--	--	900	47	1590
29...	1240	--	1880	8.5	--	--	--	900	46	1580
29...	1245	--	1870	8.5	--	--	--	910	47	1570

353615099135001 FOSS RESERVOIR AT SITE NO. 3 NEAR FOSS, OK

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 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT) (00003)	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)
OCT										
14...	1145	30	1829	8.6	16.0	--	--	870	41	1530
14...	1151	15	1832	9.2	17.0	--	--	870	41	1520
14...	1154	1.0	1823	9.3	17.5	--	--	870	42	1510
NOV										
29...	1437	25	1880	8.1	9.0	--	--	950	42	1560
29...	1439	15	1841	8.3	9.0	--	--	940	42	1540
29...	1442	1.0	1863	8.3	9.5	--	--	970	42	1530
DEC										
15...	1445	25	1919	8.3	5.5	11.4	97	930	46	1560
15...	1446	20	1750	8.2	5.5	11.2	96	--	--	--
15...	1447	15	1919	8.2	5.0	11.7	100	940	45	1560
15...	1448	10	1750	8.1	5.0	11.7	100	--	--	--
15...	1449	5.0	1750	8.2	5.0	11.7	100	--	--	--
15...	1450	1.0	1919	8.2	5.0	11.8	101	940	46	1570
APR										
25...	1145	30	1960	8.0	15.0	76.0	78	940	32	1560
25...	1147	20	1960	8.0	15.5	9.4	99	--	--	--
25...	1149	10	1970	8.0	15.5	8.6	87	960	33	1560
25...	1151	1.0	1970	8.0	15.5	--	--	930	34	1580
25...	1153	--	2140	8.3	15.5	9.4	99	--	--	--
MAY										
22...	1324	23	1830	8.5	20.0	--	--	890	46	1560
22...	1328	--	1820	8.5	20.5	--	--	890	46	1560
22...	1330	1.0	1820	8.5	20.5	--	--	900	47	1580
JUN										
16...	1412	20	1970	8.6	--	--	--	820	44	1480
16...	1414	10	1960	8.6	--	--	--	820	43	1470
16...	1416	1.0	1940	8.6	--	--	--	820	43	1460
JUL										
11...	1330	30	1685	7.8	27.5	--	--	850	45	1460
11...	1332	20	1769	8.2	28.0	--	--	890	46	1530
11...	1336	1.0	1767	8.3	29.5	--	--	890	45	1540
SEP										
29...	1315	--	1800	8.5	--	--	--	900	48	1570
29...	1320	--	1820	8.5	--	--	--	900	49	1570
29...	1325	--	1810	8.5	--	--	--	890	46	1550

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,--MEASURING POINT: TOP OF CASING 2.00 FT (0.61M) ABOVE LAND-SURFACE DATUM,
REMARKS,--
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, 45.55 FT (13.884M BELOW LAND-SURFACE DATUM,MAR 31, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 31, 1978	45.55	JUN 25, 1978	43.38	JUL 25, 1978	43.72	SEP 30, 1978	44.40
JUN 10	42.87	30	43.15	31	43.89		
15	42.83	JUL 05	43.08	AUG 05	43.58		
20	42.86	10	43.52	10	44.08		

WTR YEAR 1978 MAX 42.83 JUNE 15, 1978 MIN 45.55 MAR 31, 1978

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,--DRILLED UNUSED INDUSTRIAL WELL, DIAMETER IN (M), DEPTH FT (M),
DATUM,--MEASURING POINT: TOP OF CASING 0.77 FT (0.21M) ABOVE LAND-SURFACE DATUM,
REMARKS,--
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, 68.16 FT (20. .775) BELOW LAND-SURFACE DATUM, JULY 25, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1977	66.66	MAR 20, 1978	66.83	MAY 15, 1978	66.68	JUN 20, 1978	66.73
10	66.85	25	66.89	20	66.81	25	66.62
15	66.90	31	66.68	25	66.82	30	66.71
20	66.53	APR 05	66.89	31	66.77	JUL 25	68.16
DEC 10	67.67	10	66.87	JUN 10	66.69		
MAR 15, 1978	67.00	MAY 10	66.73	15	66.68		

WTR YEAR 1978 MAX 66.53 OCT 20, 1977 MIN 68.16 JULY 25, 1978.

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,--MEASURING POINT: TOP OF CASING 1.8 FT (0.55M) ABOVE LAND-SURFACE DATUM,
REMARKS,--
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 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1977	75.13	NOV 05, 1977	75.30	DEC 10, 1977	75.55	FEB 09, 1978	75.38
10	75.01	10	75.37	15	75.31	MAR 07	75.18
15	75.32	15	75.27	20	75.45	APR 11	75.08
20	75.25	20	75.33	25	75.39		
25	75.24	25	75.36	31	75.40		
31	75.19	30	75.37	JAN 04, 1978	75.39		

WTR YEAR 1978 MAX 75.01 OCT 10, 1977 MIN 75.55 DEC 10, 1977

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.--MEASURING POINT: TOP OF CASING 3.35 FT (1.02M) ABOVE LAND-SURFACE DATUM.
REMARKS.--
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 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1977	81.45	NOV 30, 1977	81.77	JAN 31, 1978	81.97	MAY 01, 1978	82.09
10	81.57	DEC 05	82.02	FEB 05	82.03	10	82.03
15	81.87	10	81.97	10	81.93	15	81.90
20	81.71	15	81.70	MAR 05	81.92	20	82.17
25	81.80	20	81.99	10	81.84	25	82.07
31	81.70	25	81.99	15	81.12	30	82.03
NOV 05	81.76	31	82.00	20	81.93	JUN 30	81.96
10	81.87	JAN 10, 1978	82.00	25	82.04	JUL 05	82.01
15	81.66	15	81.79	30	82.03	AUG 05	82.11
20	81.82	20	81.94	APR 05	82.04		
25	81.88	25	81.93	15	82.01		

WTR YEAR 1978 MAX 81.12 MAR 15, 1978 MIN 82.17 MAY 20, 1978

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.--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 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1977	115.21	JAN 05, 1978	119.33	APR 15, 1978	113.64	JUL 10, 1978	107.46
15	115.56	10	119.58	20	112.85	15	107.99
20	115.75	25	119.94	25	112.54	20	108.61
25	116.08	31	120.08	30	112.36	25	109.21
31	116.37	FEB 05	120.30	MAY 05	112.49	31	109.93
NOV 05	116.63	10	120.40	10	112.57	AUG 05	110.45
10	116.99	15	120.13	15	112.59	10	111.91
15	117.12	20	120.00	20	112.92	15	112.41
20	117.43	25	119.87	25	112.97	20	112.94
25	117.66	28	119.79	31	111.89	25	113.38
30	117.85	MAR 10	119.24	JUN 05	110.99	31	113.92
DEC 05	118.09	15	118.76	10	108.78	SEP 10	113.73
10	118.35	20	118.56	15	106.96	15	114.16
15	118.42	25	117.90	20	106.26	20	114.59
20	118.68	31	115.75	25	106.10	25	114.95
25	118.86	APR 05	115.14	30	106.43	30	115.31
31	119.07	10	114.72	JUL 05	106.91		

WTR YEAR 1978 MAX 106.10 JUNE 25, 1978 MIN 120.40 FEB 10, 1978

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.--MEASURING POINT: TOP OF WOOD RECORDER BASE AT LAND-SURFACE DATUM.
REMARKS.--
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 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1977	55.73	DEC 20, 1977	55.83	MAR 20, 1978	55.62	MAY 31, 1978	55.61
10	55.85	25	55.80	25	55.67	JUN 05	55.61
15	55.89	31	55.84	31	55.48	10	55.57
20	55.60	JAN 05, 1978	55.67	APR 05	55.64	15	55.57
25	55.68	31	55.68	10	55.68	JUL 10	55.73
31	55.64	FEB 05	55.74	15	55.56	15	55.67
NOV 05	55.63	10	55.54	20	55.62	20	55.69
10	55.78	15	55.63	25	55.71	25	55.66
15	55.57	20	55.78	30	55.49	31	55.74
20	55.88	25	55.73	MAY 05	55.59	SEP 05	55.73
25	55.74	28	55.69	10	55.61	15	55.69
30	55.60	MAR 05	55.45	15	55.48	20	55.80
DEC 10	55.75	10	55.52	20	55.70	25	55.69
15	55.52	15	55.75	25	55.70	30	55.78

WTR YEAR 1978 MAX 55.45 MAR 5, 1978 MIN 55.89 OCT 15, 1977

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.--MEASURING POINT: TOP OF CASING 2.20 FT (0.67M) ABOVE LAND-SURFACE DATUM.
REMARKS--
PERIOD OF RECORD.--1961 TO CURRENT YEAR.
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 1977 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1977	19.32	DEC 15, 1977	19.61	MAR 25, 1978	20.39	MAY 31, 1978	20.02
10	19.50	20	20.14	31	20.14	JUN 05	19.77
15	19.67	25	20.14	APR 05	20.18	10	19.60
20	19.42	31	20.25	10	20.29	JUL 10	20.06
25	19.58	JAN 05, 1978	20.01	15	20.18	15	19.99
31	19.50	31	20.35	20	20.36	20	20.19
NOV 05	19.71	FEB 05	20.48	25	20.44	25	20.23
10	19.90	10	20.30	30	20.14	31	20.30
15	19.48	15	20.41	MAY 05	20.19	AUG 05	20.39
20	19.98	20	20.58	10	20.36	SEP 15	19.46
25	19.81	25	20.45	15	20.19	20	19.65
30	19.74	28	20.40	20	20.52	25	19.46
DEC 10	20.02	MAR 05	20.21	25	20.44	30	19.59

WTR YEAR 1978 MAX 19.32 OCT 5, 1977 MIN 20.58 FEB 20, 1978

QUALITY OF GROUND-WATER RECORDS

STATION NUMBER	GEOLOGIC UNIT	DATE OF SAMPLE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)
COAL COUNTY									
342653096135901	--	78-07-19	1000	540	7.9	21.5	1	.20	71
342812096144601	--	78-08-29	1445	570	7.8	19.0	2	.80	140
342652096152001	--	78-07-19	1300	700	8.0	19.0	1	.20	75
342658096151401	--	78-07-19	1325	1150	8.2	19.0	1	.20	72
342706096152701	--	78-07-19	1345	310	7.4	18.5	2	.50	87
342755096164801	--	78-08-29	1245	335	4.5	20.0	10	2.4	43
342655096163101	--	78-08-30	0915	410	7.3	18.5	7	1.4	210
342649096140101	--	78-08-30	0945	590	7.6	26.5	8	2.2	140
342803096164101	--	78-08-29	1215	490	7.5	18.0	5	1.6	160

STATION NUMBER	GEOLOGIC UNIT	DATE OF SAMPLE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
JOHNSTON COUNTY									
343537096514501	367ABCKU	77-11-16	0900	640	7.4	16.0	1	390	69
342613096521101	367ABCKU	77-10-20	1030	640	7.3	17.5	1	310	0
342654096454001	367ABCKU	77-11-18	1020	580	7.3	17.0	1	350	38
342517096453401	367ABCKU	77-11-03	1645	580	7.5	17.0	2	340	12
342718096425701	367ABCKU	77-11-17	1230	725	7.2	17.5	1	400	24
342732096402301	367ABCKU	77-11-04	1315	610	7.5	18.0	1	350	99
342712096374101	367ABCKU	77-11-15	1730	580	7.4	17.5	1	350	12
342625096380201	367ABCKU	77-11-17	1445	590	7.3	17.5	1	340	11
342657096362701	364SMPS	77-11-17	1600	600	7.1	17.5	1	350	37
342417096480101	364SMPS	77-12-05	1410	580	7.4	15.5	1	350	23
342326096453501	367ABCKU	77-11-18	0930	510	7.4	16.5	1	310	43
342254096425501	367ABCKU	77-10-20	1720	700	7.3	17.0	2	350	0
342414096364701	367ABCKU	77-11-04	1100	600	7.3	18.0	1	350	15
341933096534201	367ABCKU	77-10-19	1300	560	7.1	19.0	2	320	15
341927096541901	367ABCKU	77-10-18	1430	590	7.1	19.0	3	320	94
341540096485101	367ABCKU	77-10-20	1515	700	7.3	17.0	2	300	16
MURRAY COUNTY									
342612097114701	367ABCKU	78-08-31	1820	600	7.1	17.0	0	350	17
342610097133201	367ABCKU	78-09-07	1630	580	7.1	19.0	0	330	50
342513097151701	367ABCKU	78-09-07	1545	460	7.1	19.0	0	270	12
342528097080901	367ABCKU	78-09-01	1045	600	7.1	18.5	0	320	0
342731096563001	364SMPS	77-10-18	1000	610	7.4	17.0	2	330	2
342400097080301	367ABCKU	78-09-07	1830	570	7.6	21.0	0	330	23
342234097080401	367ABCKU	78-09-01	1145	530	7.5	25.0	0	300	17
342417096592301	364SMPS	77-10-19	0945	560	7.6	19.0	3	170	0
342230096562001	367ABCKU	77-10-18	1245	570	7.1	18.0	2	320	7
342137096580801	364SMPS	77-10-19	1100	790	7.0	19.0	2	390	110
342035096554101	367ABCKU	77-10-18	1445	590	6.9	17.5	2	310	0
PONTOTOC COUNTY									
343500096491501	367ABCKU	77-11-16	1000	560	7.5	16.5	1	330	40
343423096385001	367ABCKU	77-11-16	1530	590	7.2	17.0	1	340	16
343348096430201	367ABCKU	77-11-17	0930	580	7.4	17.5	1	340	22
343241096360201	364SMPS	77-11-15	1430	790	7.3	18.0	1	380	49
343053096364701	364SMPS	77-11-17	1100	875	7.1	17.0	1	470	120
343741096504601	367ABCKU	77-11-16	1230	800	7.5	18.5	1	280	46
343723096465001	367ABCKU	77-11-16	1700	825	7.2	17.5	2	460	170

QUALITY OF GROUND-WATER RECORDS

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	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
COAL COUNTY												
0	13	9.4	99	74	5.1	2.2	240	17	17	.4	18	298
0	28	16	72	53	2.7	1.4	260	21	12	.2	16	304
0	15	9.0	120	77	6.1	2.1	200	26	70	.2	16	360
0	15	8.4	220	86	11	2.3	210	34	210	.2	15	617
0	19	9.7	30	43	1.4	.7	120	23	5.7	.1	23	171
43	5.4	7.1	18	35	1.2	23	0	37	49	.4	35	199
9	49	21	8.7	8	.3	2.5	200	5.1	8.8	.1	14	214
0	33	15	78	54	2.8	1.2	270	9.0	15	.5	17	325
0	36	18	32	29	1.1	2.4	200	20	12	.1	13	232

ACIDITY TOTAL HEATED (MG/L AS H)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JOHNSTON COUNTY												
.0	85	43	6.3	3	.1	1.0	390	0	320	16	18	.1
.1	80	27	4.4	3	.1	1.3	380	0	310	7.3	5.4	.1
.0	74	40	2.8	2	.1	.7	380	0	310	10	7.4	.2
.0	72	39	2.5	2	.1	.9	400	0	330	8.3	3.5	.1
.0	85	46	15	8	.3	.4	460	0	380	18	22	.1
.0	74	41	1.9	1	.0	1.2	310	0	250	6.5	2.3	.1
.0	77	38	2.7	2	.1	1.4	410	0	340	6.8	3.7	.1
.0	68	41	7.9	5	.2	1.0	400	0	330	15	7.1	.3
.0	110	18	2.2	1	.1	1.0	380	0	310	11	5.6	.1
.2	78	38	4.2	3	.1	.8	400	0	330	9.8	4.4	.1
.0	96	16	1.4	1	.0	.4	320	0	260	7.8	1.9	.2
.1	76	40	2.3	1	.1	.8	440	0	360	5.8	3.2	.1
.0	73	41	3.6	2	.1	.9	410	0	340	7.3	6.3	.1
.1	88	24	2.3	2	.1	.5	370	0	300	8.5	2.7	.2
.0	110	12	2.0	1	.0	.6	280	0	230	7.8	2.7	.1
.0	100	11	3.0	2	.1	.8	340	0	280	6.4	3.1	.1
MURRAY COUNTY												
.1	130	7.0	3.7	2	.1	.3	410	0	340	11	2.7	.2
.1	97	21	7.7	5	.2	1.0	340	0	280	17	14	.1
.1	98	5.2	4.2	3	.1	.4	310	0	250	10	3.2	.1
.1	120	6.1	3.6	2	.1	.8	400	0	330	10	2.4	.1
.0	73	36	8.8	5	.2	1.5	400	0	330	8.7	12	.1
.0	73	37	5.1	3	.1	.8	380	0	310	14	8.5	.1
.1	100	13	4.4	3	.1	.8	370	0	300	12	3.6	.1
.0	39	18	66	45	2.2	4.7	310	0	250	6.0	9.0	.3
.1	78	30	2.5	2	.1	1.0	380	0	310	5.8	2.6	.2
.1	140	9.7	29	14	.6	1.3	340	0	280	69	35	.5
.1	100	15	2.5	2	.1	.7	380	0	310	10	2.6	.2
PONTOTOC COUNTY												
.0	70	37	6.1	4	.1	1.0	35	0	290	12	20	.1
.0	75	38	2.0	1	.0	1.0	400	0	330	5.5	2.9	.1
.0	71	40	12	7	.3	.9	390	0	320	12	5.7	.1
.0	85	40	31	15	.7	2.6	400	0	330	30	62	.1
.1	130	36	19	8	.4	1.0	430	0	350	50	35	.1
.0	66	29	69	34	1.8	5.3	290	0	240	30	93	.6
.0	97	54	12	5	.2	2.2	360	0	300	38	23	.1

QUALITY OF GROUND-WATER RECORDS

STATION NUMBER	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	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, AMMONIA + ORGANIC DIS, (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
					COAL COUNTY						
342653096135901	321	.41	.07	.12	.17	.07	.06	.19	.19	.30	.01
342612096144601	324	.41	.08	.04	.01	.11	1.6	.15	1.6	.17	.02
342652096152001	379	.49	.05	.14	.21	.62	.03	.76	.19	.85	.00
342658096151401	632	.84	.18	.20	.27	.19	.14	.39	.35	.58	.01
342706096152701	184	.23	.06	.00	.01	.11	.13	.11	.14	.16	.02
342755096164801	175	.27	3.9	.05	.06	.51	.52	.56	.57	4.5	.01
342655096163101	230	.29	.01	.04	.04	.38	.08	.42	.11	.43	.07
342649096140101	333	.44	.17	.01	.00	.06	.15	.07	.15	.21	.00
342803096164101	254	.32	.02	.17	.19	.13	.40	.30	.35	.32	.01

STATION NUMBER	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
					JOHNSTON COUNTY						
343537096514501	8.8	330	371	.45	10	1	0	0	5	30	6
342613096521101	11	339	324	.46	30	1	0	5	1	20	4
342654096454001	9.1	334	332	.45	0	0	0	0	5	20	4
342517096453401	10	314	334	.43	30	1	0	0	1	20	3
342718096425701	7.8	375	423	.51	10	1	1	0	10	50	10
342732096402301	10	325	290	.44	0	1	2	0	1	20	7
342712096374101	11	315	344	.43	10	1	1	0	7	80	110
342625096380201	11	326	349	.44	10	1	0	0	11	80	8
342657096362701	9.6	346	345	.47	70	1	0	0	6	30	5
342417096480101	12	326	345	.44	40	0	2	0	4	30	23
342326096453501	9.8	285	291	.39	10	1	3	0	4	50	30
342254096425501	9.7	328	355	.45	20	0	1	10	0	10	6
342414096364701	9.6	276	344	.38	10	1	1	0	7	20	10
341933096534201	8.1	314	317	.43	30	1	1	10	10	50	8
341927096541901	9.4	330	283	.45	20	1	3	0	4	20	11
341540096485101	9.6	304	302	.41	40	1	1	0	2	40	14
					MURRAY COUNTY						
342612097114701	10	370	367	.50	5	1	0	0	10	40	0
342610097133201	8.4	360	334	.49	10	1	0	0	5	140	0
342513097151701	9.4	282	284	.38	10	1	0	0	7	40	0
342528097080901	7.5	361	348	.49	0	0	0	0	13	130	0
342731096563001	11	322	349	.44	30	1	10	0	5	70	40
342400097080301	7.4	342	333	.47	5	1	0	10	10	20	0
342234097080401	9.2	332	326	.50	0	1	0	10	7	50	0
342417096592301	9.3	314	306	.43	30	1	2	5	5	350	24
342230096562001	9.6	304	317	304	20	0	3	0	15	60	21
342137096580801	8.1	452	461	.61	30	0	2	10	25	60	23
342035096554101	9.6	328	328	.45	20	0	1	5	6	20	3
					PONTOTOC COUNTY						
343500096491501	8.1	310	327	.42	0	1	3	0	6	50	19
343423096385001	10	315	332	.43	0	1	0	0	2	30	4
343348096430201	9.6	325	344	.44	0	1	1	0	15	40	4
343241096360201	12	441	461	.60	10	1	1	0	6	30	86
343053096364701	8.9	544	492	.74	0	1	0	12	5	30	2
343741096504601	12	448	448	.61	0	1	1	0	0	280	4
343723096465001	9.9	504	414	.69	0	1	0	0	6	30	6

QUALITY OF GROUND-WATER RECORDS

PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)
					COAL COUNTY						
.01	30	10	1	2	250	230	5	3	0	36	26
.02	0	0	1	1	190	180	0	0	0	6	0
.00	40	5	2	2	220	180	6	1	0	4	2
.00	10	0	1	2	320	290	7	1	0	4	0
.00	0	0	1	2	110	60	8	1	0	16	2
.01	0	--	0	0	40	30	3	4	0	7	5
.01	0	0	1	0	50	10	0	0	10	5	0
.00	0	0	0	1	200	170	1	1	0	18	6
.01	0	0	1	0	100	90	0	0	0	3	0

MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	ZINC, DIS-SOLVED (UG/L AS ZN)
		JOHNSTON COUNTY
0	.0	220
10	.0	60
4	.0	110
0	.0	30
4	.0	1900
4	.0	20
10	.0	800
0	.0	140
0	.0	80
0	.0	280
4	.0	20
80	.0	30
4	.0	60
4	.0	100
4	.0	180
4	.0	20
		MURRAY COUNTY
0	.0	70
10	.0	190
0	.0	40
10	.0	90
4	.0	200
0	.0	40
0	.0	500
8	.0	160
0	.0	160
10	.0	320
4	.0	60
		PONTOTOC COUNTY
0	.0	80
8	.0	30
4	.0	30
0	.0	500
0	.0	60
4	.0	10
0	.0	30

QUALITY OF GROUND-WATER RECORDS

STATION NUMBER	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)
COAL COUNTY										
342653096135901	40	10	43	35	40	40	.5	.0	7	2
342812096144601	40	30	0	0	170	150	.0	.0	4	1
342652096152001	40	10	48	3	0	10	.0	--	6	0
342658096151401	10	20	69	2	0	10	.4	.0	4	1
342706096152701	420	10	74	2	80	80	.1	.0	5	0
342755096164801	1900	--	5	0	930	--	.0	.0	5	--
342655096163101	670	480	3	0	80	80	.0	.0	4	0
342649096140101	470	40	41	8	60	0	1.0	.0	6	0
342803096164101	400	200	18	0	70	80	.0	.0	4	1

SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
		COAL COUNTY	
0	0	100	80
0	0	240	360
0	0	60	50
0	0	10	10
0	0	170	150
0	0	440	430
0	0	120	120
1	0	1300	1300
0	0	0	0

A P P E N D I X

ALPHABETICAL AND NUMERICAL
LISTING OF NEW AND OLD HEADINGS FOR WATER-QUALITY PARAMETER CODES

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
39332	ALDRIN, SUSPENDED TOTAL (UG/L)
39332	ALDRIN, SUSPENDED (UG/L)
01505	ALPHA, SUSPENDED TOTAL (PCI/L)
01505	ALPHA, SUSPENDED (PCI/L)
01506	ALPHA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
01506	ALPHA, SUSPENDED, COUNTING ERROR (PCI/L)
01105	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
01105	ALUMINUM, TOTAL (UG/L AS AL)
01107	ALUMINUM, SUSPENDED RECOVERABLE (UG/L AS AL)
01107	ALUMINUM, SUSPENDED (UG/L AS AL)
01108	ALUMINUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AL)
01108	ALUMINUM, TOTAL IN BOTTOM MATERIAL (UG/G AS AL)
01096	ANTIMONY, SUSPENDED TOTAL (UG/L AS SB)
01096	ANTIMONY, SUSPENDED (UG/L AS SB)
39502	AROCLOR, SUSPENDED TOTAL, 1248 PCB SERIES (UG/L)
39502	AROCLOR, SUSPENDED, 1248 PCB SERIES (UG/L)
39506	AROCLOR, SUSPENDED TOTAL, 1254 PCB SERIES (UG/L)
39506	AROCLOR, SUSPENDED, 1254 PCB SERIES (UG/L)
39510	AROCLOR, SUSPENDED TOTAL, 1260 PCB SERIES (UG/L)
39510	AROCLOR, SUSPENDED, 1260 PCB SERIES (UG/L)
01001	ARSENIC, SUSPENDED TOTAL (UG/L AS AS)
01001	ARSENIC, SUSPENDED (UG/L AS AS)
01006	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)
01006	BARIUM, SUSPENDED (UG/L AS BA)
01007	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)
01007	BARIUM, TOTAL (UG/L AS BA)
01008	BARIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BA)
01008	BARIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BA)
01011	BERYLLIUM, SUSPENDED RECOVERABLE (UG/L AS BE)
01011	BERYLLIUM, SUSPENDED (UG/L AS BE)
01012	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)
01012	BERYLLIUM, TOTAL (UG/L AS BE)
01013	BERYLLIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BE)
01013	BERYLLIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BE)
03505	BETA, SUSPENDED TOTAL (PCI/L)
03505	BETA, SUSPENDED (PCI/L)
03506	BETA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
03506	BETA, SUSPENDED, COUNTING ERROR (PCI/L)
01016	BISMUTH, SUSPENDED TOTAL (UG/L AS BI)
01016	BISMUTH, SUSPENDED (UG/L AS BI)
01021	BORON, SUSPENDED RECOVERABLE (UG/L AS B)
01021	BORON, SUSPENDED (UG/L AS B)
01022	BORON, TOTAL RECOVERABLE (UG/L AS B)
01022	BORON, TOTAL (UG/L AS B)
01023	BORON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS B)
01023	BORON, TOTAL IN BOTTOM MATERIAL (UG/G AS B)
01026	CADMIUM, SUSPENDED RECOVERABLE (UG/L AS CD)
01026	CADMIUM, SUSPENDED (UG/L AS CD)
01027	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD)
01027	CADMIUM, TOTAL (UG/L AS CD)
01028	CADMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CD)
01028	CADMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CD)
00916	CALCIUM, TOTAL RECOVERABLE (MG/L AS CA)
00916	CALCIUM, TOTAL (MG/L AS CA)
07052	CALCIUM 45, SUSPENDED TOTAL (PCI/L)
07052	CALCIUM 45, SUSPENDED (PCI/L)
07053	CALCIUM 45, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07053	CALCIUM 45, SUSPENDED, COUNTING ERROR (PCI/L)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
00683	CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00683	CARBON, ORGANIC, SUSPENDED (MG/L AS C)
00688	CARBON, INORGANIC, SUSPENDED TOTAL (MG/L AS C)
00688	CARBON, INORGANIC, SUSPENDED (MG/L AS C)
00689	CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00689	CARBON, ORGANIC, SUSPENDED (MG/L AS C)
00694	CARBON, INORGANIC PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00694	CARBON, INORGANIC PLUS ORGANIC, SUSPENDED (MG/L AS C)
01116	CESIUM, SUSPENDED TOTAL (UG/L AS CS)
01116	CESIUM, SUSPENDED (UG/L AS CS)
28404	CESIUM 137, SUSPENDED TOTAL (PCI/L)
28404	CESIUM 137, SUSPENDED (PCI/L)
28405	CESIUM 137,SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28405	CESIUM 137,SUSPENDED, COUNTING ERROR (PCI/L)
28412	CESIUM 134, SUSPENDED TOTAL (PCI/L)
28412	CESIUM 134, SUSPENDED (PCI/L)
28413	CESIUM 134, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28413	CESIUM 134, SUSPENDED, COUNTING ERROR (PCI/L)
39353	CHLORDANE, SUSPENDED TOTAL (UG/L)
39353	CHLORDANE, SUSPENDED (UG/L)
01029	CHROMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CR)
01029	CHROMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CR)
01031	CHROMIUM, SUSPENDED RECOVERABLE (UG/L AS CR)
01031	CHROMIUM, SUSPENDED (UG/L AS CR)
01034	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
01034	CHROMIUM, TOTAL (UG/L AS CR)
01036	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)
01036	COBALT, SUSPENDED (UG/L AS CO)
01037	COBALT, TOTAL RECOVERABLE (UG/L AS CO)
01037	COBALT, TOTAL (UG/L AS CO)
01038	COBALT, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CO)
01038	COBALT, TOTAL IN BOTTOM MATERIAL (UG/G AS CO)
01041	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)
01041	COPPER, SUSPENDED (UG/L AS CU)
01042	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
01042	COPPER, TOTAL (UG/L AS CU)
01043	COPPER, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CU)
01043	COPPER, TOTAL IN BOTTOM MATERIAL (UG/G AS CU)
39362	DDD, SUSPENDED TOTAL (UG/L)
39362	DDD, SUSPENDED (UG/L)
39367	DDE, SUSPENDED TOTAL (UG/L)
39367	DDE, SUSPENDED (UG/L)
39372	DDT, SUSPENDED TOTAL (UG/L)
39372	DDT, SUSPENDED (UG/L)
39573	DIAZINON, SUSPENDED TOTAL (UG/L)
39573	DIAZINON, SUSPENDED (UG/L)
39382	DIELDRIN, SUSPENDED TOTAL (UG/L)
39382	DIELDRIN, SUSPENDED (UG/L)
39392	ENDRIN, SUSPENDED TOTAL (UG/L)
39392	ENDRIN, SUSPENDED (UG/L)
01121	GALLIUM, SUSPENDED TOTAL (UG/L AS GA)
01121	GALLIUM, SUSPENDED (UG/L AS GA)
01126	GERMANIUM, SUSPENDED TOTAL (UG/L AS GE)
01126	GERMANIUM, SUSPENDED (UG/L AS GE)
01516	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS U NATURAL)
01516	GROSS ALPHA RADIOACTIVITY, SUSPENDED (PCI/L AS U NATURAL)
01517	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS U NATURAL)
01517	GROSS ALPHA RADIOACTIVITY, SUSPENDED (PCI/G AS U NATURAL)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
01518	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (UG/G AS U NATURAL)
01518	GROSS ALPHA RADIOACTIVITY, SUSPENDED (UG/G AS U NATURAL)
80040	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (UG/L AS U NATURAL)
80040	GROSS ALPHA RADIOACTIVITY, SUSPENDED (UG/L AS U NATURAL)
80060	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS SR/YT-90)
80060	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/L AS SR/YT-90)
03516	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS CS-137)
03516	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/L AS CS-137)
03517	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS SR/YT-90)
03517	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/G AS SR/YT-90)
03518	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS CS-137)
03518	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/G AS CS-137)
39412	HEPTACHLOR, SUSPENDED TOTAL (UG/L)
39412	HEPTACHLOR, SUSPENDED (UG/L)
39422	HEPTACHLOR EPOXIDE, SUSPENDED TOTAL (UG/L)
39422	HEPTACHLOR EPOXIDE, SUSPENDED (UG/L)
01044	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)
01044	IRON, SUSPENDED (UG/L AS FE)
01045	IRON, TOTAL RECOVERABLE (UG/L AS FE)
01045	IRON, TOTAL (UG/L AS FE)
01170	IRON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS FE)
01170	IRON, TOTAL IN BOTTOM MATERIAL (UG/G AS FE)
07062	IRON 59, SUSPENDED TOTAL (PCI/L)
07062	IRON 59, SUSPENDED (PCI/L)
07063	IRON 59, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07063	IRON 59, SUSPENDED, COUNTING ERROR (PCI/L)
39432	ISODRIN, SUSPENDED TOTAL (UG/L)
39432	ISODRIN, SUSPENDED (UG/L)
01050	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)
01050	LEAD, SUSPENDED (UG/L AS PB)
01051	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
01051	LEAD, TOTAL (UG/L AS PB)
01052	LEAD, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS PB)
01052	LEAD, TOTAL IN BOTTOM MATERIAL (UG/G AS PB)
39342	LINDANE, SUSPENDED TOTAL (UG/L)
39342	LINDANE, SUSPENDED (UG/L)
01131	LITHIUM, SUSPENDED RECOVERABLE (UG/L AS LI)
01131	LITHIUM, SUSPENDED (UG/L AS LI)
01132	LITHIUM, TOTAL RECOVERABLE (UG/L AS LI)
01132	LITHIUM, TOTAL (UG/L AS LI)
00926	MAGNESIUM, SUSPENDED RECOVERABLE (MG/L AS MG)
00926	MAGNESIUM, SUSPENDED (MG/L AS MG)
00927	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
00927	MAGNESIUM, TOTAL (MG/L AS MG)
39533	MALATHION, SUSPENDED TOTAL (UG/L)
39533	MALATHION, SUSPENDED (UG/L)
01053	MANGANESE, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MN)
01053	MANGANESE, TOTAL IN BOTTOM MATERIAL (UG/G AS MN)
01054	MANGANESE, SUSPENDED RECOVERABLE (UG/L AS MN)
01054	MANGANESE, SUSPENDED (UG/L AS MN)
01055	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
01055	MANGANESE, TOTAL (UG/L AS MN)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
71895	MERCURY, SUSPENDED RECOVERABLE (UG/L AS HG)
71895	MERCURY, SUSPENDED (UG/L AS HG)
71900	MERCURY, TOTAL RECOVERABLE (UG/L AS HG)
71900	MERCURY, TOTAL (UG/L AS HG)
71921	MERCURY, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS HG)
71921	MERCURY, TOTAL IN BOTTOM MATERIAL (UG/G AS HG)
39603	METHYL PARATHION, SUSPENDED TOTAL (UG/L)
39603	METHYL PARATHION, SUSPENDED (UG/L)
39757	MIREX, SUSPENDED TOTAL (UG/L)
39757	MIREX, SUSPENDED (UG/L)
01061	MOLYBDENUM, SUSPENDED RECOVERABLE (UG/L AS MO)
01061	MOLYBDENUM, SUSPENDED (UG/L AS MO)
01062	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)
01062	MOLYBDENUM, TOTAL (UG/L AS MO)
01063	MOLYBDENUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MO)
01063	MOLYBDENUM, TOTAL IN BOTTOM MATERIAL (UG/G AS MO)
01066	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
01066	NICKEL, SUSPENDED (UG/L AS NI)
01067	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)
01067	NICKEL, TOTAL (UG/L AS NI)
01068	NICKEL, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS NI)
01068	NICKEL, TOTAL IN BOTTOM MATERIAL (UG/G AS NI)
00623	NITROGEN, AMMONIA PLUS ORGANIC, DISSOLVED (MG/L AS N)
00623	NITROGEN, KJELDAHL, DISSOLVED (MG/L AS N)
00624	NITROGEN, AMMONIA PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS N)
00624	NITROGEN, KJELDAHL, SUSPENDED (MG/L AS N)
00625	NITROGEN, AMMONIA PLUS ORGANIC, TOTAL (MG/L AS N)
00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)
00626	NITROGEN, AMMONIA PLUS ORGANIC, TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)
00626	NITROGEN, KJELDAHL, TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)
39543	PARATHION, SUSPENDED TOTAL (UG/L)
39543	PARATHION, SUSPENDED (UG/L)
39518	PCB, SUSPENDED TOTAL (UG/L)
39518	PCB, SUSPENDED (UG/L)
09505	RADIUM 226, SUSPENDED TOTAL (PCI/L)
09505	RADIUM 226, SUSPENDED (PCI/L)
07082	RHODAMINE WT, SUSPENDED TOTAL (UG/L)
07082	RHODAMINE WT, SUSPENDED (UG/L)
01136	RUBIDIUM, SUSPENDED TOTAL (UG/L AS RB)
01136	RUBIDIUM, SUSPENDED (UG/L AS RB)
29633	SCANDIUM 46, SUSPENDED TOTAL (PCI/L)
29633	SCANDIUM 46, SUSPENDED (PCI/L)
29634	SCANDIUM 46, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
29634	SCANDIUM 46, SUSPENDED, COUNTING ERROR (PCI/L)
01146	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)
01146	SELENIUM, SUSPENDED (UG/L AS SE)
07102	SELENIUM 75, SUSPENDED TOTAL (PCI/L)
07102	SELENIUM 75, SUSPENDED (PCI/L)
07103	SELENIUM 75, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07103	SELENIUM 75, SUSPENDED, COUNTING ERROR (PCI/L)
01076	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)
01076	SILVER, SUSPENDED (UG/L AS AG)
01077	SILVER, TOTAL RECOVERABLE (UG/L AS AG)
01077	SILVER, TOTAL (UG/L AS AG)
01078	SILVER, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AG)
01078	SILVER, TOTAL IN BOTTOM MATERIAL (UG/G AS AG)
07122	SILVER 110, SUSPENDED TOTAL (PCI/L)
07122	SILVER 110, SUSPENDED (PCI/L)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
07123	SILVER 110, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07123	SILVER 110, SUSPENDED, COUNTING ERROR (PCI/L)
39763	SILVEX, SUSPENDED TOTAL (UG/L)
39763	SILVEX, SUSPENDED (UG/L)
70299	SOLIDS, RESIDUE AT 110 DEG. C, SUSPENDED TOTAL (MG/L)
70299	SOLIDS, RESIDUE AT 110 DEG. C, SUSPENDED (MG/L)
01081	STRONTIUM, SUSPENDED RECOVERABLE (UG/L AS SR)
01081	STRONTIUM, SUSPENDED (UG/L AS SR)
01082	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR)
01082	STRONTIUM, TOTAL (UG/L AS SR)
01083	STRONTIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS SR)
01083	STRONTIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS SR)
13505	STRONTIUM 90, SUSPENDED TOTAL (PCI/L)
13505	STRONTIUM 90, SUSPENDED (PCI/L)
13506	STRONTIUM 90, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
13506	STRONTIUM 90, SUSPENDED, COUNTING ERROR (PCI/L)
07142	SULFUR 35, SUSPENDED TOTAL (PCI/L)
07142	SULFUR 35, SUSPENDED (PCI/L)
07143	SULFUR 35, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07143	SULFUR 35, SUSPENDED, COUNTING ERROR (PCI/L)
01101	TIN, SUSPENDED RECOVERABLE (UG/L AS SN)
01101	TIN, SUSPENDED (UG/L AS SN)
01102	TIN, TOTAL RECOVERABLE (UG/L AS SN)
01102	TIN, TOTAL (UG/L AS SN)
01151	TITANIUM, SUSPENDED TOTAL (UG/L AS TI)
01151	TITANIUM, SUSPENDED (UG/L AS TI)
39402	TOXAPHENE, SUSPENDED TOTAL (UG/L)
39402	TOXAPHENE, SUSPENDED (UG/L)
07010	TRITIUM, SUSPENDED TOTAL (PCI/L)
07010	TRITIUM, SUSPENDED (PCI/L)
07011	TRITIUM, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07011	TRITIUM, SUSPENDED, COUNTING ERROR (PCI/L)
07014	TRITIUM, SUSPENDED TOTAL, COUNTING ERROR (TRITIUM UNITS)
07014	TRITIUM, SUSPENDED, COUNTING ERROR (TRITIUM UNITS)
07016	TRITIUM, SUSPENDED TOTAL (TRITIUM UNITS)
07016	TRITIUM, SUSPENDED (TRITIUM UNITS)
22705	URANIUM, NATURAL, SUSPENDED TOTAL (UG/L AS U NATURAL)
22705	URANIUM, NATURAL, SUSPENDED (UG/L AS U NATURAL)
01086	VANADIUM, SUSPENDED TOTAL (UG/L AS V)
01086	VANADIUM, SUSPENDED (UG/L AS V)
01091	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)
01091	ZINC, SUSPENDED (UG/L AS ZN)
01092	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
01092	ZINC, TOTAL (UG/L AS ZN)
01093	ZINC, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS ZN)
01093	ZINC, TOTAL IN BOTTOM MATERIAL (UG/G AS ZN)
01161	ZIRCONIUM, SUSPENDED TOTAL (UG/L AS ZR)
01161	ZIRCONIUM, SUSPENDED (UG/L AS ZR)
39733	2,4-D, SUSPENDED TOTAL (UG/L)
39733	2,4-D, SUSPENDED (UG/L)
39743	2,4,5-T, SUSPENDED TOTAL (UG/L)
39743	2,4,5-T, SUSPENDED (UG/L)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
00623	NITROGEN, AMMONIA PLUS ORGANIC, DISSOLVED (MG/L AS N)
00623	NITROGEN, KJELDAHL, DISSOLVED (MG/L AS N)
00624	NITROGEN, AMMONIA PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS N)
00624	NITROGEN, KJELDAHL, SUSPENDED (MG/L AS N)
00625	NITROGEN, AMMONIA PLUS ORGANIC, TOTAL (MG/L AS N)
00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)
00626	NITROGEN, AMMONIA PLUS ORGANIC, TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)
00626	NITROGEN, KJELDAHL, TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)
00683	CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00683	CARBON, ORGANIC, SUSPENDED (MG/L AS C)
00688	CARBON, INORGANIC, SUSPENDED TOTAL (MG/L AS C)
00688	CARBON, INORGANIC, SUSPENDED (MG/L AS C)
00689	CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00689	CARBON, ORGANIC, SUSPENDED (MG/L AS C)
00694	CARBON, INORGANIC PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00694	CARBON, INORGANIC PLUS ORGANIC, SUSPENDED (MG/L AS C)
00916	CALCIUM, TOTAL RECOVERABLE (MG/L AS CA)
00916	CALCIUM, TOTAL (MG/L AS CA)
00926	MAGNESIUM, SUSPENDED RECOVERABLE (MG/L AS MG)
00926	MAGNESIUM, SUSPENDED (MG/L AS MG)
00927	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
00927	MAGNESIUM, TOTAL (MG/L AS MG)
01001	ARSENIC, SUSPENDED TOTAL (UG/L AS AS)
01001	ARSENIC, SUSPENDED (UG/L AS AS)
01006	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)
01006	BARIUM, SUSPENDED (UG/L AS BA)
01007	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)
01007	BARIUM, TOTAL (UG/L AS BA)
01008	BARIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BA)
01008	BARIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BA)
01011	BERYLLIUM, SUSPENDED RECOVERABLE (UG/L AS BE)
01011	BERYLLIUM, SUSPENDED (UG/L AS BE)
01012	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)
01012	BERYLLIUM, TOTAL (UG/L AS BE)
01013	BERYLLIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BE)
01013	BERYLLIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BE)
01016	BISMUTH, SUSPENDED TOTAL (UG/L AS BI)
01016	BISMUTH, SUSPENDED (UG/L AS BI)
01021	BORON, SUSPENDED RECOVERABLE (UG/L AS B)
01021	BORON, SUSPENDED (UG/L AS B)
01022	BORON, TOTAL RECOVERABLE (UG/L AS B)
01022	BORON, TOTAL (UG/L AS B)
01023	BORON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS B)
01023	BORON, TOTAL IN BOTTOM MATERIAL (UG/G AS B)
01026	CADMIUM, SUSPENDED RECOVERABLE (UG/L AS CD)
01026	CADMIUM, SUSPENDED (UG/L AS CD)
01027	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD)
01027	CADMIUM, TOTAL (UG/L AS CD)
01028	CADMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CD)
01028	CADMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CD)
01029	CHROMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CR)
01029	CHROMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CR)
01031	CHROMIUM, SUSPENDED RECOVERABLE (UG/L AS CR)
01031	CHROMIUM, SUSPENDED (UG/L AS CR)
01034	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
01034	CHROMIUM, TOTAL (UG/L AS CR)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
01036	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)
01036	COBALT, SUSPENDED (UG/L AS CO)
01037	COBALT, TOTAL RECOVERABLE (UG/L AS CO)
01037	COBALT, TOTAL (UG/L AS CO)
01038	COBALT, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CO)
01038	COBALT, TOTAL IN BOTTOM MATERIAL (UG/G AS CO)
01041	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)
01041	COPPER, SUSPENDED (UG/L AS CU)
01042	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
01042	COPPER, TOTAL (UG/L AS CU)
01043	COPPER, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CU)
01043	COPPER, TOTAL IN BOTTOM MATERIAL (UG/G AS CU)
01044	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)
01044	IRON, SUSPENDED (UG/L AS FE)
01045	IRON, TOTAL RECOVERABLE (UG/L AS FE)
01045	IRON, TOTAL (UG/L AS FE)
01050	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)
01050	LEAD, SUSPENDED (UG/L AS PB)
01051	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
01051	LEAD, TOTAL (UG/L AS PB)
01052	LEAD, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS PB)
01052	LEAD, TOTAL IN BOTTOM MATERIAL (UG/G AS PB)
01053	MANGANESE, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MN)
01053	MANGANESE, TOTAL IN BOTTOM MATERIAL (UG/G AS MN)
01054	MANGANESE, SUSPENDED RECOVERABLE (UG/L AS MN)
01054	MANGANESE, SUSPENDED (UG/L AS MN)
01055	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
01055	MANGANESE, TOTAL (UG/L AS MN)
01061	MOLYBDENUM, SUSPENDED RECOVERABLE (UG/L AS MO)
01061	MOLYBDENUM, SUSPENDED (UG/L AS MO)
01062	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)
01062	MOLYBDENUM, TOTAL (UG/L AS MO)
01063	MOLYBDENUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MO)
01063	MOLYBDENUM, TOTAL IN BOTTOM MATERIAL (UG/G AS MO)
01066	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
01066	NICKEL, SUSPENDED (UG/L AS NI)
01067	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)
01067	NICKEL, TOTAL (UG/L AS NI)
01068	NICKEL, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS NI)
01068	NICKEL, TOTAL IN BOTTOM MATERIAL (UG/G AS NI)
01076	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)
01076	SILVER, SUSPENDED (UG/L AS AG)
01077	SILVER, TOTAL RECOVERABLE (UG/L AS AG)
01077	SILVER, TOTAL (UG/L AS AG)
01078	SILVER, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AG)
01078	SILVER, TOTAL IN BOTTOM MATERIAL (UG/G AS AG)
01081	STRONTIUM, SUSPENDED RECOVERABLE (UG/L AS SR)
01081	STRONTIUM, SUSPENDED (UG/L AS SR)
01082	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR)
01082	STRONTIUM, TOTAL (UG/L AS SR)
01083	STRONTIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS SR)
01083	STRONTIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS SR)
01086	VANADIUM, SUSPENDED TOTAL (UG/L AS V)
01086	VANADIUM, SUSPENDED (UG/L AS V)
01091	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)
01091	ZINC, SUSPENDED (UG/L AS ZN)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
01092	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
01092	ZINC, TOTAL (UG/L AS ZN)
01093	ZINC, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS ZN)
01093	ZINC, TOTAL IN BOTTOM MATERIAL (UG/G AS ZN)
01096	ANTIMONY, SUSPENDED TOTAL (UG/L AS SB)
01096	ANTIMONY, SUSPENDED (UG/L AS SB)
01101	TIN, SUSPENDED RECOVERABLE (UG/L AS SN)
01101	TIN, SUSPENDED (UG/L AS SN)
01102	TIN, TOTAL RECOVERABLE (UG/L AS SN)
01102	TIN, TOTAL (UG/L AS SN)
01105	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
01105	ALUMINUM, TOTAL (UG/L AS AL)
01107	ALUMINUM, SUSPENDED RECOVERABLE (UG/L AS AL)
01107	ALUMINUM, SUSPENDED (UG/L AS AL)
01108	ALUMINUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AL)
01108	ALUMINUM, TOTAL IN BOTTOM MATERIAL (UG/G AS AL)
01116	CESIUM, SUSPENDED TOTAL (UG/L AS CS)
01116	CESIUM, SUSPENDED (UG/L AS CS)
01121	GALLIUM, SUSPENDED TOTAL (UG/L AS GA)
01121	GALLIUM, SUSPENDED (UG/L AS GA)
01126	GERMANIUM, SUSPENDED TOTAL (UG/L AS GE)
01126	GERMANIUM, SUSPENDED (UG/L AS GE)
01131	LITHIUM, SUSPENDED RECOVERABLE (UG/L AS LI)
01131	LITHIUM, SUSPENDED (UG/L AS LI)
01132	LITHIUM, TOTAL RECOVERABLE (UG/L AS LI)
01132	LITHIUM, TOTAL (UG/L AS LI)
01136	RUBIDIUM, SUSPENDED TOTAL (UG/L AS RB)
01136	RUBIDIUM, SUSPENDED (UG/L AS RB)
01146	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)
01146	SELENIUM, SUSPENDED (UG/L AS SE)
01151	TITANIUM, SUSPENDED TOTAL (UG/L AS TI)
01151	TITANIUM, SUSPENDED (UG/L AS TI)
01161	ZIRCONIUM, SUSPENDED TOTAL (UG/L AS ZR)
01161	ZIRCONIUM, SUSPENDED (UG/L AS ZR)
01170	IRON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS FE)
01170	IRON, TOTAL IN BOTTOM MATERIAL (UG/G AS FE)
01505	ALPHA, SUSPENDED TOTAL (PCI/L)
01505	ALPHA, SUSPENDED (PCI/L)
01506	ALPHA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
01506	ALPHA, SUSPENDED, COUNTING ERROR (PCI/L)
01516	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS U NATURAL)
01516	GROSS ALPHA RADIOACTIVITY, SUSPENDED (PCI/L AS U NATURAL)
01517	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS U NATURAL)
01517	GROSS ALPHA RADIOACTIVITY, SUSPENDED (PCI/G AS U NATURAL)
01518	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (UG/G AS U NATURAL)
01518	GROSS ALPHA RADIOACTIVITY, SUSPENDED (UG/G AS U NATURAL)
03505	BETA, SUSPENDED TOTAL (PCI/L)
03505	BETA, SUSPENDED (PCI/L)
03506	BETA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
03506	BETA, SUSPENDED, COUNTING ERROR (PCI/L)
03516	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS CS-137)
03516	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/L AS CS-137)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
03517	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS SR/YT-90)
03517	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/G AS SR/YT-90)
03518	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS CS-137)
03518	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/G AS CS-137)
07010	TRITIUM, SUSPENDED TOTAL (PCI/L)
07010	TRITIUM, SUSPENDED (PCI/L)
07011	TRITIUM, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07011	TRITIUM, SUSPENDED, COUNTING ERROR (PCI/L)
07014	TRITIUM, SUSPENDED TOTAL, COUNTING ERROR (TRITIUM UNITS)
07014	TRITIUM, SUSPENDED, COUNTING ERROR (TRITIUM UNITS)
07016	TRITIUM, SUSPENDED TOTAL (TRITIUM UNITS)
07016	TRITIUM, SUSPENDED (TRITIUM UNITS)
07052	CALCIUM 45, SUSPENDED TOTAL (PCI/L)
07052	CALCIUM 45, SUSPENDED (PCI/L)
07053	CALCIUM 45, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07053	CALCIUM 45, SUSPENDED, COUNTING ERROR (PCI/L)
07062	IRON 59, SUSPENDED TOTAL (PCI/L)
07062	IRON 59, SUSPENDED (PCI/L)
07063	IRON 59, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07063	IRON 59, SUSPENDED, COUNTING ERROR (PCI/L)
07082	RHODAMINE WT, SUSPENDED TOTAL (UG/L)
07082	RHODAMINE WT, SUSPENDED (UG/L)
07102	SELENIUM 75, SUSPENDED TOTAL (PCI/L)
07102	SELENIUM 75, SUSPENDED (PCI/L)
07103	SELENIUM 75, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07103	SELENIUM 75, SUSPENDED, COUNTING ERROR (PCI/L)
07122	SILVER 110, SUSPENDED TOTAL (PCI/L)
07122	SILVER 110, SUSPENDED (PCI/L)
07123	SILVER 110, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07123	SILVER 110, SUSPENDED, COUNTING ERROR (PCI/L)
07142	SULFUR 35, SUSPENDED TOTAL (PCI/L)
07142	SULFUR 35, SUSPENDED (PCI/L)
07143	SULFUR 35, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07143	SULFUR 35, SUSPENDED, COUNTING ERROR (PCI/L)
09505	RADIUM 226, SUSPENDED TOTAL (PCI/L)
09505	RADIUM 226, SUSPENDED (PCI/L)
13505	STRONTIUM 90, SUSPENDED TOTAL (PCI/L)
13505	STRONTIUM 90, SUSPENDED (PCI/L)
13506	STRONTIUM 90, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
13506	STRONTIUM 90, SUSPENDED, COUNTING ERROR (PCI/L)
22705	URANIUM, NATURAL, SUSPENDED TOTAL (UG/L AS U NATURAL)
22705	URANIUM, NATURAL, SUSPENDED (UG/L AS U NATURAL)
28404	CESIUM 137, SUSPENDED TOTAL (PCI/L)
28404	CESIUM 137, SUSPENDED (PCI/L)
28405	CESIUM 137,SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28405	CESIUM 137,SUSPENDED, COUNTING ERROR (PCI/L)
28412	CESIUM 134, SUSPENDED TOTAL (PCI/L)
28412	CESIUM 134, SUSPENDED (PCI/L)
28413	CESIUM 134, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28413	CESIUM 134, SUSPENDED, COUNTING ERROR (PCI/L)
29633	SCANDIUM 46, SUSPENDED TOTAL (PCI/L)
29633	SCANDIUM 46, SUSPENDED (PCI/L)
29634	SCANDIUM 46, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
29634	SCANDIUM 46, SUSPENDED, COUNTING ERROR (PCI/L)
39332	ALDRIN, SUSPENDED TOTAL (UG/L)
39332	ALDRIN, SUSPENDED (UG/L)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
39342	LINDANE, SUSPENDED TOTAL (UG/L)
39342	LINDANE, SUSPENDED (UG/L)
39353	CHLORDANE, SUSPENDED TOTAL (UG/L)
39353	CHLORDANE, SUSPENDED (UG/L)
39362	DDD, SUSPENDED TOTAL (UG/L)
39362	DDD, SUSPENDED (UG/L)
39367	DDE, SUSPENDED TOTAL (UG/L)
39367	DDE, SUSPENDED (UG/L)
39372	DDT, SUSPENDED TOTAL (UG/L)
39372	DDT, SUSPENDED (UG/L)
39382	DIELDRIN, SUSPENDED TOTAL (UG/L)
39382	DIELDRIN, SUSPENDED (UG/L)
39392	ENDRIN, SUSPENDED TOTAL (UG/L)
39392	ENDRIN, SUSPENDED (UG/L)
39402	TOXAPHENE, SUSPENDED TOTAL (UG/L)
39402	TOXAPHENE, SUSPENDED (UG/L)
39412	HEPTACHLOR, SUSPENDED TOTAL (UG/L)
39412	HEPTACHLOR, SUSPENDED (UG/L)
39422	HEPTACHLOR EPOXIDE, SUSPENDED TOTAL (UG/L)
39422	HEPTACHLOR EPOXIDE, SUSPENDED (UG/L)
39432	ISODRIN, SUSPENDED TOTAL (UG/L)
39432	ISODRIN, SUSPENDED (UG/L)
39502	AROCLOR, SUSPENDED TOTAL, 1248 PCB SERIES (UG/L)
39502	AROCLOR, SUSPENDED, 1248 PCB SERIES (UG/L)
39506	AROCLOR, SUSPENDED TOTAL, 1254 PCB SERIES (UG/L)
39506	AROCLOR, SUSPENDED, 1254 PCB SERIES (UG/L)
39510	AROCLOR, SUSPENDED TOTAL, 1260 PCB SERIES (UG/L)
39510	AROCLOR, SUSPENDED, 1260 PCB SERIES (UG/L)
39518	PCB, SUSPENDED TOTAL (UG/L)
39518	PCB, SUSPENDED (UG/L)
39533	MALATHION, SUSPENDED TOTAL (UG/L)
39533	MALATHION, SUSPENDED (UG/L)
39543	PARATHION, SUSPENDED TOTAL (UG/L)
39543	PARATHION, SUSPENDED (UG/L)
39573	DIAZINON, SUSPENDED TOTAL (UG/L)
39573	DIAZINON, SUSPENDED (UG/L)
39603	METHYL PARATHION, SUSPENDED TOTAL (UG/L)
39603	METHYL PARATHION, SUSPENDED (UG/L)
39733	2,4-D, SUSPENDED TOTAL (UG/L)
39733	2,4-D, SUSPENDED (UG/L)
39743	2,4,5-T, SUSPENDED TOTAL (UG/L)
39743	2,4,5-T, SUSPENDED (UG/L)
39757	MIREX, SUSPENDED TOTAL (UG/L)
39757	MIREX, SUSPENDED (UG/L)
39763	SILVEX, SUSPENDED TOTAL (UG/L)
39763	SILVEX, SUSPENDED (UG/L)
70299	SOLIDS, RESIDUE AT 110 DEG. C, SUSPENDED TOTAL (MG/L)
70299	SOLIDS, RESIDUE AT 110 DEG. C, SUSPENDED (MG/L)
71895	MERCURY, SUSPENDED RECOVERABLE (UG/L AS HG)
71895	MERCURY, SUSPENDED (UG/L AS HG)
71900	MERCURY, TOTAL RECOVERABLE (UG/L AS HG)
71900	MERCURY, TOTAL (UG/L AS HG)
71921	MERCURY, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS HG)
71921	MERCURY, TOTAL IN BOTTOM MATERIAL (UG/G AS HG)
80040	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (UG/L AS U NATURAL)
80040	GROSS ALPHA RADIOACTIVITY, SUSPENDED (UG/L AS U NATURAL)
80060	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS SR/YT-90)
80060	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/L AS SR/YT-90)

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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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