

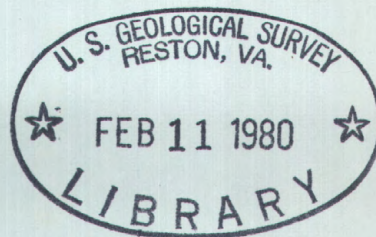
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Water Resources Data for Oklahoma

Volume 1. Arkansas River Basin



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OK-78-1
WATER YEAR 1978

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

CALENDAR FOR WATER YEAR 1978

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Water Resources Data for Oklahoma

Volume 1. Arkansas River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OK-78-1

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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VII

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

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WATER RESOURCES DATA FOR OKLAHOMA, 1978

Volume 1. Arkansas 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 terminology 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 conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

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 presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C + 1.0°C on M-enterococcus 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/m³), and periphyton and benthic organisms in grams per square meter (g/m²).

Dry mass refers to the mass of residue present after drying in an oven at 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 milliliters (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 (FT³/s), ft³/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 ($\mu\text{g/g}$) 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 ($\mu\text{g/L}$, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L , mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter 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 of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (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 Subcommittee on Sediment Terminology.

The classification is as follows:

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

The particle-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 [$\text{mg C}/(\text{m}^2 \cdot \text{time})$ for periphyton and $\text{mg C}/(\text{m}^3 \cdot \text{time})$ for phytoplankton] are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [$\text{mg O}_2/(\text{m}^2 \cdot \text{time})$ for periphyton and $\text{mg O}_2/(\text{m}^3 \cdot \text{time})$ for phytoplankton] are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made 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 components of turbulent currents or that exists in suspension as a colloid.

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

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 emerged 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 μ m membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical 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 μ m 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.....Hexagenia
Species.....Hexagenia limbata

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

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

Tons per day is the quantity 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 at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material".

Total 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.

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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 as 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 indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

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".

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NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 1 below.

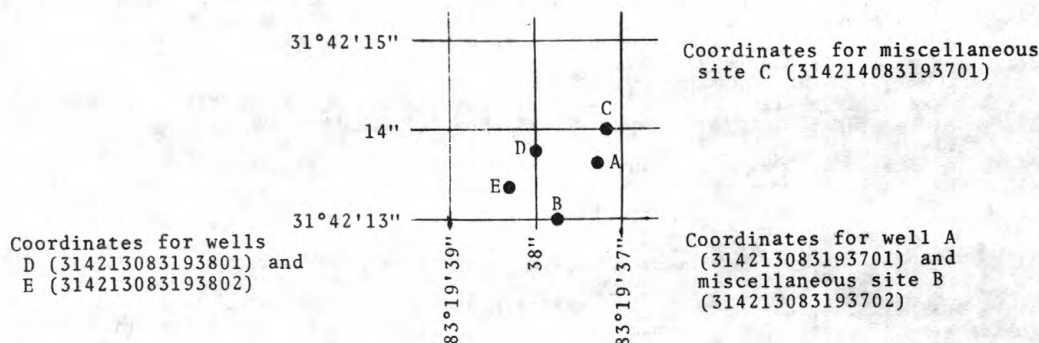


Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

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

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in natural or regional 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 Survey 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. Similarly, 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 ft³/s; to tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures above 1,000 ft³/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 adjustment 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 usually 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 section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

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

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperatures

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

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Sediment

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

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

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

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

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

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

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

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

Water-level measurements in this report are given in feet with reference to either National Geodetic Vertical Datum of 1929 (NGVD) or landsurface datum (lsd). National Geodetic Vertical Datum of 1929 is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the landsurface datum above National Geodetic Vertical Datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office). Prices are subject to change.

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

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H.H. Stevens Jr., J.F. Ficke, and G.F. Smoot: USGS--TWRI Book 1, Chapter D1, 1976, 65 pages, \$1.60.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS--TWRI Book 1, Chapter D2, 1976, 24 pages, \$0.85.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS--TWRI Book 2, Chapter D1, 1974, 116 pages, \$1.90.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS--TWRI Book 2, Chapter E1, 1971, 126 pages, \$1.75.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1, 1967, 30 pages, \$1.00.
- 3-A2. *Measurement of peak discharge by the slope-area method*, Tate Dalrymple and M.A. Benson: USGS--TWRI Book 3, Chapter A2, 1967, 12 pages, \$0.35.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.I. 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 P.W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6, 1968, 13 pages, \$1.00.
- 3-A7. *State measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A7, 1968, 28 pages, \$1.40.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS--TWRI Book 3, Chapter A8, 1969, 65 pages, \$1.25.
- 3-A11. *Measurement of discharge by moving-boat method*, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 3, Chapter A11, 1969, 22 pages, \$1.20.
- 3-A12. *Fluorometric procedures for dye tracing*, by J.F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A12, 1968, 31 pages, \$0.35. Not currently available.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by P.W. Stallman: USGS--TWRI Book 3, Chapter B1, 1971, 26 pages, \$0.70.
- 3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G.D. Bennett: USGS--TWRI Book 3, Chapter B2, 1976, 172 pages, \$2.50.
- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS--TWRI Book 3, Chapter C1, 1970, 55 pages, \$0.65.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H.P. Guy and V.W. Norman: USGS--TWRI Book 3, Chapter C2, 1970, 59 pages, \$2.50.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3, 1972, 66 pages, \$2.10.
- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS--TWRI Book 4, Chapter A1, 1968, 39 pages, \$1.60.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS--TWRI Book 4, Chapter A2, 1968, 15 pages, \$0.35.
- 4-B1. *Low-flow investigations*, by H.C. Riggs: USGS--TWRI Book 4, Chapter B1, 1972, 18 pages, \$0.65.
- 4-B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS--TWRI Book 4, Chapter B2, 1973, 20 pages, \$0.75.
- 4-B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS--TWRI Book 4, Chapter B3, 1973, 15 pages, \$0.65.
- 4-D1. *Computations of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS--TWRI Book 4, Chapter D1, 1970, 17 pages, \$1.10.
- 5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M.W. Skougstad, and M.J. Fishman: USGS--TWRI Book 5, Chapter A1, 1970, 160 pages, \$2.40.

- 5-A2. *Determination of minor 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 A3. 1972. 40 pages. \$0.90.
- 5-A4.* *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P.E. Greeson, T.A. Ehlike, G.A. Irwin, B.W. Lium, and K.V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages. \$20.00.
- 5-A5.* *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages. \$16.00.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages. \$2.10.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages. \$2.30.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages. \$0.70.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages. \$1.10.

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

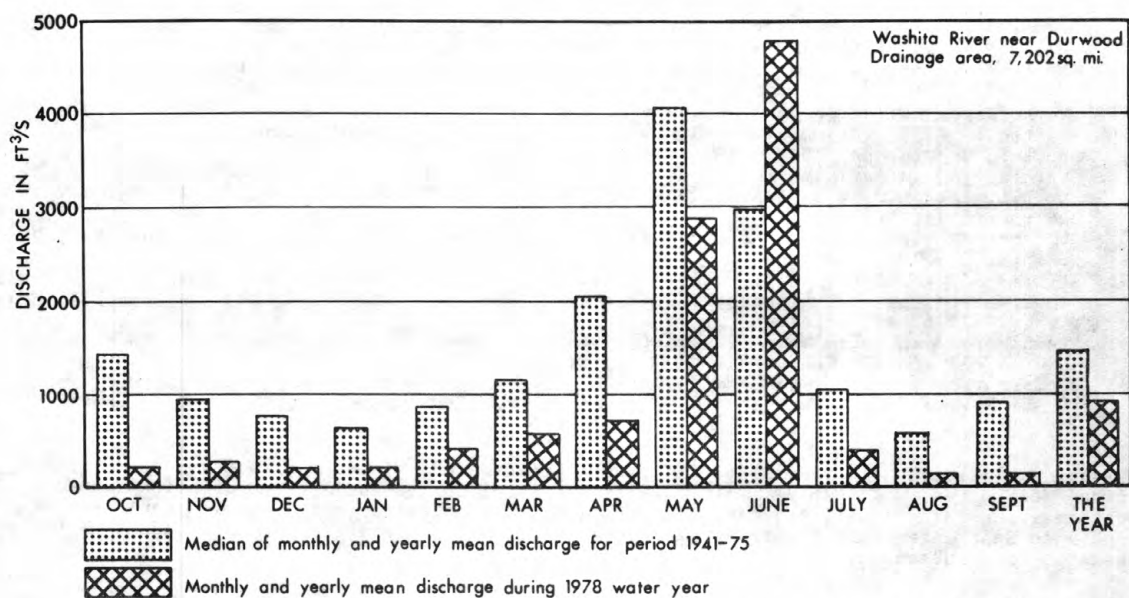


FIGURE 2.--Discharge during 1978 water year compared with median discharge for period 1941-75 for one representative gaging station.

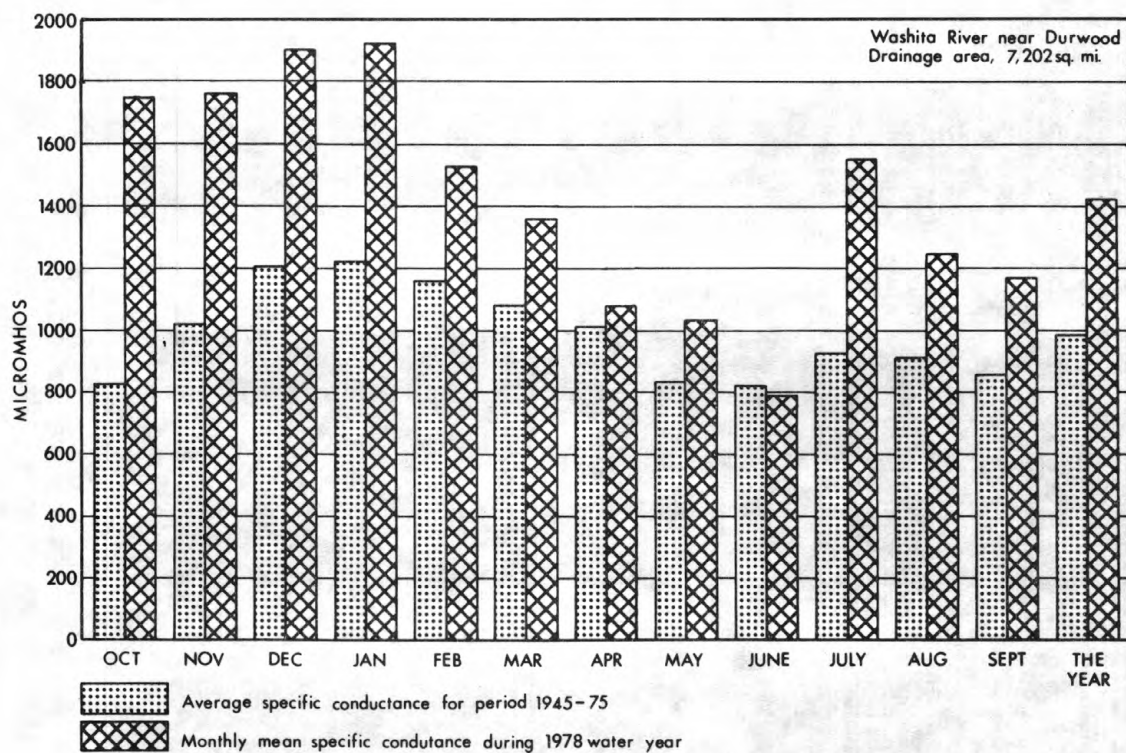


FIGURE 3.--Specific conductance during 1978 water year compared with average specific conductance for period 1945-75 at one site.

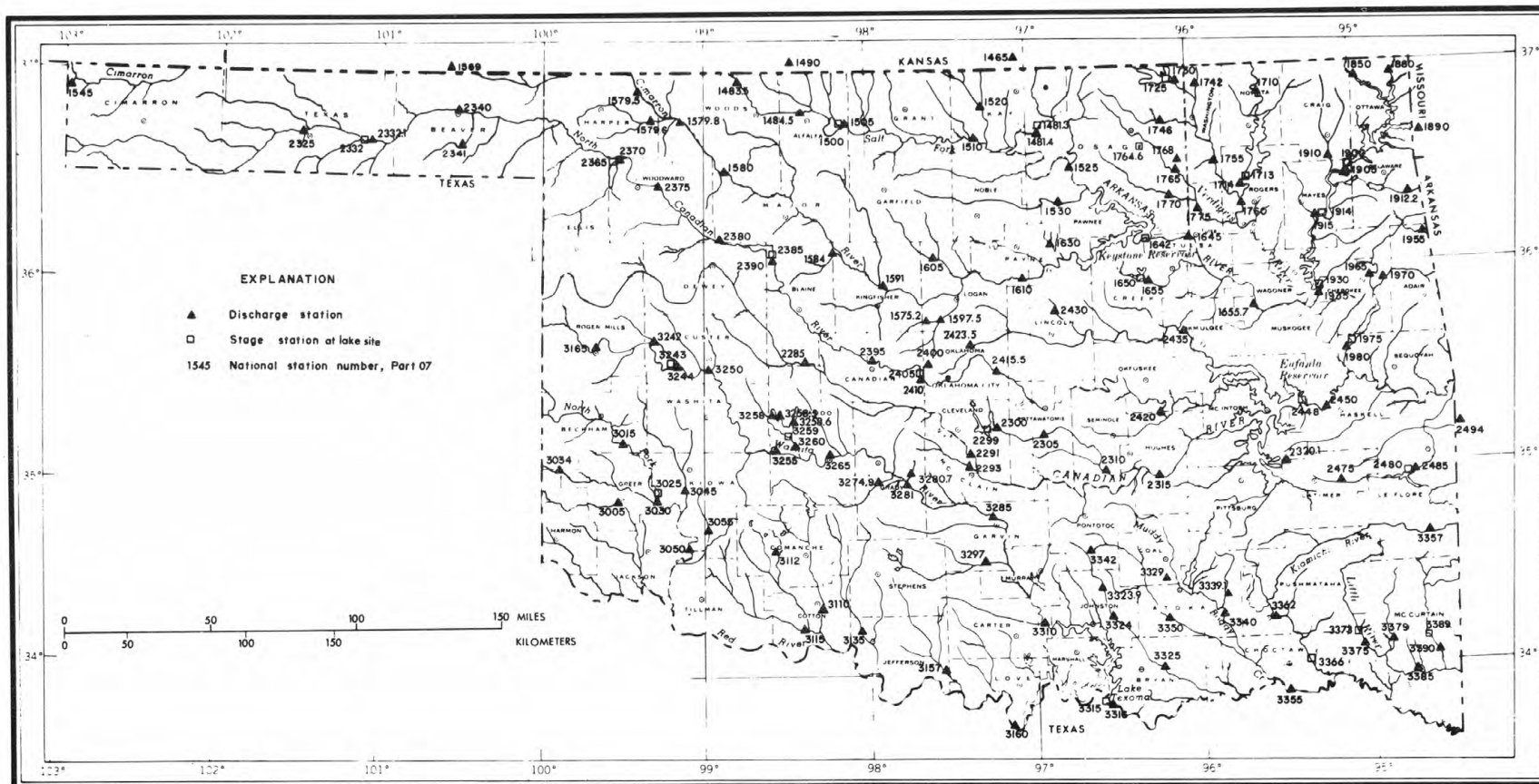


Figure 4.--Locations of continuous-record surface-water stations, water year 1978.

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

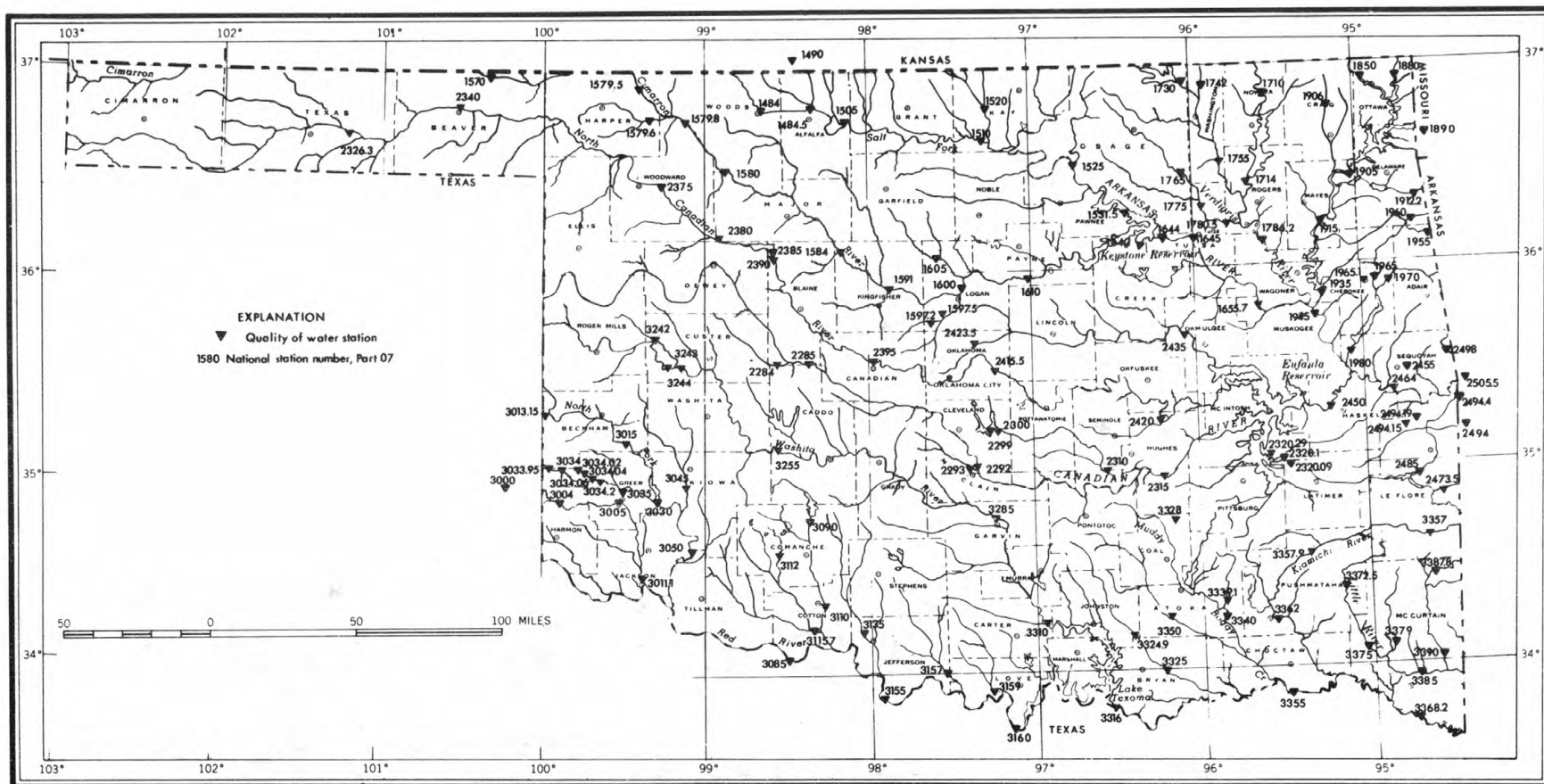


Figure 6.--Locations of water-quality stations, water year 1978.



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

GAGING STATION RECORDS

ARKANSAS RIVER BASIN

07148130 KAW LAKE NEAR PONCA CITY, OK

LOCATION.--Lat 36°41'58", long 96°55'18", in NW¼SW¼ sec.30, T.26 N., R.4 E., Osage County, Hydrologic Unit 11060001, 1,700 ft (518 m) east of centerline of spillway on dam on Arkansas River, about 8 mi (13 km) east of Ponca City, and at mile 653.7 (1,051.8 km).

DRAINAGE AREA.--46,530 mi² (120,513 km²), of which 7,607 mi² (19,702 km²) is probably noncontributing.

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

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

REMARKS.--Reservoir is formed by a rolled, earthfill dam. Spillway is concrete, gravity ogee-wier type controlled by 8, 50-foot (15.2 m) taintor gates. Outlet works consist of two sluice gates. Regulated storage began April 22, 1976; conservation pool first filled July 6, 1976. Capacity, 1,348,000 acre-ft (1.66 km³), at elevation 1,044.5 ft (318.36 m), top of flood control pool, 428,600 acre-ft (528 hm³), at elevation 1,010.0 ft (307.85 m), top of conservation pool, and 250,700 acre-ft (309 hm³), at elevation 997.5 ft (304.04 m), crest of controlled spillway. Dead storage 85,100 acre-ft (105 hm³) below elevation 978.0 ft (298.09 m). Figures given herein represent total contents. Reservoir is designed for flood control, water quality control, recreation, fish and wildlife, and water supply.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 693,400 acre-ft (855 hm³) June 26, 1977, elevation, 1,023.03 ft (311.820 m), minimum since conservation pool first filled, 223,100 acre-ft (275 hm³) March 25, 1977, elevation, 995.06 ft (303.294 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 532,000 acre-ft (656 hm³) May 23, elevation, 1,015.61 ft (309.558 m); minimum, 402,900 acre-ft (497 hm³) Sept. 18, elevation, 1,008.46 ft (307.379 m).

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

1,008	395,500	1,012	463,700
1,009	411,800	1,014	500,700
1,010	428,600	1,016	539,800

 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	435800	427800	420100	425400	429300	479200	436300	419800	470600	449100	412000	408700
2	431300	430000	420100	424000	428400	471700	434900	434600	469100	445700	412800	408200
3	426700	434800	420100	423500	427900	461900	434800	447700	471300	442400	414100	408300
4	424900	436300	420100	423300	427600	449800	437900	452400	475500	438600	414000	408200
5	425500	437200	421100	423300	426900	439600	439400	452600	475000	435100	414600	408200
6	424900	436800	420100	423500	426400	434400	445000	450300	473300	434100	414800	408000
7	425000	435300	419600	425000	426000	434900	447500	450300	472200	434400	415000	407700
8	425000	435500	421000	425200	425700	435600	448200	451400	469700	435600	415100	406900
9	424900	436700	418300	422700	424900	436800	449200	454000	468600	436100	415600	406700
10	428400	437000	417300	421500	424200	436100	448900	454400	467300	436100	415800	406400
11	430000	439800	416900	420500	423700	434900	441400	455800	466400	437000	415800	405200
12	430300	438700	417300	419300	424000	433700	434400	454400	464400	438000	415800	405200
13	429400	434800	418300	419600	439400	433700	426700	452100	463000	441000	415800	405200
14	427900	429600	419300	420100	438900	434100	423500	449900	461200	440000	415500	405200
15	427600	423300	420600	421800	441400	435100	423000	448900	458500	437700	415500	405100
16	425700	420100	422800	423500	442200	435100	421300	448900	455100	435100	414800	404900
17	423700	420100	424200	423200	441000	434100	421000	448400	451200	433700	414000	403300
18	422000	421100	425900	423700	438000	432500	423500	470000	449400	434100	413500	403600
19	420100	421000	426900	423800	434400	430100	422000	477400	447700	433600	413000	404600
20	419600	422800	427800	424200	431300	427200	420600	489600	444700	431200	412800	406900
21	419800	422700	426900	424500	427100	424200	419300	513800	463900	428300	412300	407400
22	422500	421800	426900	425000	425200	421500	419000	530200	473700	425000	412100	408700
23	423500	422200	426600	425700	426900	425200	419100	531800	474100	422300	411500	411600
24	424700	420600	426900	426400	432400	426600	419300	525900	470800	419800	411100	416000
25	425200	420100	426000	426900	448000	433700	418000	515300	465900	417100	410800	421500
26	426000	420100	426900	427400	473000	444100	417300	503800	461900	415600	410100	422600
27	426900	419800	426000	427900	487400	446600	416800	492400	461700	415100	409600	429300
28	426900	419500	425900	428900	485500	443300	416600	486600	459200	415100	410300	428400
29	426400	419600	425700	429100	---	439300	416600	482000	456700	414000	410100	428300
30	426000	420100	425500	429600	---	438000	418300	477200	452600	414000	409600	425700
31	426000	---	426900	429600	---	437200	---	474300	---	413000	409200	---
MAX	435800	439800	427800	429600	487400	479200	449200	531800	475500	449100	415800	429300
MIN	419600	419500	416900	419300	423700	421500	416600	419800	444700	413000	409200	403300
†	1109.85	1009.50	1009.90	1010.06	1013.19	1010.50	1009.39	1012.58	1011.38	1009.07	1008.84	1009.83
‡	-21,500	-5,900	+6,800	+2,700	+55,900	-48,300	-18,900	+56,000	-21,700	-39,600	-3,800	+16,500

CAL YR 1977 MAX 693200 MIN 223300 ‡ +197,600
 WTR YR 1978 MAX 531800 MIN 403300 ‡ -21,800

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

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07148140 ARKANSAS RIVER NEAR PONCA CITY, OK

LOCATION.--Lat 36°41'55", long 96°55'40", in SW¼SE¼ sec.25, T.26 N., R.3 E., Kay County, Hydrologic Unit 11060001, at spillway of Kaw Dam, about 8 mi (13 km) east of Ponca City, and at mile 653.7 (1,051.8 km).

DRAINAGE AREA.--46,530 mi² (120,513 km²), of which 7,607 mi² (19,702 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Gate position recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records poor. Daily discharge computed from releases.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,800 ft³/s (589 m³/s) June 27-29, 1977; minimum daily, 92 ft³/s (2.61 m³/s) July 12, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,500 ft³/s (297 m³/s) Feb. 27 to Mar. 6; Minimum daily, 92 ft³/s (2.61 m³/s) July 12.

EXTREMES FOR CURRENT PERIOD.--April to September 1976: Maximum discharge during period, 16,100 ft³/s (456 m³/s) July 9, 10; minimum daily, 260 ft³/s (7.36 m³/s) Aug. 25 to Sept. 1, Sept. 4-30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5000	1680	1400	1120	1120	10500	4000	1630	5000	3400	391	280
2	5000	1680	1400	1120	1120	10500	4000	1630	5000	3400	280	280
3	5000	2700	1400	1120	1120	10500	4000	1630	5000	3400	280	280
4	3250	3500	1400	1120	1120	10500	4000	1630	5000	3400	280	280
5	2000	3500	1400	1120	1120	10500	4000	3740	5000	2580	280	280
6	2000	3500	1400	1120	1120	6890	4000	5000	5000	2000	280	280
7	2000	4020	1400	1120	1120	3400	4000	5000	5000	1880	280	280
8	2000	4500	1400	1120	1120	3400	4000	5000	5000	2000	280	280
9	2000	4500	1230	1120	1120	4300	4000	5000	4400	2000	280	280
10	2000	6690	1120	1120	1120	5000	5830	5000	4000	1250	280	280
11	2000	8000	1120	1120	1120	5000	8000	5000	4000	223	280	280
12	2580	8000	1120	1120	1120	5000	8000	5000	4000	92	280	232
13	3000	8000	1120	782	2680	5000	8000	5000	4000	971	280	170
14	3000	8000	770	560	4000	5000	5750	5000	4000	2000	280	170
15	3000	8000	560	560	4000	5000	4000	4210	4000	2000	280	170
16	3000	5500	560	560	4000	5000	4000	3000	4000	2000	280	170
17	3000	3090	560	560	4000	5000	2950	3000	4000	1060	280	170
18	3000	2500	560	560	4000	5000	2200	3000	4000	500	280	170
19	2110	2500	560	560	4000	5000	2880	3790	4560	1030	280	170
20	1120	2500	910	560	4000	5000	3400	5000	5000	2000	280	170
21	1120	2500	1120	560	4000	5000	3400	5000	5000	2000	280	170
22	1120	2500	1120	560	2880	3310	2720	5000	5000	2000	280	170
23	1120	2140	1120	560	2200	2200	2200	5000	5000	2000	280	170
24	1120	1800	1120	560	3780	3420	2200	6880	5000	2000	280	170
25	1120	1800	1120	560	5000	5000	2200	8600	5000	2000	280	170
26	1120	1800	1120	560	5000	5000	2000	8600	4270	1130	280	170
27	1120	1800	1120	560	7730	6560	1630	8600	2480	560	280	580
28	1470	1800	1120	560	10500	8000	1630	8600	3400	560	280	1400
29	1680	1550	1120	560	---	6670	1630	8600	2980	560	280	1400
30	1680	1400	1120	560	---	4000	1630	6720	3400	560	280	1400
31	1680	---	1120	898	---	4000	---	5000	---	560	280	---
TOTAL	70410	111450	33710	24640	85210	178650	112250	153860	131490	51116	8791	10472
MEAN	2271	3715	1087	795	3043	5763	3742	4963	4383	1649	284	349
MAX	5000	8000	1400	1120	10500	10500	8000	8600	5000	3400	391	1400
MIN	1120	1400	560	560	1120	2200	1630	1630	2480	92	280	170
AC-FT	139700	221100	66860	48870	169000	354400	222600	305200	260800	101400	17440	20770
CAL YR 1977	TOTAL	1304586	MEAN	3574	MAX	20800	MIN	400	AC-FT	2588000		
WTR YR 1978	TOTAL	972049	MEAN	2663	MAX	10500	MIN	92	AC-FT	1928000		

ARKANSAS RIVER BASIN

07148140 ARKANSAS RIVER NEAR PONCA CITY, OK

WATER-QUALITY RECORDS

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	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	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 18...	1715	3000	700	8.1	19.5	--	10.6	118	--	--	
NOV 02...	1530	1680	740	8.3	15.0	--	10.1	103	--	--	
DEC 07...	1515	1400	1000	8.6	8.0	--	11.7	102	--	--	
JAN 25...	1515	560	1560	8.5	1.0	3	14.2	104	11	--	
FEB 13...	1730	2680	1500	7.8	1.0	45	14.0	102	23	--	
MAR 13...	1515	5000	1000	8.4	6.0	1	14.5	122	14	--	
APR 11...	0815	8000	995	8.2	12.0	10	12.0	114	15	--	
MAY 08...	1700	5000	1000	8.4	18.0	11	11.0	120	--	14	
18...	1300	2630	--	--	14.5	--	--	--	--	--	
JUN 20...	0830	5000	789	7.8	22.5	15	10.8	127	14	--	
JUL 06...	0800	2000	720	7.5	24.0	10	7.5	91	10	--	
AUG 08...	0815	280	875	7.8	23.0	7	--	--	12	--	
16...	1730	341	--	--	28.5	--	--	--	--	--	
SEP 16...	1830	170	970	8.8	30.0	4	9.6	125	11	--	
DATE		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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT 18...	--	--	--	--	--	--	--	--	--	--	--
NOV 02...	--	--	--	--	--	--	--	--	--	--	--
DEC 07...	--	--	--	--	--	--	--	--	--	--	--
JAN 25...	--	--	--	--	--	--	--	174	306	.3	5
FEB 13...	325	96	226	22	188	6.5	91	298	.4	303	
MAR 13...	--	--	--	--	--	--	77	174	.3	18	
APR 11...	178	51	129	11	100	5.0	70	156	.2	19	
MAY 08...	--	--	--	--	--	--	66	162	.2	28	
18...	--	--	--	--	--	--	--	--	--	--	--
JUN 20...	224	65	163	15	84	5.0	59	131	.2	15	
JUL 06...	--	--	--	--	--	--	63	140	.3	13	
AUG 08...	225	68	170	13	97	5.2	61	179	.3	33	
16...	--	--	--	--	--	--	--	--	--	--	--
SEP 16...	--	--	--	--	--	--	89	164	.3	3	

ARKANSAS RIVER BASIN

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07148140 ARKANSAS RIVER NEAR PONCA CITY, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 18...	--	--	--	--	--	--	--	--	--	--
NOV 02...	--	--	--	--	--	--	--	--	--	--
DEC 07...	--	--	--	--	--	--	--	--	--	--
JAN 25...	.90	2.8	3.7	17	.33	--	--	--	--	--
FEB 13...	1.0	2.5	3.5	16	.62	4	<1	28	7	3800
MAR 13...	.80	2.0	2.8	12	.24	--	--	--	--	--
APR 11...	1.3	2.0	3.3	15	.36	--	--	--	--	600
MAY 08...	1.1	1.8	2.9	13	.23	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--
JUN 20...	1.0	1.7	2.7	12	.19	--	--	--	--	330
JUL 06...	.90	1.3	2.2	10	.11	--	--	--	--	--
AUG 08...	.50	1.2	1.7	7.6	.25	1	2	19	11	530
16...	--	--	--	--	--	--	--	--	--	--
SEP 16...	.60	1.8	2.4	11	.10	--	--	--	--	--
DATE	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, TOTAL RECOV- ERABLE (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 18...	--	--	--	--	--	--	--	--	--	--
NOV 02...	--	--	--	--	--	--	--	--	--	--
DEC 07...	--	--	--	--	--	--	--	--	--	--
JAN 25...	--	--	--	--	--	--	--	3.0	--	--
FEB 13...	51	200	<.5	40	<1	3	22	22	--	--
MAR 13...	--	--	--	--	--	--	--	2.0	--	--
APR 11...	--	50	--	--	--	--	--	5.0	--	--
MAY 08...	--	--	--	--	--	--	--	3.0	--	--
18...	--	--	--	--	--	--	--	--	2280	16200
JUN 20...	--	60	--	--	--	--	--	--	--	--
JUL 06...	--	--	--	--	--	--	--	6.0	--	--
AUG 08...	11	150	<.5	6	<1	<2	16	11	--	--
16...	--	--	--	--	--	--	--	--	40	37
SEP 16...	--	--	--	--	--	--	--	7.0	--	--

ARKANSAS RIVER BASIN

07148350 SALT FORK ARKANSAS RIVER NEAR WINCHESTER, OK

LOCATION.--Lat 36°57'45", long 98°46'55", in NE¼SE¼ sec.26, T.29 N., R.13 W., Woods County, Hydrologic Unit 11060002, near left bank on downstream side of pier of county road bridge, 1 mi (2 km) north-east of Winchester, 2.5 mi (4.0 km) upstream from Greenwood Creek, 4.9 mi (7.9 km) downstream from Yellow-stone Creek, 5 mi (8 km) downstream from State line, 19 mi (31 km) northwest of Alva, and at mile 156.2 (251.3 km).

DRAINAGE AREA.--856 mi² (2,220 km²).

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,409.6 ft (429.6 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

AVERAGE DISCHARGE.--19 years, 83.9 ft³/s (2.376 m³/s), 60,790 acre-ft/yr (75.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,000 ft³/s (1,470 m³/s) Aug. 19, 1961, gage height, 13.95 ft (4.252 m), from rating curve extended above 17,400 ft³/s (493 m³/s); no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1957 reached a stage of 15.4 ft (4.69 m), from information by county engineer.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,470 ft³/s (155 m³/s) at 1315 May 27, gage height, 10.55 ft (3.216 m), no other peak above base of 5,000 ft³/s (142 m³/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	19	15	15	30	37	88	30	26	217	24	.10	.00
2	19	18	15	25	30	83	29	146	184	21	.09	.00
3	16	19	14	36	32	78	27	147	219	17	1.1	.00
4	14	19	15	29	40	100	26	190	221	12	.22	.00
5	14	19	16	25	45	170	26	158	308	9.3	.04	.00
6	13	19	10	25	40	98	25	101	376	9.7	.00	.00
7	13	19	11	29	41	74	23	124	330	53	.00	.00
8	14	21	17	25	40	69	22	161	351	64	.00	.00
9	14	29	21	23	37	62	21	115	226	50	.00	.00
10	14	33	23	25	35	55	40	81	179	33	.00	.00
11	13	34	22	30	42	54	81	69	156	22	.00	.00
12	12	30	20	35	47	51	54	62	141	12	.00	.00
13	12	28	29	33	38	51	37	54	131	6.6	.00	.00
14	11	26	25	30	35	47	35	49	119	6.4	.00	.00
15	11	26	25	34	40	47	35	44	107	3.5	.00	.00
16	10	25	25	33	38	44	39	40	94	2.3	.00	.00
17	10	23	24	24	35	41	39	37	82	1.2	.00	.02
18	10	21	23	27	30	39	32	64	104	.60	.00	.00
19	10	21	26	26	35	37	27	158	114	.51	.00	.00
20	10	19	30	25	40	38	24	122	112	.35	.00	23
21	10	19	30	29	35	38	23	79	94	.25	.00	16
22	10	18	33	28	40	37	23	69	84	.45	.00	1.1
23	10	17	49	32	50	35	21	59	78	.39	.00	.42
24	11	17	33	37	100	39	20	50	69	.21	.00	.55
25	11	17	26	35	209	44	18	43	58	.13	.00	.88
26	12	17	25	31	297	43	17	671	47	.07	.00	.58
27	13	16	29	33	179	43	17	3040	42	.04	.00	.44
28	13	16	29	35	130	40	16	1330	37	.03	.01	.33
29	13	15	32	34	---	38	17	911	31	.01	.00	.24
30	13	15	25	37	---	33	16	467	27	.00	.00	.05
31	13	---	32	36	---	31	---	305	---	.01	.00	---
TOTAL	388	631	749	936	1797	1747	860	8972	4338	350.05	1.56	43.61
MEAN	12.5	21.0	24.2	30.2	64.2	56.4	28.7	289	145	11.3	.050	1.45
MAX	19	34	49	57	297	170	81	3040	376	64	1.1	23
MIN	10	15	10	23	30	31	16	26	27	.00	.00	.00
AC-FT	770	1250	1490	1860	3560	3470	1710	17800	8600	694	3.1	87
CAL YR 1977	TOTAL	20543.06	MEAN	56.3	MAX	1380	MIN	.00	AC-FT	40750		
WTR YR 1978	TOTAL	20813.22	MEAN	57.0	MAX	3040	MIN	.00	AC-FT	41280		

ARKANSAS RIVER BASIN

07148400 SALT FORK ARKANSAS RIVER NEAR ALVA, OK

LOCATION.--Lat 36°48'45", long 98°38'50", in SW¼SW¼ sec.18, T.27 N., R.13 W., Woods County, Hydrologic Unit 11060002, at bridge on U.S. Highway 281, 19 mi (31 km) upstream from Medicine Lodge River, 1.0 mi (1.6 km) northeast of Alva, and at mile 126.0 (202.7 km).

DRAINAGE AREA.--1,009 mi² (2,613 km²).

PERIOD OF RECORD.--Water years 1950-54, 1961, 1977 to current year.

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)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED SATURATION
OCT							
11...	1415	15	2460	--	18.0	--	--
11...	1527	15	--	--	--	--	--
31...	1515	20	2400	8.0	19.5	10.2	116
DEC							
22...	1200	22	2550	7.7	1.0	12.4	92
JAN							
25...	0950	9.5	2220	7.6	1.0	15.9	103
FEB							
14...	1345	11	2300	--	1.0	13.8	101
MAR							
29...	1445	25	2340	7.9	25.0	8.8	109
APR							
20...	1130	47	2270	7.8	17.0	10.4	112
MAY							
25...	1600	50	2200	8.1	30.0	7.3	100
JUN							
15...	1430	91	2050	7.9	30.0	8.5	116
JUL							
12...	0819	18	1500	7.7	24.0	8.8	109
AUG							
01...	1640	26	4000	7.9	29.0	6.9	93
SEP							
14...	0830	15	2730	7.8	19.0	7.1	80
DATE		CALCIUM DISSOLVED (MG/L AS CA)	SODIUM, DISSOLVED (MG/L AS NA)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFIDE, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	SEDIMENT DISSOLVED CHARGE, SUSPENDED (T/DAY)
OCT							
11...	340	160	890	250	1940	--	--
11...	--	--	--	--	--	70	2.8
31...	300	200	840	300	1970	--	--
DEC							
22...	300	190	840	290	2020	--	--
JAN							
25...	--	--	--	--	--	--	--
FEB							
14...	--	--	--	--	--	--	--
MAR							
29...	250	230	720	360	1730	--	--
APR							
20...	260	230	740	280	1750	--	--
MAY							
25...	230	190	590	270	1600	--	--
JUN							
15...	240	190	560	280	1580	--	--
JUL							
12...	280	210	780	320	1890	--	--
AUG							
01...	350	140	1300	170	2440	--	--
SEP							
14...	340	140	1200	160	2310	--	--

ARKANSAS RIVER BASIN

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07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1961 to September 1962, October 1973 to current year.

WATER TEMPERATURE: October 1961 to September 1962, October 1973 to current year.

INSTRUMENTATION.--Water quality monitor since October 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. 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,260 micromhos Aug. 27, 1976; minimum daily, 551 micromhos May 21, 1977.

WATER TEMPERATURE: Maximum daily, 35.0°C on July 9, 1975; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,750 micromhos Oct. 20; minimum daily, 551 micromhos May 21.

WATER TEMPERATURE: Maximum daily, 33.0°C June 19, 27, 28, Aug. 16; minimum daily, 0.0°C on Dec. 31, Jan. 1, 8, 9.

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 AS CaCO3)
OCT											
07...	1730	31	2220	8.2	20.0	--	--	--	--	980	840
19...	1220	21	2250	8.0	16.0	11	9.8	102	12	--	--
21...	1800	20	2280	8.1	20.0	--	--	--	--	1000	910
31...	1800	18	2350	8.2	18.0	--	--	--	--	1000	890
NOV											
03...	1100	20	2000	8.1	13.0	5	10.3	101	8	--	--
08...	1800	23	2080	8.0	11.0	--	--	--	--	860	720
14...	1750	24	2340	8.3	15.0	--	--	--	--	990	830
23...	1730	19	2420	8.2	13.0	--	--	--	--	1000	840
DEC											
08...	1040	20	2150	8.2	3.0	8	12.0	93	10	--	--
12...	1735	26	2230	8.1	4.0	--	--	--	--	940	780
17...	1600	26	2310	8.1	6.0	--	--	--	--	950	790
22...	1740	37	2390	8.1	4.0	--	--	--	--	960	790
JAN											
03...	1730	39	2250	8.1	2.0	--	--	--	--	970	790
07...	1740	30	2530	8.2	1.0	--	--	--	--	1100	870
13...	1735	30	2260	8.2	2.0	--	--	--	--	940	760
20...	1245	49	2250	8.2	1.0	4	17.6	128	7	--	--
FEB											
14...	1445	113	2000	8.2	.5	12	13.0	94	4	--	--
17...	1805	15	2270	8.1	1.0	--	--	--	--	980	790
23...	1635	23	1817	8.1	3.0	--	--	--	--	760	630
28...	1445	182	2060	8.3	3.0	--	--	--	--	810	670
MAR											
03...	1640	137	2050	8.3	3.0	--	--	--	--	820	670
14...	1320	81	2300	8.4	9.0	--	11.5	104	--	--	--
14...	1700	81	2210	8.3	4.0	--	--	--	--	860	700
31...	1830	73	2370	8.4	22.0	--	--	--	--	920	780
APR											
01...	1810	76	1370	7.6	21.0	--	--	--	--	510	410
11...	1450	76	2200	8.4	21.0	23	9.4	109	11	--	--
14...	1810	89	1990	8.0	22.0	--	--	--	--	870	720
20...	1750	49	2480	8.3	23.0	--	--	--	--	970	830
MAY											
02...	1730	53	2380	7.5	12.0	--	--	--	--	910	770
09...	1345	211	1750	8.3	21.0	62	8.8	101	29	--	--
20...	1705	178	1770	7.5	26.0	--	--	--	--	810	690
28...	1620	3430	686	7.4	21.0	--	--	--	--	330	210
JUN											
04...	0900	366	1740	8.0	19.0	--	--	--	--	720	580

ARKANSAS RIVER BASIN

07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, 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, DEMAND, CHEM- ICAL (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)
JUN										
09...	1310	377	1120	7.6	25.0	--	--	--	470	330
19...	1430	91	1560	8.0	29.5	91	7.3	97	--	--
30...	1825	26	2370	7.7	30.0	--	--	--	950	840
JUL										
02...	1520	22	2340	8.2	31.0	--	--	--	920	830
05...	1315	16	6000	8.5	29.0	41	8.1	108	29	--
10...	1910	22	2550	7.5	30.0	--	--	--	950	880
22...	1730	4.5	2130	7.9	29.0	--	--	--	870	800
AUG										
04...	1800	2.5	2190	7.8	27.5	--	--	--	950	810
07...	1315	1.6	2150	7.8	31.0	1	9.4	130	12	--
09...	1745	.75	2370	7.5	26.5	--	--	--	1100	870
23...	1830	.15	2560	7.9	27.0	--	--	--	1100	920
SEP										
17...	1445	.03	2810	8.0	28.0	14	10.4	135	25	--
21...	1830	94	924	7.5	17.0	--	--	--	420	330
25...	1820	4.5	1930	7.8	20.0	--	--	--	--	--

07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, OK--Continued

DATE	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CA)	CALCIUM DISSOLVED (MG/L AS CAC(03)	MAGNE- SIUM, TOTAL RECOVERABLE (MG/L AS MG)	MAGNE- SIUM, DISSOLVED (MG/L AS MG)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SURP- TION RATIO	POTAS- SIUM, TOTAL RECOVERABLE (MG/L AS K)
OCT										
07...	--	290	--	--	61	--	140	24	2.0	--
19...	--	--	--	--	--	--	--	--	--	--
21...	--	300	--	--	65	--	140	23	1.9	--
31...	--	300	--	--	67	--	160	25	2.2	--
NOV										
03...	70	--	175	56	--	--	--	--	--	--
06...	--	250	--	--	57	--	140	26	2.1	--
14...	--	290	--	--	65	--	170	27	2.4	--
23...	--	290	--	--	67	--	170	27	2.3	--
DEC										
08...	--	--	--	--	--	--	--	--	--	--
12...	--	270	--	--	65	--	160	27	2.3	--
17...	--	270	--	--	67	--	160	27	2.3	--
22...	--	280	--	--	63	--	180	29	2.5	--
JAN										
03...	--	280	--	--	66	--	160	26	2.2	--
07...	--	310	--	--	72	--	190	28	2.5	--
13...	--	270	--	--	65	--	160	27	2.3	--
26...	351	--	878	76	--	150	--	--	--	5.3
FEB										
14...	--	--	--	--	--	--	--	--	--	--
17...	--	290	--	--	63	--	160	26	2.2	--
23...	--	230	--	--	45	--	100	22	1.6	--
28...	--	250	--	--	46	--	150	29	2.3	--
MAR										
03...	--	250	--	--	47	--	140	27	2.1	--
14...	--	--	--	--	--	--	--	--	--	--
14...	--	260	--	--	51	--	170	30	2.5	--
31...	--	270	--	--	54	--	190	31	2.7	--
APR										
01...	--	150	--	--	32	--	100	30	1.9	--
11...	--	--	--	--	--	--	--	--	--	--
14...	--	260	--	--	53	--	130	24	1.9	--
26...	--	280	--	--	65	--	210	32	2.9	--
MAY										
02...	--	270	--	--	57	--	210	33	3.0	--
09...	269	--	672	52	--	--	--	--	--	--
20...	--	250	--	--	44	--	100	21	1.5	--
28...	--	110	--	--	13	--	15	9	.4	--
JUN										
04...	--	230	--	--	36	--	100	23	1.6	--
09...	--	150	--	--	24	--	56	20	1.1	--
19...	--	--	--	--	--	--	--	--	--	--
30...	--	280	--	--	62	--	160	27	2.3	--
JUL										
02...	--	270	--	--	60	--	180	30	2.6	--

ARKANSAS RIVER BASIN

07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT										
07...	6.0	170	0	140	1.7	860	200	--	1730	--
19...	--	--	--	--	--	--	--	.4	--	1800
21...	6.4	130	0	110	1.7	910	210	--	1760	--
31...	6.2	160	0	130	1.6	880	230	--	1780	--
NOV										
03...	--	--	--	--	--	--	--	.4	--	--
08...	5.1	170	0	140	2.7	740	190	--	1540	--
14...	5.2	200	0	160	1.6	840	230	--	1770	--
23...	5.2	200	0	160	2.0	850	230	--	1820	--
DEC										
08...	--	--	--	--	--	--	--	.3	--	--
12...	5.0	200	0	160	2.5	750	220	--	1650	--
17...	4.8	190	0	160	2.4	780	240	--	1740	--
22...	4.6	200	0	160	2.5	740	270	--	1760	--
JAN										
03...	4.6	220	0	180	2.8	750	220	--	1700	--
07...	5.9	240	0	200	2.4	880	270	--	1900	--
13...	4.9	220	0	180	2.2	740	220	--	1720	--
26...	--	--	--	--	--	--	--	.3	--	--
FEB										
14...	--	--	--	--	--	--	--	.2	--	--
17...	4.7	240	0	200	3.1	770	230	--	1710	--
23...	3.8	160	0	130	2.0	600	140	--	1290	--
28...	4.2	180	0	150	1.4	570	270	--	1480	--
MAR										
03...	4.4	180	0	150	1.4	610	230	--	1480	--
14...	--	--	--	--	--	--	--	--	--	--
18...	5.1	190	0	160	1.5	700	240	--	1600	--
31...	5.7	160	4	140	1.1	780	290	--	1730	--
APR										
01...	9.0	120	0	98	4.8	380	150	--	932	--
11...	--	--	--	--	--	--	--	.3	--	--
14...	5.6	180	0	150	2.9	700	170	--	1510	--
26...	6.3	170	0	140	1.4	770	320	--	1850	--
MAY										
02...	4.8	170	0	140	8.6	710	310	--	1730	--
09...	--	--	--	--	--	--	--	.4	--	--
20...	4.8	140	0	110	7.1	670	130	--	1360	--
28...	6.0	140	0	110	8.9	230	15	--	475	--
JUN										
04...	5.9	170	0	140	2.7	550	160	--	1280	--
09...	5.3	180	0	150	7.2	330	87	--	784	--
19...	--	--	--	--	--	--	--	.1	--	--
30...	7.4	140	0	110	4.5	790	250	--	1770	--
JUL										
02...	7.3	110	0	90	1.1	820	260	--	1770	--
05...	--	--	--	--	--	--	--	.3	--	--
10...	7.3	91	0	75	4.6	850	320	--	1900	--
22...	7.8	85	0	70	1.7	790	200	--	1600	--
AUG										
04...	9.1	160	0	130	4.1	810	200	--	1700	--
07...	--	--	--	--	--	--	--	.3	--	--
09...	21	260	0	210	13	840	220	--	1860	--
23...	29	200	0	160	4.0	860	290	--	1930	--
SEP										
17...	--	--	--	--	--	--	--	.4	--	--
21...	6.4	120	0	98	6.1	380	24	--	767	--
25...	--	190	0	160	4.8	720	140	--	1530	--

ARKANSAS RIVER BASIN

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07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, 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...	2.35	145	--	--	--	--	--	--	--	--
19...	--	--	--	<.10	--	--	2.2	2.2	--	.12
21...	2.39	95.0	--	--	--	--	--	--	--	--
31...	2.42	86.5	--	--	--	--	--	--	--	--
NOV										
03...	--	--	23	.30	--	--	2.0	2.3	10	.21
08...	2.09	95.6	--	--	--	--	--	--	--	--
14...	2.41	115	--	--	--	--	--	--	--	--
23...	2.48	93.4	--	--	--	--	--	--	--	--
DEC										
08...	--	--	9	.50	--	--	1.6	2.1	9.7	.20
12...	2.24	116	--	--	--	--	--	--	--	--
17...	2.37	122	--	--	--	--	--	--	--	--
22...	2.39	176	--	--	--	--	--	--	--	--
JAN										
03...	2.31	179	--	--	--	--	--	--	--	--
07...	2.58	154	--	--	--	--	--	--	--	--
13...	2.34	139	--	--	--	--	--	--	--	--
26...	--	--	9	.80	--	--	1.8	2.6	12	.29
FEB										
14...	--	--	30	.20	--	--	1.8	2.0	9.1	.32
17...	2.33	69.3	--	--	--	--	--	--	--	--
23...	1.75	80.1	--	--	--	--	--	--	--	--
28...	2.01	727	--	--	--	--	--	--	--	--
MAR										
03...	2.01	547	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
14...	2.18	350	--	--	--	--	--	--	--	--
31...	2.35	341	--	--	--	--	--	--	--	--
APR										
01...	1.27	191	--	--	--	--	--	--	--	--
11...	--	--	61	.20	--	--	1.3	1.5	6.6	.25
14...	2.05	363	--	--	--	--	--	--	--	--
26...	2.52	245	--	--	--	--	--	--	--	--
MAY										
02...	2.35	2.4	--	--	--	--	--	--	--	--
09...	--	--	578	.30	--	--	2.2	2.5	11	.58
20...	1.85	654	--	--	--	--	--	--	--	--
28...	.65	4400	--	--	--	--	--	--	--	--
JUN										
04...	1.74	1270	--	--	--	--	--	--	--	--
09...	1.07	798	--	--	--	--	--	--	--	--
19...	--	--	174	.10	--	--	1.7	1.8	8.2	.29
30...	2.41	124	--	--	--	--	--	--	--	--
JUL										
02...	2.41	105	--	--	--	--	--	--	--	--
05...	--	--	88	.10	--	--	2.2	2.3	10	.13
10...	2.58	113	--	--	--	--	--	--	--	--
22...	2.18	19.4	--	--	--	--	--	--	--	--
AUG										
04...	2.31	11.5	--	--	--	--	--	--	--	--
07...	--	--	21	.10	--	--	1.5	1.6	7.2	.85
09...	2.53	3.77	--	--	--	--	--	--	--	--
23...	2.62	.78	--	--	--	--	--	--	--	--
SEP										
17...	--	--	56	1.1	--	--	3.4	4.5	20	.11
21...	1.04	195	--	--	--	--	--	--	--	--
25...	2.08	18.6	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHROMIUM, 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							
19...	1220	--	--	--	--	--	--
NOV							
03...	1100	--	--	--	--	430	--
JAN							
26...	1245	2	2	<5	7	360	36
FEB							
14...	1445	--	--	--	--	--	--
APR							
11...	1450	--	--	--	--	--	--
MAY							
09...	1345	--	--	--	--	3000	--
JUN							
19...	1430	--	--	--	--	--	--
JUL							
05...	1315	5	5	11	9	3500	24
AUG							
07...	1315	--	--	--	--	--	--
SEP							
17...	1445	--	--	--	--	1960	--

DATE	MANGANESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELENIUM, TOTAL RECOV- ERABLE (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...	--	--	--	--	--	--	2.0
NOV							
03...	40	--	--	--	--	--	8.0
JAN							
26...	100	<.5	40	2	4	13	1.0
FEB							
14...	--	--	--	--	--	--	31
APR							
11...	--	--	--	--	--	--	2.0
MAY							
09...	340	--	--	--	--	--	11
JUN							
19...	--	--	--	--	--	--	9.0
JUL							
05...	140	<.5	19	<1	9	14	12
AUG							
07...	--	--	--	--	--	--	7.0
SEP							
17...	470	--	--	--	--	--	12

ARKANSAS RIVER BASIN

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07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2270	2340	2340	---	---	2060	1370	2340	1250	2310	2240	---
2	2310	2320	2360	---	---	2060	1370	2380	1490	2340	2240	---
3	2260	2350	2350	2250	---	2050	2250	2130	1670	2360	2240	---
4	2230	2390	2350	2260	2140	2070	2330	1480	1740	2320	2190	---
5	2230	2400	2300	2230	2150	1660	2350	1460	1150	2310	2220	---
6	2200	2370	2300	2520	---	2100	2350	1360	1710	2320	2240	---
7	2220	2210	2250	2530	---	2110	2360	1350	1450	2080	2340	---
8	2260	2080	2250	2220	---	2200	2370	1660	1300	2550	2320	---
9	2270	2060	---	---	---	2200	2380	1670	1120	2540	2370	---
10	2260	2320	---	---	1780	2240	2280	1610	1490	2550	2510	---
11	2260	2370	---	---	1790	2200	2180	1620	1770	2360	2510	---
12	2230	2370	2230	---	1780	2200	2380	1820	1790	2350	2500	---
13	2230	2330	2510	2260	2220	2260	2030	2150	1930	2380	2480	---
14	2250	2340	2310	2240	2180	2210	1990	2150	1940	2290	2500	---
15	2230	2340	2290	---	---	2210	2150	2210	1330	2290	2500	---
16	2260	2370	2280	---	---	2210	2110	2210	1320	2290	2500	---
17	2240	2370	2310	---	2270	2210	2290	2280	1300	2230	2490	2680
18	2250	2370	---	---	2270	2150	2320	2240	2010	2220	2490	932
19	2220	2350	2300	---	2170	2150	2260	2270	2180	2230	2500	1550
20	2260	2360	2300	---	1750	2360	2290	1770	2250	2250	2490	1560
21	2280	2400	2280	---	2150	2350	2380	1770	2140	2260	2500	924
22	2280	2360	2390	---	2130	2350	2350	1400	1870	2130	2460	1550
23	2230	2420	2390	---	1740	2350	2430	1410	1930	2180	2560	2560
24	2260	2380	2380	---	1740	2360	2460	1990	2220	2260	2550	1940
25	2280	2380	2240	---	1750	2360	2450	1980	2190	2270	---	1930
26	2300	2400	2270	---	1740	2320	2480	1350	2030	2260	---	2170
27	2340	2380	2260	---	2070	2260	2460	1500	2350	2290	---	2160
28	2330	2360	2260	---	2060	2280	2330	866	2350	2430	---	2160
29	2330	2360	2250	---	---	2310	2350	819	2350	2420	---	2180
30	2340	2340	2320	---	---	2340	2330	824	2370	2250	---	2160
31	2350	---	2340	---	---	2370	---	1050	---	2250	---	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	11.0	7.0	---	---	2.0	21.0	17.0	26.0	30.5	27.0	---
2	23.0	10.0	7.0	---	---	2.0	23.0	12.0	20.0	31.0	26.5	---
3	21.0	12.0	6.0	2.0	---	3.0	18.0	9.0	24.0	30.5	27.0	---
4	20.0	15.0	6.0	4.0	2.0	3.0	19.0	14.0	19.0	31.0	27.5	---
5	15.0	15.0	4.0	4.0	1.0	4.0	20.0	16.0	24.0	31.0	26.0	---
6	18.0	16.0	1.0	2.0	---	6.0	22.0	16.0	27.0	30.0	26.0	---
7	20.0	15.0	4.0	1.0	---	3.0	22.0	14.0	27.0	30.0	26.0	---
8	19.0	11.0	1.0	2.0	---	3.0	22.0	21.0	27.0	30.0	26.5	---
9	17.0	6.0	---	---	---	7.0	17.5	23.0	25.0	30.5	26.5	---
10	14.0	8.0	---	---	0.0	6.0	15.0	24.0	26.0	30.0	26.0	---
11	16.0	8.0	---	---	0.0	6.0	19.0	27.0	27.0	30.0	26.5	---
12	14.0	13.0	4.0	---	0.0	3.0	19.5	27.0	27.0	29.0	26.5	---
13	17.0	15.0	5.0	2.0	2.0	4.0	20.0	27.0	27.0	28.0	27.0	---
14	20.0	15.0	7.0	1.0	1.0	4.0	22.0	27.0	29.0	30.0	27.5	---
15	18.0	15.0	5.0	---	---	6.0	22.0	27.0	27.0	30.0	27.0	---
16	16.0	14.0	6.0	---	---	7.0	18.0	20.0	27.0	27.0	26.5	---
17	17.0	13.0	6.0	---	1.0	6.0	19.0	20.0	27.0	30.0	26.0	25.0
18	17.0	15.0	---	---	0.0	7.0	16.0	19.0	26.0	30.0	26.0	24.5
19	18.0	15.0	9.0	---	2.0	7.0	17.0	26.0	27.0	32.0	26.5	21.0
20	18.0	13.0	6.0	---	1.0	9.0	19.0	26.0	25.0	30.0	26.0	20.0
21	20.0	12.0	6.0	---	2.0	9.0	21.0	17.0	25.0	29.0	27.0	17.0
22	20.0	12.0	4.0	---	2.0	8.0	22.0	27.0	27.0	29.0	26.5	18.0
23	20.0	13.0	0.0	---	3.0	10.0	14.0	28.0	30.0	28.0	27.0	20.0
24	19.0	12.0	2.0	---	3.0	10.0	22.0	28.0	29.0	29.0	27.0	20.0
25	19.0	10.0	1.0	---	5.0	12.0	22.0	28.0	30.0	28.0	---	20.0
26	20.0	9.0	5.0	---	4.0	11.0	23.0	25.0	30.0	27.0	---	19.0
27	20.0	9.0	4.0	---	3.0	21.0	23.0	25.0	30.0	26.5	---	19.0
28	21.0	7.0	4.0	---	3.0	21.0	21.0	21.0	30.0	27.0	---	19.5
29	21.0	8.0	5.0	---	---	22.0	20.0	25.0	30.5	27.0	---	20.0
30	17.0	7.0	3.0	---	---	22.0	19.0	25.0	30.0	28.0	---	19.5
31	18.0	---	4.0	---	---	22.0	---	27.0	---	27.5	---	---

ARKANSAS RIVER BASIN

07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, 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	2260	2390	2350	2140		---	---	2340	1240	2210	2240	---
2	2300	2310	2340	2360		---	---	2380	1470	2310	2570	---
3	2240	2340	2490	2340		---	---	2090	1660	2280	2300	---
4	1840	2500	2340	2230		---	---	1540	1740	2380	2150	---
5	1950	2420	2270	2300		---	---	1470	1140	2370	2230	---
6	2210	2370	2360	2600		---	---	1360	1690	2310	2250	---
7	2270	2210	2250	2640		---	---	1330	1430	2090	2580	---
8	2250	2110	2250	2220		---	---	1620	1290	2590	2300	---
9	2280	2190	2160	2230		---	---	1640	1110	2470	2300	---
10	2290	2310	2330	2240		---	---	1650	1480	2530	2470	---
11	2260	2240	2240	2240		---	---	1550	1750	2340	2460	---
12	2160	2470	2230	2250		---	---	1770	1770	2330	2430	---
13	1800	2390	2660	2260		---	2030	2120	1900	2400	2480	---
14	1790	2370	2270	2240		---	2000	2130	1930	2230	2480	---
15	2070	2360	2420	2240		---	2140	2160	1320	2200	2430	---
16	2050	2350	2390	2240		---	2100	2230	1300	2320	2400	---
17	1920	2540	2420	2240		2220	2310	2260	1280	2210	2340	---
18	1860	2360	2350	2240		2160	2310	2230	2000	2160	2580	---
19	1920	2360	2310	2240		2150	2260	2250	2160	2210	---	1550
20	1370	2400	2360	2240		2360	2310	1780	2240	2240	2430	1690
21	2290	2450	2350	2240		2360	2360	1640	2130	2270	2450	1320
22	2300	2270	2400	2300		2310	2280	1430	1850	2140	2460	1530
23	2240	2410	2050	2240		2400	2510	1450	1910	2150	2570	2540
24	2260	2340	2340	2240		2360	2380	1980	2200	2240	2560	1920
25	2290	2270	2240	2240		2330	2400	1880	2170	2240	---	1830
26	2300	2350	2130	2240		2290	2500	1350	2010	2300	2410	2060
27	2390	2340	---	2240		2290	2460	1500	2000	2380	1650	2110
28	2210	2370	---	2240		2280	2320	686	2350	2360	---	2150
29	2350	2360	---	2240		2300	2360	819	2370	2390	---	2180
30	2340	2350	2300	2240		---	2370	824	2380	2270	---	2160
31	2360	---	2260	2240		---	---	948	---	2250	---	---

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	---	10.5	5.0	.0		---	---	14.0	22.0	26.0	28.0	---
2	---	10.0	7.5	.0		---	---	11.5	20.0	28.0	23.5	---
3	---	13.5	9.5	.0		---	---	9.0	21.0	28.5	21.5	---
4	---	13.5	9.0	.0		---	---	11.0	21.5	28.0	20.0	---
5	---	13.5	9.0	1.5		---	---	13.0	22.5	27.0	22.0	---
6	15.5	15.0	9.0	3.0		---	---	12.5	24.0	26.0	23.5	---
7	18.5	14.5	10.0	1.0		---	---	16.0	25.5	28.0	---	---
8	16.5	12.0	9.0	.0		---	---	19.0	24.0	29.0	---	---
9	15.0	9.0	7.5	.0		---	---	19.0	25.5	29.0	---	---
10	14.5	7.5	6.5	.0		---	---	19.5	25.0	28.0	---	---
11	12.5	12.5	7.5	.0		---	---	23.0	26.5	28.5	---	---
12	15.0	13.0	5.0	.0		---	---	22.0	25.0	27.5	---	---
13	19.0	10.5	8.5	.0		---	16.5	19.5	25.0	28.0	---	---
14	18.5	11.5	7.0	.0		---	19.0	21.5	27.0	28.0	---	---
15	17.0	10.5	6.5	.0		---	21.0	22.5	26.5	29.0	---	---
16	15.5	11.0	9.0	.0		---	17.0	21.5	26.5	28.0	---	---
17	15.5	12.0	8.5	.0		10.0	18.0	18.5	26.5	27.0	23.0	---
18	15.0	12.5	9.0	.0		12.0	13.5	20.0	24.0	27.5	23.5	---
19	16.0	12.5	8.5	.0		12.5	13.0	23.5	26.0	27.5	---	19.0
20	15.5	5.5	---	.0		12.5	14.5	21.0	25.0	27.0	21.0	13.5
21	18.0	---	9.0	.0		13.5	13.5	20.0	22.0	26.5	23.0	13.0
22	16.5	---	8.5	.0		15.0	16.0	23.5	24.5	24.0	23.0	14.0
23	15.5	5.5	9.0	.0		11.5	17.0	26.0	27.0	24.5	23.0	15.5
24	16.5	7.5	9.0	.0		7.5	17.5	26.0	27.5	24.5	22.5	17.5
25	16.0	10.5	9.0	.0		8.5	17.0	26.0	26.5	26.0	---	16.5
26	17.0	10.5	8.5	.0		11.5	17.0	23.5	26.5	27.0	23.5	16.0
27	17.0	10.5	---	.0		14.0	17.0	21.5	28.0	25.0	23.5	16.0
28	19.0	7.0	---	.0		16.0	18.0	20.5	27.5	26.0	---	15.5
29	18.5	5.0	---	.0		---	20.0	21.5	27.5	28.5	---	15.0
30	18.0	5.0	---	.0		---	18.0	24.0	27.0	26.0	---	13.0
31	17.0	---	3.5	.0		---	---	25.0	---	26.5	---	---

ARKANSAS RIVER BASIN

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07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, 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	770	810	790	730		---	---	800	420	750	760	---
2	780	790	800	800		---	---	810	500	790	880	---
3	760	800	850	860		---	---	710	560	780	780	---
4	630	850	800	760		---	---	520	590	810	730	---
5	660	820	770	780		---	---	500	380	810	760	---
6	750	810	800	890		---	---	460	570	790	770	---
7	770	750	770	900		---	---	450	480	710	880	---
8	770	720	770	760		---	---	550	440	880	780	---
9	780	750	740	760		---	---	560	370	840	780	---
10	780	740	790	760		---	---	560	500	860	840	---
11	770	760	760	760		---	---	530	590	800	840	---
12	740	840	760	770		---	---	600	600	790	830	---
13	610	810	910	770		---	690	720	650	820	850	---
14	610	810	770	760		---	680	730	660	760	850	---
15	700	800	820	760		---	730	740	450	750	830	---
16	700	860	810	760		---	710	760	440	790	820	---
17	650	870	820	760		760	790	770	430	750	800	---
18	630	800	800	760		740	790	760	680	740	880	---
19	650	800	790	760		730	770	770	740	750	---	530
20	460	820	800	760		800	790	600	760	760	830	570
21	780	840	800	760		800	800	560	730	770	840	450
22	780	770	820	760		790	780	480	630	730	840	520
23	760	820	700	760		820	860	490	650	730	880	870
24	770	800	800	760		800	810	670	750	760	870	650
25	780	770	760	760		790	820	640	740	760	---	620
26	780	800	730	760		780	850	460	680	780	820	700
27	610	800	---	760		780	840	510	680	810	560	720
28	750	810	---	760		780	790	230	800	800	---	730
29	800	800	---	760		780	800	270	810	810	---	740
30	800	800	780	760		---	810	260	810	770	---	740
31	800	---	770	760		---	---	320	---	770	---	---

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	81.1	39.4	38.4	49.3		---	---	114.0	730.0	48.60	2.26	---
2	77.9	40.5	36.7	43.2		---	---	118.0	647.0	46.90	4.75	---
3	73.9	45.4	39.0	84.2		---	---	301.0	606.0	42.10	5.48	---
4	59.5	48.2	36.7	60.0		---	---	323.0	628.0	39.40	4.93	---
5	58.8	46.5	35.3	71.6		---	---	310.0	461.0	55.00	4.92	---
6	62.8	43.7	47.5	74.5		---	---	273.0	726.0	29.90	3.74	---
7	64.4	40.5	56.1	72.9		---	---	211.0	607.0	32.60	3.33	---
8	64.4	42.8	41.6	51.3		---	---	254.0	481.0	45.10	1.90	---
9	63.2	52.6	30.0	41.0		---	---	298.0	386.0	49.90	1.58	---
10	63.2	53.3	38.4	47.2		---	---	265.0	381.0	51.10	1.59	---
11	60.3	51.3	47.2	51.3		---	---	203.0	338.0	43.20	1.41	---
12	57.9	54.4	53.4	58.2		---	---	198.0	283.0	32.00	1.23	---
13	46.1	52.5	63.9	62.4		---	222.0	210.0	253.0	26.60	1.10	---
14	42.8	52.5	49.9	51.3		---	171.0	187.0	214.0	22.60	.80	---
15	47.2	49.7	55.3	55.4		---	160.0	172.0	121.0	19.80	.61	---
16	45.4	49.7	54.7	43.1		---	150.0	156.0	97.4	17.30	.44	---
17	40.4	49.3	57.6	28.7		168.0	160.0	146.0	83.6	14.40	.32	---
18	35.7	45.4	56.2	34.9		164.0	162.0	144.0	261.0	12.40	.24	---
19	36.9	45.4	57.6	45.1		162.0	146.0	154.0	204.0	10.90	---	.72
20	24.8	46.5	58.3	43.1		177.0	134.0	243.0	154.0	9.64	.67	3.23
21	42.1	45.4	49.7	49.2		181.0	132.0	263.0	142.0	8.52	1.25	57.10
22	40.0	41.6	81.9	48.4		177.0	122.0	164.0	124.0	8.48	.91	53.40
23	39.0	42.1	45.4	51.3		177.0	130.0	212.0	111.0	8.67	.36	30.50
24	39.5	41.0	49.7	61.6		173.0	116.0	179.0	111.0	8.41	.07	11.90
25	40.0	39.5	47.2	55.4		169.0	111.0	138.0	95.9	7.18	---	8.04
26	40.0	41.0	51.2	51.3		166.0	110.0	166.0	75.3	6.53	.44	7.75
27	43.7	41.0	---	55.4		166.0	107.0	1310.0	64.3	5.25	2.12	6.22
28	38.5	41.6	---	61.6		162.0	98.1	1780.0	67.0	4.32	---	4.73
29	41.0	38.9	---	55.4		160.0	92.9	1210.0	61.2	3.72	---	3.60
30	41.0	38.9	54.8	61.6		---	98.4	764.0	56.9	3.12	---	1.80
31	38.9	---	56.1	59.5		---	---	600.0	---	2.70	---	---

ARKANSAS RIVER BASIN

07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, 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	240	250	250	220		---	---	250	85	230	230	---
2	240	240	250	250		---	---	250	120	240	280	---
3	230	250	270	250		---	---	210	150	240	240	---
4	170	270	250	230		---	---	130	160	250	220	---
5	190	260	240	240		---	---	120	70	250	230	---
6	230	250	250	290		---	---	100	150	240	230	---
7	240	230	230	240		---	---	98	110	210	280	---
8	230	210	230	230		---	---	140	92	280	240	---
9	240	230	221	230		---	---	140	65	270	240	---
10	240	240	250	230		---	---	150	120	280	270	---
11	240	230	230	230		---	---	130	160	250	270	---
12	220	270	230	230		---	---	160	160	250	260	---
13	170	250	290	240		---	---	200	210	180	270	---
14	170	250	240	230		---	---	200	220	190	270	---
15	210	250	260	230		---	---	220	220	96	230	---
16	200	250	250	230		---	210	230	93	240	260	---
17	190	280	260	230		230	240	240	90	230	250	---
18	180	250	250	230		220	240	230	200	220	280	---
19	190	250	240	230		220	240	230	220	230	---	130
20	100	260	250	230		250	240	160	230	230	260	150
21	240	260	250	230		250	250	140	220	240	260	96
22	240	240	260	240		240	240	110	170	220	270	130
23	230	260	200	230		260	270	120	180	220	260	260
24	240	250	250	230		250	250	190	230	230	280	190
25	240	240	230	230		250	260	180	220	230	---	170
26	240	250	220	230		240	270	100	200	240	260	210
27	250	250	---	230		240	270	120	200	250	150	210
28	230	250	---	230		240	240	2.5	250	250	---	220
29	250	250	---	230		240	250	22	250	250	---	220
30	250	250	240	230		---	250	23	250	240	---	220
31	250	---	240	230		---	---	41	---	230	---	---

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	25.30	12.2	12.20	14.90		---	---	35.8	148.0	14.90	.68	---
2	24.00	12.3	11.50	13.50		---	---	36.4	155.0	14.30	1.51	---
3	22.40	14.2	12.40	26.30		---	---	69.0	162.0	13.00	1.68	---
4	16.10	15.3	11.50	24.20		---	---	80.7	170.0	12.20	1.48	---
5	16.90	14.7	11.00	22.00		---	---	74.5	84.9	10.80	1.49	---
6	19.30	13.5	14.90	24.30		---	---	59.4	191.0	9.07	1.12	---
7	20.10	12.4	16.80	23.50		---	---	46.0	139.0	9.64	1.06	---
8	19.30	12.5	12.40	15.50		---	---	64.6	101.0	14.40	.58	---
9	19.40	16.1	8.91	12.40		---	---	74.5	67.7	16.00	.49	---
10	19.40	16.2	12.20	14.30		---	---	70.9	91.4	16.60	.51	---
11	18.80	15.5	14.30	15.50		---	---	49.8	91.6	13.50	.45	---
12	17.20	17.5	16.10	17.40		---	---	52.7	75.6	10.10	.39	---
13	12.90	16.2	20.40	19.40		---	64.3	61.2	70.0	8.42	.35	---
14	11.90	16.2	15.60	15.50		---	50.2	56.4	61.6	6.83	.26	---
15	14.20	15.5	17.50	16.80		---	48.1	51.1	25.9	6.09	.19	---
16	13.00	15.5	16.90	13.00		---	44.2	47.2	20.6	5.25	.14	---
17	11.80	15.9	18.30	8.69		50.9	48.6	45.4	17.5	4.41	.10	---
18	10.20	14.2	17.50	10.60		48.7	49.2	43.5	76.7	3.68	.08	---
19	10.80	14.2	17.50	13.70		48.7	45.4	46.0	60.6	3.35	---	.18
20	5.40	14.7	18.20	13.00		55.3	40.8	64.8	46.6	2.92	.21	.85
21	13.00	14.0	15.50	14.90		56.7	41.2	65.8	42.8	2.66	.39	12.20
22	12.30	13.0	26.00	14.90		53.8	37.6	42.2	33.5	2.55	.29	13.30
23	11.80	13.3	13.00	15.50		56.2	40.8	51.8	30.6	2.61	.11	9.83
24	12.30	12.8	15.50	18.60		54.0	35.6	50.8	34.2	2.55	.02	3.49
25	12.30	12.3	14.30	16.80		53.3	35.1	38.9	28.5	2.17	---	2.20
26	12.30	12.8	15.40	15.50		51.2	35.0	36.2	22.1	2.01	.14	2.32
27	13.50	12.8	---	16.80		51.2	34.3	309.0	18.9	1.62	.57	13.81
28	11.80	12.8	---	18.60		49.9	29.8	19.3	20.9	1.35	---	1.43
29	12.80	12.2	---	16.80		49.2	29.0	98.6	18.9	1.15	---	1.07
30	12.80	12.2	16.80	18.60		---	30.4	62.7	17.5	.97	---	.53
31	12.20	---	17.50	18.00		---	---	76.8	---	.81	---	---

ARKANSAS RIVER BASIN

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07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, 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	1690	1790	1750	1600		---	---	1760	913	1660	1680	---
2	1730	1730	1760	1770		---	---	1790	1090	1730	1930	---
3	1680	1760	1870	1760		---	---	1560	1230	1710	1730	---
4	1370	1880	1760	1670		---	---	1140	1300	1790	1610	---
5	1460	1820	1700	1730		---	---	1090	836	1780	1670	---
6	1660	1780	1770	1960		---	---	1000	1260	1730	1690	---
7	1700	1660	1690	1990		---	---	982	1060	1560	1940	---
8	1690	1580	1690	1660		---	---	1200	951	1950	1730	---
9	1710	1640	1620	1670		---	---	1220	813	1860	1730	---
10	1720	1730	1750	1680		---	---	1230	1100	1900	1860	---
11	1690	1680	1680	1680		---	---	1150	1300	1760	1850	---
12	1620	1860	1670	1690		---	---	1320	1320	1750	1830	---
13	1340	1790	2000	1690		---	1520	1590	1420	1800	1860	---
14	1330	1780	1700	1680		---	1500	1600	1440	1670	1860	---
15	1550	1770	1820	1680		---	1600	1620	974	1650	1830	---
16	1530	1760	1790	1680		---	1570	1670	959	1740	1800	---
17	1430	1910	1820	1680		1660	1730	1690	943	1660	1760	---
18	1390	1770	1760	1680		1620	1730	1670	1500	1620	1940	---
19	1430	1770	1730	1660		1610	1690	1690	1620	1660	---	1150
20	1010	1800	1770	1680		1770	1730	1330	1680	1680	1830	1260
21	1720	1840	1760	1680		1770	1770	1220	1600	1700	1840	974
22	1730	1700	1800	1730		1730	1710	1060	1380	1600	1850	1140
23	1680	1810	1530	1680		1800	1890	1070	1430	1610	1930	1910
24	1690	1760	1760	1680		1770	1790	1480	1650	1680	1920	1430
25	1720	1700	1680	1680		1750	1800	1400	1630	1680	---	1370
26	1730	1760	1600	1680		1720	1880	997	1500	1730	1810	1540
27	1790	1760	---	1680		1720	1850	1110	1500	1790	1230	1580
28	1660	1780	---	1680		1710	1740	488	1760	1770	---	1610
29	1760	1770	---	1680		1730	1770	590	1780	1790	---	1630
30	1760	1760	1730	1680		---	1780	594	1790	1700	---	1620
31	1770	---	1690	1680		---	---	689	---	1690	---	---

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	178.0	87.0	85.0	108.0		---	---	252.0	1590.0	108.00	4.99	---
2	173.0	88.7	80.8	95.6		---	---	261.0	1410.0	103.00	10.40	---
3	163.0	99.8	85.8	185.0		---	---	661.0	1330.0	92.30	12.10	---
4	129.0	107.0	80.8	176.0		---	---	708.0	1380.0	87.00	10.90	---
5	130.0	103.0	78.0	159.0		---	---	677.0	1010.0	76.90	10.80	---
6	139.0	96.1	105.0	164.0		---	---	594.0	1610.0	65.40	8.21	---
7	142.0	89.6	123.0	161.0		---	---	461.0	1340.0	71.60	7.33	---
8	141.0	93.9	91.3	112.0		---	---	554.0	1040.0	100.00	4.20	---
9	139.0	115.0	65.6	90.2		---	---	649.0	847.0	110.00	3.50	---
10	139.0	117.0	85.0	104.0		---	---	581.0	838.0	113.00	3.52	---
11	132.0	113.0	104.0	113.0		---	---	441.0	744.0	95.00	3.10	---
12	127.0	121.0	117.0	128.0		---	---	435.0	624.0	70.90	2.72	---
13	101.0	116.0	140.0	137.0		---	488.0	464.0	552.0	58.30	2.41	---
14	93.4	115.0	110.0	113.0		---	377.0	410.0	467.0	49.60	1.76	---
15	105.0	110.0	123.0	122.0		---	350.0	376.0	263.0	43.70	1.33	---
16	99.1	109.0	121.0	95.3		---	331.0	343.0	212.0	38.10	.97	---
17	88.8	108.0	128.0	63.5		368.0	350.0	319.0	183.0	31.80	.71	---
18	78.8	100.0	124.0	77.1		359.0	355.0	316.0	475.0	27.10	.52	---
19	81.1	100.0	126.0	99.8		356.0	319.0	338.0	446.0	24.20	---	1.55
20	54.5	102.0	129.0	95.3		392.0	294.0	539.0	340.0	21.30	1.48	7.14
21	92.9	99.4	109.0	109.0		401.0	292.0	573.0	311.0	18.80	2.73	124.00
22	88.7	91.8	180.0	107.0		388.0	268.0	406.0	272.0	18.60	2.00	117.00
23	86.2	92.9	99.1	113.0		389.0	286.0	462.0	243.0	19.10	.78	67.00
24	86.7	90.3	109.0	136.0		382.0	256.0	396.0	245.0	18.60	.16	26.30
25	88.2	87.2	104.0	122.0		373.0	243.0	302.0	211.0	15.90	---	17.80
26	88.7	90.3	112.0	113.0		367.0	244.0	361.0	166.0	14.50	.98	17.00
27	96.7	90.3	---	122.0		367.0	235.0	280.0	142.0	11.60	4.65	13.70
28	85.2	91.3	---	136.0		356.0	216.0	3770.0	147.0	9.56	---	10.40
29	90.3	86.0	---	122.0		355.0	205.0	2640.0	135.0	8.22	---	7.92
30	90.3	85.5	121.0	136.0		---	216.0	1620.0	126.0	6.88	---	3.94
31	86.0	---	123.0	132.0		---	---	1290.0	---	5.93	---	---

ARKANSAS RIVER BASIN

07150000 GREAT SALT PLAINS LAKE NEAR JET, OK

LOCATION.--Lat 36°44'40", long 98°08'08", in NW¼SE¼ sec.11, T.26 N., R.9 W., Alfalfa County, Hydrologic Unit 11060004, at right end of Great Salt Plains Dam on Salt Fork Arkansas River, 4.5 mi (7.2 km) upstream from Wagon Creek, 5.5 mi (8.8 km) northeast of Jet, and at mile 103.3 (166.2 km).

DRAINAGE AREA.--3,200 mi² (8,288 km²), of which 8 mi² (20.7 km²) is probably noncontributing.

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

REVISED RECORDS.--WSP 1117: Drainage area.

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

REMARKS.--Reservoir is formed by earth dam. Outlet works consist of 310 ft (94.5 m) uncontrolled concrete spillway containing a series of three weirs to form a cascade. Storage began in June 1941; conservation pool was first filled Oct. 21, 1941. Capacity, 257,700 acre-ft (318 hm³) at elevation 1,138.5 ft (347.01 m), crest of upper weir, and 31,420 acre-ft (38.7 hm³) at elevation 1,125.0 ft (342.90 m), crest of intermediate weir and conservation pool. Reservoir is used for flood control and as a wildlife refuge. Figures given herein represent total contents. Revised capacity table, based on survey in 1971, used since Oct. 1, 1972.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 189,400 acre-ft (234 hm³) July 2, 1951, elevation, 1,134.38 ft (345.759 m); minimum, 17,180 acre-ft (21.2 hm³) Sept. 6, 1973, elevation, 1,123.16 ft (342.339 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 62,940 acre-ft (77.6 hm³) June 3, elevation 1,128.00 ft (343.814 m); minimum, 20,520 acre-ft (25.3 hm³) Sept. 19, elevation, 1,123.63 ft (342.482 m).

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

1123	16,080	1126	40,700
1124	23,280	1127	51,180
1125	31,420	1128	62,940

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	34990	33270	34450	33810	34080	37510	35640	33900	61220	34080	28120	24050
2	34540	33450	34260	33720	34080	37790	36010	35360	62570	33720	27710	23890
3	34350	33540	34260	33720	34080	37520	36190	37510	60850	33360	27620	23890
4	34260	33540	34450	33810	34080	36940	36290	37410	57490	32920	27950	23430
5	33810	33450	34260	33810	34080	36660	36380	35910	55380	32650	27870	23130
6	33900	33360	33450	33900	34170	36750	36570	36360	54690	33720	27460	23050
7	34080	33190	33630	33900	34350	36660	36660	36080	51960	33190	27380	22900
8	33900	33820	33720	33810	34350	36660	36190	37790	49860	33720	27130	22820
9	33190	35820	33900	33630	34540	36570	36540	37320	47480	32210	27130	22450
10	33630	35450	33810	33630	34540	36580	36190	37510	45160	32390	26970	22370
11	33630	34990	33810	33540	34540	36290	35820	37130	43710	32210	26970	22070
12	33450	34810	34080	33540	36750	35820	35450	36660	42190	32390	26650	21550
13	33540	34990	34080	33630	36570	36100	35180	36190	40600	32120	26170	22000
14	33540	34990	34080	33540	36190	35640	35180	35060	39420	32120	25850	21400
15	33360	34810	34080	33630	36100	36470	35270	35180	38460	32300	25610	21770
16	33360	34630	34260	34080	36010	36190	35180	34810	37410	31770	25770	21550
17	33190	34540	33720	33900	35910	35820	35080	34990	37320	31680	25450	21180
18	33010	34260	33630	33900	35730	35910	34810	35180	39330	31420	24200	20670
19	32920	34450	33900	33900	35640	35820	34260	35640	38560	31080	24590	20670
20	33190	34170	33810	33810	35640	35640	34350	35540	38170	30730	24430	22070
21	33010	33810	33540	33720	35360	35540	33360	35730	39130	30300	24280	22300
22	33190	33810	33360	33720	35360	35180	33720	36010	38170	30560	24120	22670
23	33270	33810	33270	33630	35450	34810	34170	36010	37410	30300	23890	22980
24	33190	34260	33540	33810	36010	35180	33900	35180	37320	30220	23660	23050
25	33270	33630	33630	33900	36290	35180	33810	35270	37130	30050	23430	22980
26	33450	34080	33630	33720	36660	34990	33450	35910	35910	29030	23200	23050
27	33360	34080	33190	33720	37030	34900	33450	40700	35360	29370	23660	22980
28	33100	34080	33630	33720	37410	34720	33810	46200	34900	29120	24510	22900
29	32920	34170	33630	33720	---	34810	33450	51180	34630	29030	24280	22600
30	33450	34540	33450	33720	---	34540	33810	52190	34350	28700	24280	22450
31	33190	---	34080	33810	---	34350	---	52640	---	28280	24120	---
MAX	34990	35820	34450	34080	37410	37790	36660	52640	62570	34080	28120	24050
MIN	32920	33190	33190	33540	34080	34350	33360	33900	34350	28280	23200	20670
†	1,125.20	1,125.35	1,125.30	1,125.27	1,125.66	1,125.33	1,125.27	1,127.13	1,125.33	1,124.63	1,124.11	1,123.89
‡	-2,080	+1,350	-460	+270	+3,600	-3,060	-540	+18,830	-18,290	-6,070	-4,160	-1,670

CAL YR 1977 MAX 53200 MIN 26410 ‡ +7,670
WTR YR 1978 MAX 62570 MIN 20670 ‡ -12,820

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

ARKANSAS RIVER BASIN

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07150500 SALT FORK ARKANSAS RIVER NEAR JET, OK

LOCATION.--Lat 36°45'11", long 98°07'44", in NE¼NE¼ sec.11, T.26 N., R.9 W., Alfalfa County, near center of span on downstream side of county road bridge, 0.6 mi (0.97 km) downstream from Great Salt Plains Dam, 4 mi (6.4 km) upstream from Wagon Creek, 6 mi (9.7 km) northeast of Jet, and at mile 102.7 (165.2 km).

DRAINAGE AREA.--3,202 mi² (8,293 km²), of which 8 mi² (20.7 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,092.20 ft (332.903 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 17, 1938, nonrecording gage at site 2.5 miles (4.0 km) upstream at datum 13.46 ft (4.103 m) higher. Mar. 17, 1938, to Apr. 26, 1953, water-stage recorder at site 200 ft (61.0 m) upstream, datum 5.00 ft (1.524 m) higher prior to Oct. 1, 1950.

REMARKS.--Records good. Flow regulated since June 1941 by Great Salt Plains Lake (station 07150000).

AVERAGE DISCHARGE.--(since regulation by Great Salt Plains Dam) 37 years (water years 1942-78), 367 ft³/s (10.39 m³/s), 265,900 acre-ft/yr (328 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,900 ft³/s (733 m³/s) May 19, 1938, gage height, 13.80 ft (4.206 m), present datum; no flow at times in 1939-41, 1944, 1955-56.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,060 ft³/s (115 m³/s) June 2, gage height, 7.41 ft (2.259 m); minimum daily, 14 ft³/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	174	30	103	90	55	307	100	65	3040	238	20	18
2	132	37	87	84	61	334	225	65	3730	171	21	18
3	121	49	81	78	59	323	243	262	3920	146	22	17
4	125	49	78	78	61	286	234	345	3500	125	21	18
5	90	45	87	86	65	266	302	286	3150	103	19	18
6	80	45	77	88	61	266	323	302	2960	92	19	18
7	113	48	66	83	73	262	271	426	2720	108	19	18
8	87	146	65	79	73	262	257	386	2340	125	19	18
9	89	265	68	97	81	257	234	351	2050	119	19	19
10	70	168	65	113	83	243	225	328	1790	86	19	18
11	68	144	62	79	83	252	221	351	1530	67	19	17
12	52	114	72	67	171	208	179	307	1220	82	18	17
13	53	134	83	63	225	234	149	252	1060	42	18	18
14	42	137	88	63	199	216	179	191	910	38	18	18
15	42	126	90	54	183	229	160	143	809	40	19	18
16	50	125	179	88	164	257	153	125	608	33	19	17
17	40	117	146	79	153	216	225	97	559	26	17	17
18	37	92	62	79	140	225	307	125	651	17	18	16
19	33	130	98	86	134	164	122	175	751	20	19	16
20	41	108	117	75	128	187	86	168	591	24	18	18
21	39	68	85	69	116	183	50	164	591	23	18	15
22	39	68	92	63	116	208	97	208	677	23	18	14
23	41	77	51	61	125	113	86	216	633	22	18	14
24	35	77	57	65	153	134	73	183	583	22	18	14
25	43	71	66	67	183	157	69	168	575	21	18	15
26	45	59	63	67	212	146	65	234	440	21	18	15
27	44	80	60	57	247	137	48	440	351	22	20	16
28	35	63	63	55	291	137	55	1080	317	21	20	16
29	29	73	65	54	---	131	52	1780	271	21	19	15
30	47	84	71	45	---	128	54	2180	247	22	18	17
31	35	---	86	47	---	149	---	2180	---	21	18	---
TOTAL	1971	2829	2533	2259	3695	6617	4844	13583	42634	1941	584	503
MEAN	63.6	91.3	81.7	72.9	132	213	161	438	1421	62.6	18.8	16.8
MAX	174	265	179	113	291	334	323	2180	3920	238	22	19
MIN	29	30	51	45	55	113	48	65	247	17	17	14
AC-FT	3910	5610	5020	4480	7330	13120	9610	26940	84560	3850	1160	998

CAL YR 1977 TOTAL 62711.73 MEAN 172 MAX 2280 MIN .60 AC-FT 124400
WTR YR 1978 TOTAL 83993.00 MEAN 230 MAX 3920 MIN 14 AC-FT 166600

ARKANSAS RIVER BASIN

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1954 to September 1959, October 1961 to September 1963, July 1968 to current year.

WATER TEMPERATURE: October 1954 to September 1959, October 1961 to September 1963, July 1968 to current year.

CHLORIDES: October 1955 to September 1959.

INSTRUMENTATION.--Water quality monitor since July 1968.

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 calculated from specific conductance values.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 57,000 micromhos Jan. 28, 1977; minimum daily, 1,350 micromhos July 3, 1957.

WATER TEMPERATURE: Maximum daily, 35.5°C July 28, 1974; minimum daily, 0.0 on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 15,700 micromhos Sept. 27, 30; minimum daily, 3,160 micromhos May 31.

WATER TEMPERATURE: Maximum daily, 33.5°C July 13; minimum, 0.0 on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- 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...	1800	84	7140	7.2	18.0	--	--	--	--	490	400
14...	1815	28	6960	7.4	18.0	--	--	--	--	500	390
19...	1810	23	6500	8.6	19.0	15	12.5	139	53	--	--
25...	1730	40	6870	7.2	18.0	--	--	--	--	500	400
NOV											
03...	1230	43	7000	8.6	15.0	35	10.9	110	--	--	--
05...	1700	44	7140	7.1	14.5	--	--	--	--	540	420
15...	1745	125	7620	7.1	11.5	--	--	--	--	510	400
25...	1730	67	7430	7.2	7.5	--	--	--	--	540	420
DEC											
05...	1700	82	7190	7.4	6.0	--	--	--	--	560	430
08...	1210	69	8500	8.5	3.5	11	11.9	92	46	--	--
15...	1730	93	6740	7.5	5.0	--	--	--	--	570	420
24...	1700	32	6660	7.6	4.0	--	--	--	--	580	420
JAN											
05...	1700	86	7140	7.7	5.0	--	--	--	--	580	420
16...	1700	90	5530	7.4	1.0	--	--	--	--	520	360
25...	1630	69	6860	7.6	2.0	--	--	--	--	620	450
26...	1530	61	7600	8.5	4.0	10	18.1	142	26	--	--
FEB											
05...	1805	65	10500	7.7	3.0	--	--	--	--	670	480
14...	1200	187	9230	8.3	5.5	9	16.1	124	33	--	--
16...	1815	164	10800	7.8	5.5	--	--	--	--	690	520
25...	1830	191	10300	7.8	5.5	--	--	--	--	660	500
MAR											
05...	1700	262	5800	7.6	4.0	--	--	--	--	520	390
14...	1130	217	5240	8.7	7.5	1	13.0	113	32	--	--
15...	1730	239	5180	7.2	9.0	--	--	--	--	450	330
25...	1715	157	5550	7.6	11.0	--	--	--	--	450	340
APR											
05...	1700	276	5670	7.3	19.0	--	--	--	--	490	350
11...	1200	257	6250	8.5	16.0	42	10.8	114	32	--	--
15...	1840	168	6870	7.5	18.5	--	--	--	--	490	360
25...	1830	253	7090	7.4	18.0	--	--	--	--	530	390
MAY											
05...	1915	204	7620	7.4	13.5	--	--	--	--	540	400
09...	1015	357	6500	8.6	17.0	27	10.5	112	45	--	--
09...	2000	323	6560	7.4	--	--	--	--	--	--	--
15...	1930	143	7830	7.3	20.5	--	--	--	--	540	400
25...	1800	146	6990	7.3	27.5	--	--	--	--	540	400

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM= FLUX, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUN- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DEMAND, CHEM- ICAL (LO- LEVEL) (MG/L)	HARD- NESS (MG/L AS CACU3)	HARD- NESS, NONCAR- BONATE (MG/L CACU3)
JUN										
05...	1700	3120	4930	7.3	22.5	--	--	--	350	250
15...	1630	911	4470	7.4	26.0	--	--	--	450	300
19...	1200	742	4480	8.1	25.5	64	8.4	105	262	--
25...	1700	705	4540	7.4	27.5	--	--	--	460	330
JUL										
05...	1200	121	2300	8.0	30.0	13	7.6	103	11	--
05...	1700	116	6020	7.3	--	--	--	--	440	320
15...	1645	35	7520	7.3	32.0	--	--	--	500	370
25...	1645	27	8320	7.3	31.0	--	--	--	510	370
AUG										
05...	1700	20	8820	7.2	30.0	--	--	--	550	420
07...	1130	20	10910	7.9	24.5	36	9.9	110	661	--
15...	2010	20	10100	7.3	26.0	--	--	--	580	460
17...	1230	17	--	--	--	--	--	--	--	--
25...	1630	19	11500	7.0	26.5	--	--	--	660	520
SEP										
05...	1730	18	12600	7.1	32.0	--	--	--	700	600
15...	1600	18	13600	7.1	31.0	--	--	--	710	600
17...	1700	15	16800	8.9	28.0	34	10.4	135	--	--
25...	1715	16	15200	7.0	20.0	--	--	--	770	660

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)
UCT										
05...	--	140	--	--	34	--	1400	86	28	--
14...	--	140	--	--	36	--	1300	85	25	--
19...	--	--	--	--	--	--	--	--	--	--
25...	--	140	--	--	37	--	1300	85	25	--
NOV										
03...	41	--	103	27	--	--	--	--	--	--
05...	--	150	--	--	39	--	1300	84	24	--
15...	--	140	--	--	40	--	1400	85	27	--
25...	--	150	--	--	40	--	1400	85	26	--
DEC										
05...	--	160	--	--	40	--	1400	84	26	--
08...	--	--	--	--	--	--	--	--	--	--
15...	--	160	--	--	41	--	1200	82	22	--
24...	--	160	--	--	43	--	1300	83	24	--
JAN										
05...	--	160	--	--	45	--	1300	83	23	--
16...	--	140	--	--	42	--	1300	84	25	--
25...	--	170	--	--	48	--	1300	82	23	--
26...	189	--	472	52	--	1200	--	--	--	9.4
FEB										
05...	--	180	--	--	54	--	2100	87	35	--
14...	--	--	--	--	--	--	--	--	--	--
16...	--	180	--	--	59	--	2400	88	40	--
25...	--	170	--	--	57	--	2000	87	34	--
MAR										
05...	--	140	--	--	42	--	1100	82	21	--
14...	115	--	289	34	--	--	--	--	--	--
15...	--	120	--	--	37	--	900	81	18	--
25...	--	120	--	--	37	--	1000	83	20	--
APR										
05...	--	130	--	--	39	--	1100	83	22	--
11...	--	--	--	--	--	--	--	--	--	--
15...	--	130	--	--	39	--	1300	85	26	--
25...	--	140	--	--	44	--	1400	85	26	--
MAY										
05...	--	140	--	--	45	--	1500	86	28	--
09...	157	--	392	44	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
15...	--	140	--	--	45	--	1500	86	28	--
25...	--	140	--	--	45	--	1400	85	26	--
JUN										
05...	--	97	--	--	25	--	890	85	21	--
15...	--	130	--	--	30	--	790	79	16	--
19...	57	--	143	34	--	73	--	--	--	9.2
25...	--	130	--	--	32	--	810	79	17	--
JUL										
05...	--	--	--	--	--	--	--	--	--	--
05...	--	120	--	--	34	--	1200	85	25	--
13...	--	140	--	--	36	--	1500	87	29	--
25...	--	140	--	--	38	--	1700	88	33	--
AUG										
05...	--	150	--	--	42	--	1700	87	32	--
07...	181	--	453	50	--	1730	--	--	--	12
15...	--	160	--	--	45	--	2000	88	36	--
17...	--	--	--	--	--	--	--	--	--	--
25...	--	180	--	--	50	--	2400	89	41	--
SEP										
05...	--	190	--	--	55	--	2700	89	44	--
15...	--	190	--	--	56	--	3000	90	49	--
17...	--	--	--	--	--	--	--	--	--	--
25...	--	210	--	--	60	--	3300	90	52	--

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT										
05...	9.3	110	0	90	11	370	2100	--	4050	--
10...	9.2	130	0	110	8.3	380	2000	--	4020	--
15...	--	--	--	--	--	--	--	.4	--	4018
25...	9.1	130	0	110	13	390	2000	--	3980	--
NOV										
03...	--	--	--	--	--	--	--	5.0	--	--
05...	9.1	140	0	110	18	390	2000	--	4090	--
15...	8.8	140	0	110	18	390	2200	--	4370	--
25...	8.8	150	0	120	15	410	2200	--	4280	--
DEC										
05...	9.2	160	0	130	10	390	2100	--	4160	--
08...	--	--	--	--	--	--	--	.3	--	--
15...	8.5	180	0	150	9.1	380	1900	--	3880	--
20...	8.3	190	0	160	7.6	400	2000	--	3980	--
JAN										
05...	8.3	200	0	160	6.4	410	2000	--	4070	--
10...	8.1	200	0	160	13	470	2000	--	4020	--
25...	8.5	210	0	170	8.4	430	2100	--	4290	--
26...	--	--	--	--	--	--	--	.3	--	--
FEB										
05...	9.7	230	0	190	7.3	460	3300	--	5870	--
14...	--	--	--	--	--	--	--	.3	--	--
16...	10	210	0	170	5.3	490	3700	--	6570	--
25...	9.5	190	0	160	4.8	480	3200	--	5550	--
MAR										
05...	7.4	160	0	130	6.4	360	1700	--	3280	--
14...	--	--	--	--	--	--	--	.2	--	--
15...	6.7	150	0	120	15	320	1400	--	2900	--
25...	6.9	140	0	110	5.6	330	1600	--	3090	--
APR										
05...	8.8	170	0	140	14	340	1600	--	3160	--
11...	--	--	--	--	--	--	--	.3	--	--
15...	9.8	150	0	120	7.6	350	2000	--	3780	--
25...	9.5	170	0	140	11	380	2100	--	3990	--
MAY										
05...	7.1	170	0	140	11	390	2300	--	4450	--
09...	--	--	--	--	--	--	--	.2	--	--
09...	--	--	--	--	--	--	1900	--	--	--
15...	7.2	160	0	130	13	400	2400	--	4560	--
25...	7.1	170	0	140	14	410	2100	--	3950	--
JUN										
05...	7.8	120	0	98	9.6	240	1400	--	2740	--
15...	8.1	180	0	150	11	310	1200	--	2570	--
19...	--	--	--	--	--	290	922	.2	--	--
25...	7.3	160	0	130	10	330	1200	--	2620	--
JUL										
05...	--	--	--	--	--	--	238	.3	--	--
05...	8.2	150	0	120	12	400	1800	--	3360	--
15...	9.3	150	0	120	12	440	2200	--	4390	--
25...	9.0	160	0	130	13	460	2500	--	4920	--
AUG										
05...	9.4	150	0	120	15	450	2700	--	5070	--
07...	--	--	--	--	--	486	2986	.4	--	--
15...	10	150	0	120	12	500	3200	--	5820	--
17...	--	--	--	--	--	--	--	--	--	--
25...	11	160	0	130	26	600	3600	--	6860	--
SEP										
05...	12	120	0	98	15	630	4000	--	7440	--
15...	23	130	0	110	17	690	4600	--	8100	--
17...	--	--	--	--	--	684	--	.5	--	--
25...	12	140	0	110	22	710	5000	--	9340	--

ARKANSAS RIVER BASIN

07150500 SALT FORK ARKANSAS RIVER NEAR JET, 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										
05...	5.51	919	--	--	--	--	--	--	--	--
14...	5.47	308	--	--	--	--	--	--	--	--
19...	--	--	--	<.10	--	--	2.3	2.3	--	.16
25...	5.41	430	--	--	--	--	--	--	--	--
NOV										
03...	--	--	79	<.10	--	--	3.1	3.1	--	.24
05...	5.56	486	--	--	--	--	--	--	--	--
15...	5.94	1480	--	--	--	--	--	--	--	--
25...	5.82	775	--	--	--	--	--	--	--	--
DEC										
05...	5.86	921	--	--	--	--	--	--	--	--
08...	--	--	27	<.10	--	--	2.2	2.2	--	.16
15...	5.28	974	--	--	--	--	--	--	--	--
24...	5.41	344	--	--	--	--	--	--	--	--
JAN										
05...	5.54	945	--	--	--	--	--	--	--	--
18...	5.47	977	--	--	--	--	--	--	--	--
25...	5.83	799	--	--	--	--	--	--	--	--
26...	--	--	21	<.10	--	--	2.8	2.8	--	.12
FEB										
05...	7.98	1030	--	--	--	--	--	--	--	--
14...	--	--	53	<.10	--	--	2.4	2.4	--	.15
16...	7.44	2910	--	--	--	--	--	--	--	--
25...	7.55	2860	--	--	--	--	--	--	--	--
MAR										
05...	4.46	2320	--	--	--	--	--	--	--	--
14...	--	--	47	.10	--	--	2.3	2.4	11	.17
15...	3.94	1870	--	--	--	--	--	--	--	--
25...	4.20	1310	--	--	--	--	--	--	--	--
APR										
05...	4.30	2360	--	--	--	--	--	--	--	--
11...	--	--	101	<.10	--	--	2.1	2.1	--	.29
15...	5.14	1720	--	--	--	--	--	--	--	--
25...	5.43	2730	--	--	--	--	--	--	--	--
MAY										
05...	6.05	2450	--	--	--	--	--	--	--	--
09...	--	--	41	<.10	--	--	1.8	1.8	--	.32
09...	--	--	--	--	--	--	--	--	--	--
15...	6.20	1760	--	--	--	--	--	--	--	--
25...	5.37	1560	--	--	--	--	--	--	--	--
JUN										
05...	3.73	23100	--	--	--	--	--	--	--	--
15...	3.50	6320	--	--	--	--	--	--	--	--
19...	--	--	82	.10	--	--	2.6	2.8	12	.35
25...	3.56	4990	--	--	--	--	--	--	--	--
JUL										
05...	--	--	39	.10	--	--	1.9	2.0	9.0	6.0
05...	4.57	1050	--	--	--	--	--	--	--	--
15...	5.97	415	--	--	--	--	--	--	--	--
25...	6.69	359	--	--	--	--	--	--	--	--
AUG										
05...	6.90	274	--	--	--	--	--	--	--	--
07...	--	--	81	.10	--	--	2.6	2.7	12	.43
15...	7.92	314	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
25...	9.33	352	--	--	--	--	--	--	--	--
SEP										
05...	10.1	362	--	--	--	--	--	--	--	--
15...	11.0	394	--	--	--	--	--	--	--	--
17...	--	--	123	.40	--	--	2.7	3.2	14	.39
25...	12.7	403	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECUV- ERABLE (UG/L AS CD)	CHROMIUM TOTAL RECUV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECUV- ERABLE (UG/L AS CU)	IRON, TOTAL RECUV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECUV- ERABLE (UG/L AS PB)	MANGANESE, TOTAL RECUV- ERABLE (UG/L AS MN)
OCT 19...	1610	--	--	--	--	--	--	--
NOV 03...	1230	--	--	--	--	1720	--	120
JAN 26...	1530	3	5	<5	9	570	39	210
FEB 14...	1200	--	--	--	--	--	--	--
MAR 14...	1130	--	--	--	--	1650	--	80
APR 11...	1200	--	--	--	--	--	--	--
MAY 09...	1015	--	--	--	--	520	--	70
JUN 19...	1200	--	--	--	--	390	--	110
JUL 05...	1200	--	--	--	--	--	--	--
AUG 07...	1130	2	25	22	29	1380	30	380
17...	1230	--	--	--	--	--	--	--
SEP 17...	1700	--	--	--	--	--	--	--

DATE	MERCURY TOTAL RECUV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECUV- ERABLE (UG/L AS NI)	SELENIUM, TOTAL RECUV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECUV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECUV- ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUS- PENDED (MG/L)	SEDIMENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 19...	--	--	--	--	--	29	--	--
NOV 03...	--	--	--	--	--	6.0	--	--
JAN 26...	<.5	89	1	8	7	7.0	--	--
FEB 14...	--	--	--	--	--	30	--	--
MAR 14...	--	--	--	--	--	11	--	--
APR 11...	--	--	--	--	--	11	--	--
MAY 09...	--	--	--	--	--	17	--	--
JUN 19...	--	--	--	--	--	8.0	--	--
JUL 05...	--	--	--	--	--	<5.0	--	--
AUG 07...	<.5	15	2	6	32	25	--	--
17...	--	--	--	--	--	--	220	10
SEP 17...	--	--	--	--	--	14	--	--

ARKANSAS RIVER BASIN

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7140	6910	7370	6860	10100	7620	5790	7800	4790	5620	8960	11900
2	6850	7040	6430	6870	10000	6940	5460	7330	5840	5890	9190	12200
3	6790	7140	7180	7140	10200	5470	5060	7070	5920	6190	8850	12500
4	6980	7120	7180	7100	10700	5780	5880	7200	5630	6180	9100	12500
5	7140	7140	7190	7140	10500	5800	5670	7620	4930	6020	8820	12600
6	6960	7120	7140	7030	10700	5820	5980	8490	4250	6200	8840	12200
7	6900	7070	7250	6060	10400	5460	5980	8200	3660	6100	9640	12700
8	6860	6960	7280	6020	10900	5440	6070	7000	4340	6450	10000	12600
9	6810	6790	7280	6600	10800	5320	6060	6560	3970	6380	10100	12500
10	7000	6660	7360	6990	11000	5040	6300	6350	3290	6470	9830	13000
11	6980	6670	7450	7120	9560	5040	6420	6520	3560	6780	9780	13500
12	7120	7330	7370	7130	8640	5400	6560	6520	4550	7180	10500	13300
13	7080	8330	7140	8200	8020	5280	6580	7580	4540	6980	10400	13600
14	6960	7800	6680	5640	8380	---	6630	7540	4600	7050	10400	13400
15	6960	7620	6740	5270	9780	5180	6870	7830	4470	7520	10100	13600
16	6760	7500	6320	5530	10800	5240	6890	8030	5030	7530	11100	13900
17	6930	7530	6010	5810	11400	4840	6900	8290	4660	7220	11300	14400
18	6880	7490	6110	6690	11200	4920	5820	7400	4780	7700	11200	14300
19	6810	7290	6790	6770	12200	4920	6840	7370	4740	8330	11000	14200
20	6830	7280	6710	7180	12000	5550	7230	7480	4750	7620	11500	14600
21	6860	7440	6950	6510	12300	5180	7450	7490	4880	7580	11000	14800
22	6830	7220	6740	6920	12300	4550	7120	7560	5460	7890	11500	14500
23	6830	7320	6710	6900	11800	5320	7010	7570	5310	8730	11500	13900
24	6830	7320	6660	6730	11000	5430	6870	5820	5460	7560	11400	14600
25	6870	7430	---	6860	10300	5550	7090	6990	4540	8320	11500	15200
26	7140	7530	6800	7440	9970	5800	7200	6810	5170	8850	11900	14700
27	6950	7450	5900	7760	8340	5420	7260	7040	5760	8550	11400	15100
28	6960	7430	6470	8520	8340	5390	7360	5950	5850	8510	11700	14600
29	6770	7360	6550	9050	---	5440	7450	5190	5920	8440	11800	15500
30	6760	7460	6670	9490	---	5440	7310	3980	5950	9200	12000	15700
31	7220	---	6810	9870	---	4830	---	3160	---	9300	11200	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	14.0	6.5	2.0	3.5	2.0	18.5	15.0	23.0	---	30.5	26.0
2	21.5	13.0	6.5	1.0	3.0	4.0	19.5	14.0	22.0	---	26.0	30.0
3	21.0	15.0	6.5	2.0	4.5	4.5	19.0	12.0	22.0	---	26.0	29.5
4	18.5	14.5	6.5	3.5	4.0	4.5	19.0	13.0	21.5	---	26.0	31.0
5	18.0	14.5	6.0	3.0	3.0	4.0	19.0	13.5	22.5	---	30.0	32.0
6	17.5	15.0	4.0	4.0	3.0	4.5	19.0	14.0	24.5	---	29.5	29.0
7	19.0	14.5	4.5	4.0	3.0	3.0	19.0	16.0	26.0	---	27.0	28.0
8	18.0	13.5	2.0	1.5	3.5	3.5	21.0	18.0	25.5	29.0	27.0	26.0
9	16.5	10.0	1.5	.5	3.0	4.0	21.0	19.0	26.5	31.0	28.0	30.0
10	17.0	10.0	2.0	.5	---	4.0	27.5	19.0	25.5	33.0	---	30.0
11	14.5	11.5	2.0	1.0	2.5	4.5	16.5	22.0	25.5	31.0	26.5	28.0
12	15.5	10.0	4.5	1.5	3.0	7.0	17.5	22.0	25.5	30.0	30.5	27.5
13	16.5	10.0	5.0	2.0	---	6.5	17.0	21.5	25.5	33.5	30.0	28.5
14	18.0	10.5	5.0	4.0	---	---	18.5	22.0	26.5	31.0	29.0	29.5
15	15.5	11.5	5.0	3.5	---	4.0	18.5	20.5	26.0	32.0	28.0	31.0
16	15.0	11.0	5.0	1.0	3.5	9.0	18.5	22.5	26.5	32.0	28.5	29.0
17	16.0	10.5	6.0	2.0	3.5	10.0	18.0	20.0	26.5	30.5	28.5	27.5
18	16.5	11.0	6.5	1.0	4.0	11.5	14.0	21.0	25.5	32.0	27.0	26.5
19	18.0	11.5	6.0	1.0	5.0	12.0	13.0	22.0	26.0	31.0	25.5	27.0
20	17.5	12.0	4.5	1.0	3.0	12.5	15.0	22.0	26.0	32.0	29.0	21.0
21	18.5	10.0	3.0	2.0	5.0	14.5	15.0	21.5	25.0	31.0	30.0	21.5
22	17.5	8.5	3.5	2.0	5.0	16.0	16.0	23.5	26.5	27.0	28.0	20.0
23	17.0	8.0	4.0	1.5	5.5	14.0	19.5	25.5	27.0	26.5	27.5	27.0
24	19.0	8.0	4.0	2.0	6.0	11.0	18.5	26.0	27.5	31.0	26.0	24.0
25	18.0	7.5	---	2.0	5.5	11.0	18.0	27.5	27.5	31.0	28.5	20.0
26	18.5	7.5	3.5	3.0	5.5	11.5	17.5	24.5	27.5	29.5	28.0	26.0
27	18.0	7.0	3.0	3.0	5.5	14.0	18.0	23.5	28.0	30.5	31.0	27.0
28	20.0	7.0	3.5	3.5	.5	17.0	19.5	24.0	28.0	31.0	28.0	26.5
29	20.0	8.0	4.5	3.0	---	15.5	22.5	24.0	28.5	31.5	26.5	24.5
30	18.0	6.5	3.0	4.0	---	16.0	18.5	24.5	28.0	29.5	27.5	24.0
31	19.0	---	3.5	3.0	---	16.0	---	26.0	---	32.0	28.0	---

ARKANSAS RIVER BASIN

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

SPECIFIC CONDUCTANCE (MICROMHUS/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	---	6880	7340	6180	10100	7630	---	7060	4090	5820	8960	11900
2	---	6920	6750	7540	9970	7050	---	5960	5660	5870	9190	12200
3	---	6930	7100	9040	10100	5660	---	7230	5950	6240	9050	12500
4	---	7190	6980	8100	10600	5680	---	7110	5690	6280	8970	12600
5	---	7150	7180	10100	10400	5470	---	7340	5350	6060	8940	12700
6	6060	7140	7150	5420	10600	5780	---	8600	4730	6230	8800	12100
7	12100	7130	7100	5210	10400	5540	---	8590	3900	6180	9480	12700
8	6930	6980	7420	9360	10800	5410	---	6960	4340	6290	9840	12600
9	6980	6770	7520	6540	10900	5350	---	6520	4170	6440	9980	12900
10	7030	6570	5890	7210	10900	4950	---	6340	3650	6550	9890	13100
11	7000	6730	7010	6920	9500	5050	---	6490	4240	6850	9660	13500
12	7140	7270	6500	7480	9100	5300	5680	6730	4220	7350	10600	13400
13	7100	8300	7200	8360	8010	5520	6450	7440	4570	7000	10300	13600
14	7020	7980	6740	5640	7590	---	6770	7620	4960	7200	10200	13600
15	7070	7630	6730	5290	6630	---	6030	6860	4910	7490	9900	13700
16	6840	7520	6370	5560	10700	---	6690	8280	4560	7790	10300	14400
17	6890	7550	6360	5820	11400	---	8010	7840	4580	7330	11000	14600
18	6890	7560	6180	6680	11200	---	6130	7730	5580	7530	10800	14500
19	6890	7380	6770	6750	12200	---	6570	8200	4750	8400	11700	14200
20	6910	7230	6640	7170	12100	---	7280	7560	4710	7470	11600	14400
21	6920	7390	7220	6500	12300	---	7500	7420	4870	6300	10800	14700
22	6900	7280	6630	6910	12300	4960	7390	6790	5480	8640	11500	14400
23	6880	7360	6850	6880	11900	5340	7330	8660	5560	6620	11600	14300
24	6850	7360	6630	6720	11100	5440	6470	7120	5460	7560	11000	14800
25	6880	7390	6520	6860	10300	5560	6950	7400	4980	8620	11400	14700
26	7080	7520	6810	6650	9980	5800	7170	7100	5340	8830	12000	14700
27	6980	7460	5510	7590	8430	5600	7610	7260	5740	8050	11400	15700
28	6970	7400	6500	8360	8390	---	7630	6650	5860	8610	12000	14900
29	6830	7360	6550	8890	---	---	8990	5450	6100	8640	11800	15200
30	6760	7070	6610	9360	---	---	6840	4190	5950	9300	12000	15700
31	7190	---	5690	9800	---	---	---	3530	---	8400	11200	---

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

ARKANSAS RIVER BASIN

07150500 SALT FORK ARKANSAS RIVER NEAR JET, 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	---	390	400	360	500	410	---	400	290	350	460	560
2	---	390	380	410	500	390	---	360	350	350	470	570
3	---	390	400	460	500	350	---	400	360	370	460	580
4	---	400	390	430	520	350	---	400	350	370	460	590
5	---	400	400	500	510	350	---	400	340	360	460	590
6	360	400	400	340	520	350	---	450	310	370	460	570
7	570	400	400	330	510	340	---	450	290	360	480	590
8	390	390	410	480	530	340	---	390	300	370	490	590
9	390	390	410	360	530	340	---	380	290	370	500	600
10	390	380	350	400	530	320	---	370	280	380	490	610
11	390	380	390	390	480	330	---	380	300	390	490	620
12	400	400	370	410	470	330	350	380	300	410	520	620
13	400	440	400	440	430	330	370	410	310	390	510	620
14	390	430	380	350	410	---	390	410	320	400	500	620
15	400	410	380	330	380	---	360	390	320	410	490	630
16	390	410	370	340	520	---	340	440	310	420	510	650
17	390	410	370	350	550	---	430	420	310	400	530	660
18	390	410	360	380	540	---	390	420	340	410	530	650
19	390	410	390	380	570	---	380	430	310	440	560	640
20	390	400	380	400	570	---	400	410	310	410	550	650
21	390	410	400	380	580	---	410	410	320	370	530	660
22	390	400	380	390	580	320	410	390	340	450	550	650
23	390	410	390	390	560	340	400	450	340	380	550	650
24	390	410	380	360	540	340	370	400	340	410	530	660
25	390	410	380	390	510	340	390	410	320	450	550	660
26	400	410	390	380	500	350	400	400	340	460	570	660
27	390	410	340	410	440	340	410	400	350	430	550	700
28	390	410	380	440	440	---	410	380	350	450	570	670
29	390	410	380	460	---	---	460	340	360	450	560	680
30	380	400	380	480	---	---	390	300	360	470	570	700
31	400	---	350	490	---	---	---	270	---	440	540	---

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	---	31.6	111.0	87.5	74.2	340.0	---	70.2	2380.0	225.0	24.8	27.2
2	---	39.0	89.3	93.0	82.3	352.0	---	63.2	3520.0	162.0	26.6	27.7
3	---	51.6	87.5	96.9	79.6	305.0	---	283.0	3810.0	146.0	27.3	26.6
4	---	52.9	82.1	90.6	85.6	270.0	---	373.0	3310.0	125.0	26.1	28.7
5	---	48.6	94.0	116.0	89.5	251.0	---	309.0	2890.0	100.0	23.6	28.7
6	77.8	48.6	83.2	80.8	85.6	251.0	---	367.0	2480.0	91.9	23.6	27.7
7	174.0	51.8	71.3	74.0	101.0	241.0	---	518.0	2130.0	105.0	24.6	28.7
8	91.6	154.0	72.0	102.0	104.0	241.0	---	406.0	1900.0	125.0	25.1	28.7
9	93.7	279.0	75.3	99.5	116.0	236.0	---	360.0	1610.0	119.0	25.6	30.8
10	73.7	172.0	61.4	122.0	119.0	210.0	---	328.0	1350.0	88.2	25.1	29.6
11	71.6	148.0	65.3	83.2	108.0	225.0	---	360.0	1240.0	70.6	25.1	28.5
12	56.2	123.0	71.9	74.2	217.0	185.0	169.0	315.0	988.0	90.8	25.3	28.5
13	57.2	159.0	89.6	74.8	261.0	208.0	149.0	279.0	887.0	44.2	24.8	30.1
14	44.2	159.0	90.3	59.5	220.0	---	188.0	211.0	786.0	41.0	24.3	30.1
15	45.4	139.0	92.3	48.1	188.0	---	156.0	151.0	699.0	44.3	25.1	30.6
16	52.6	138.0	179.0	80.8	230.0	---	157.0	148.0	559.0	37.4	26.2	29.8
17	42.1	130.0	146.0	74.7	227.0	---	261.0	110.0	468.0	28.1	24.3	30.3
18	39.0	102.0	60.3	81.1	204.0	---	298.0	142.0	598.0	18.8	25.8	28.1
19	34.7	144.0	103.0	88.2	206.0	---	125.0	203.0	629.0	23.8	28.7	27.6
20	43.2	117.0	120.0	81.0	197.0	---	92.9	186.0	495.0	26.6	26.7	31.6
21	41.1	75.3	91.8	70.8	182.0	---	55.3	182.0	511.0	23.0	25.8	26.7
22	41.1	73.4	94.4	66.3	182.0	180.0	107.0	219.0	621.0	27.9	26.7	24.6
23	43.2	85.2	53.7	64.2	189.0	104.0	92.9	262.0	581.0	22.6	26.7	24.6
24	36.9	85.2	58.5	66.7	223.0	123.0	72.9	198.0	535.0	24.4	25.8	24.9
25	45.3	78.6	67.7	70.6	252.0	144.0	72.7	186.0	497.0	25.5	26.7	26.7
26	48.6	65.3	66.3	68.7	286.0	138.0	70.2	253.0	404.0	26.1	27.7	26.7
27	46.3	88.6	55.1	63.1	293.0	126.0	53.1	475.0	332.0	25.5	29.7	30.2
28	36.9	69.7	64.6	65.3	346.0	---	60.9	1110.0	300.0	25.5	30.8	28.9
29	30.5	80.8	66.7	67.1	---	---	64.6	1630.0	263.0	25.5	28.7	27.5
30	48.2	90.7	72.8	58.3	---	---	56.9	1770.0	240.0	27.9	27.7	32.1
31	37.8	---	81.3	62.2	---	---	---	1590.0	---	24.9	26.2	---

ARKANSAS RIVER BASIN

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07150500 SALT FORK ARKANSAS RIVER NEAR JET, 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	---	2000	2200	1800	3200	2500	---	2100	1000	1600	2800	5800
2	---	2000	2000	2300	3100	2100	---	1700	1600	1700	2800	3900
3	---	2000	2100	2800	3200	1600	---	2100	1700	1800	2800	4000
4	---	2100	2100	2500	3300	1600	---	2100	1600	1800	2800	4100
5	---	2100	2100	3200	3300	1700	---	2200	1500	1700	2800	4100
6	1700	2100	2100	1500	3300	1600	---	2600	1300	1800	2700	3900
7	3900	2100	2100	1400	3300	1500	---	2600	960	1800	2900	4100
8	2000	2100	2200	2900	3400	1500	---	2000	1100	1800	3100	4100
9	2100	2000	2200	1900	3400	1500	---	1900	1100	1900	3100	4200
10	2100	1900	1700	2100	3400	1300	---	1800	870	1900	3100	4200
11	2100	2000	2100	2000	3000	1400	---	1900	1100	2000	3000	4400
12	2100	2200	1800	2200	2600	1500	1600	2000	1100	2200	3300	4300
13	2100	2500	2100	2500	2400	1500	1900	2200	1200	2100	3200	4400
14	2100	2400	2000	1600	2300	---	2000	2300	1300	2100	3200	4400
15	2100	2300	2000	1500	1900	---	1700	2000	1300	2200	3100	4400
16	2000	2200	1800	1500	3400	---	1900	2500	1200	2300	3200	4700
17	2000	2300	1800	1600	3600	---	2400	2400	1200	2200	3500	4800
18	2000	2300	1800	1900	3600	---	1800	2300	1600	2200	3400	4700
19	2000	2200	2000	2000	3900	---	1900	2500	1300	2600	3700	4600
20	2000	2100	1900	2100	3900	---	2200	2300	1200	2200	3700	4700
21	2000	2200	2100	1900	3900	---	2200	2200	1300	1800	3400	4800
22	2000	2200	1900	2000	3900	1300	2200	2000	1500	2600	3700	4700
23	2000	2200	2000	2000	3600	1500	2200	2700	1500	1900	3700	4700
24	2000	2200	1900	2000	3500	1500	1900	2100	1500	2300	3500	4800
25	2000	2200	1900	2000	3200	1600	2000	2200	1300	2600	3600	4800
26	2100	2200	2000	1900	3100	1600	2100	2100	1500	2700	3800	4800
27	2100	2200	1500	2300	2600	1600	2200	2200	1600	2400	3600	5200
28	2000	2200	1900	2500	2600	---	2300	1900	1700	2600	3600	4900
29	2000	2200	1900	2700	---	---	2800	1500	1700	2600	3600	5000
30	2000	2100	1900	2900	---	---	2000	1100	1700	2900	3800	5200
31	2100	---	1700	3100	---	---	---	820	---	2600	3600	---

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	---	162.0	612.0	437.0	475.0	1910.0	---	369.0	8210.0	1030.0	151.0	185.0
2	---	200.0	470.0	522.0	511.0	1890.0	---	298.0	16100.0	785.0	159.0	190.0
3	---	265.0	459.0	590.0	510.0	1400.0	---	1490.0	18000.0	710.0	166.0	184.0
4	---	278.0	442.0	526.0	544.0	1240.0	---	1960.0	15100.0	607.0	159.0	199.0
5	---	255.0	493.0	743.0	579.0	1220.0	---	1700.0	12600.0	473.0	144.0	199.0
6	367.0	255.0	437.0	356.0	544.0	1150.0	---	2120.0	10400.0	447.0	139.0	190.0
7	1190.0	272.0	574.0	314.0	650.0	1060.0	---	2940.0	7050.0	525.0	149.0	199.0
8	470.0	828.0	586.0	619.0	670.0	1060.0	---	2080.0	6950.0	607.0	159.0	199.0
9	505.0	1430.0	404.0	498.0	744.0	1040.0	---	1800.0	6090.0	610.0	159.0	215.0
10	397.0	862.0	296.0	641.0	762.0	853.0	---	1590.0	4200.0	441.0	159.0	204.0
11	386.0	778.0	352.0	427.0	672.0	953.0	---	1800.0	4540.0	562.0	154.0	202.0
12	295.0	677.0	350.0	398.0	1290.0	842.0	773.0	1660.0	3620.0	487.0	160.0	197.0
13	301.0	904.0	471.0	425.0	1460.0	948.0	764.0	1500.0	3430.0	238.0	156.0	214.0
14	238.0	888.0	475.0	272.0	1240.0	---	967.0	1190.0	3190.0	215.0	156.0	214.0
15	238.0	782.0	486.0	219.0	939.0	---	734.0	772.0	2840.0	238.0	159.0	214.0
16	270.0	742.0	870.0	356.0	1510.0	---	785.0	844.0	2160.0	205.0	164.0	216.0
17	216.0	727.0	710.0	341.0	1490.0	---	1460.0	629.0	1810.0	154.0	161.0	220.0
18	200.0	571.0	301.0	405.0	1360.0	---	1490.0	776.0	2810.0	101.0	165.0	203.0
19	178.0	772.0	529.0	464.0	1410.0	---	620.0	1180.0	2640.0	140.0	190.0	199.0
20	221.0	612.0	600.0	425.0	1350.0	---	511.0	1040.0	1910.0	143.0	180.0	228.0
21	211.0	404.0	482.0	354.0	1220.0	---	297.0	974.0	2070.0	112.0	165.0	194.0
22	211.0	404.0	472.0	340.0	1220.0	730.0	576.0	1120.0	2740.0	161.0	180.0	178.0
23	221.0	457.0	275.0	329.0	1280.0	458.0	511.0	1570.0	2560.0	113.0	180.0	178.0
24	189.0	457.0	292.0	351.0	1450.0	543.0	374.0	1040.0	2360.0	137.0	170.0	181.0
25	232.0	422.0	339.0	362.0	1580.0	678.0	373.0	998.0	2020.0	147.0	175.0	194.0
26	255.0	350.0	340.0	344.0	1770.0	631.0	369.0	1330.0	1780.0	153.0	185.0	194.0
27	249.0	475.0	243.0	354.0	1730.0	592.0	298.0	2610.0	1520.0	143.0	194.0	225.0
28	189.0	374.0	323.0	371.0	2040.0	---	342.0	5540.0	1460.0	147.0	205.0	212.0
29	157.0	434.0	333.0	394.0	---	---	393.0	7210.0	1240.0	147.0	195.0	202.0
30	254.0	476.0	364.0	352.0	---	---	292.0	6470.0	1130.0	172.0	185.0	239.0
31	198.0	---	395.0	393.0	---	---	---	4830.0	---	147.0	175.0	---

ARKANSAS RIVER BASIN

07150500 SALT FORK ARKANSAS RIVER NEAR JET, 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	---	3980	4260	3560	5930	4440	---	4090	2290	3340	5240	7020
2	---	4010	3900	4380	5850	4080	---	3420	3240	3370	5380	7200
3	---	4010	4110	5290	5930	3240	---	4190	3420	3590	5300	7380
4	---	4170	4040	4720	6230	3260	---	4120	3260	3620	5250	7440
5	---	4150	4160	5930	6110	3370	---	4260	3060	3490	5230	7500
6	3490	4140	4150	3100	6230	3320	---	5020	2680	3590	5140	7140
7	7140	4130	4110	2970	6110	3170	---	5020	2180	3560	5560	7500
8	4010	4040	4310	5480	6350	3090	---	4030	2440	3620	5770	7440
9	4040	3920	4370	3780	6410	3060	---	3760	2340	3720	5860	7630
10	4070	3790	3380	4180	6410	2810	---	3650	2030	3770	5800	7750
11	4050	3890	4060	4010	5570	2870	---	3750	2380	3960	5660	7990
12	4140	4220	3630	4340	5330	3030	3260	3890	2370	4270	6230	7930
13	4110	4840	4180	4880	4670	3040	3720	4320	2580	4050	6050	8050
14	4070	4650	3900	3230	4410	---	3920	4430	2820	4180	5990	8050
15	4100	4440	3890	3020	3830	---	3470	3980	2790	4350	5810	8110
16	3960	4370	3670	3180	6290	---	3870	4830	2580	4530	6050	8530
17	3990	4390	3670	3340	6720	---	4670	4560	2590	4250	6480	8650
18	3990	4390	3560	3860	6600	---	3530	4500	3190	4380	6350	8590
19	3990	4280	3920	3900	7200	---	3790	4760	2690	4900	6900	8410
20	4000	4190	3840	4160	7140	---	4220	4390	2670	4340	6840	8530
21	4010	4290	4190	3750	7260	---	4360	4310	2760	3630	6350	8720
22	3990	4220	3830	4000	7260	2820	4290	3930	3130	5050	6780	8530
23	3980	4270	3960	3980	7020	3050	4250	5060	3180	3820	6840	8470
24	3960	4270	3830	3880	6540	3110	3730	4130	3120	4390	6480	8780
25	3980	4290	3760	3970	6050	3190	4020	4300	2830	5030	6720	8720
26	4100	4370	3940	3840	5860	3330	4160	4110	3050	5160	7080	8720
27	4040	4330	3150	4410	4920	---	4420	4210	3290	4690	6720	9320
28	4040	4300	3750	4880	4900	---	4440	3880	3360	5030	7080	8840
29	3950	4270	3780	5200	---	---	5260	3120	3510	5050	6960	9020
30	3910	4100	3820	5480	---	---	3960	2350	3420	5450	7080	9320
31	4170	---	3380	5750	---	---	---	1950	---	4900	6600	---

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	---	322.0	1180.0	865.0	881.0	5680.0	---	718.0	18800.0	2150.0	283.0	341.0
2	---	401.0	916.0	993.0	963.0	5880.0	---	600.0	32600.0	1560.0	305.0	350.0
3	---	531.0	899.0	1110.0	945.0	2830.0	---	2960.0	36200.0	1420.0	315.0	339.0
4	---	552.0	851.0	994.0	1030.0	2520.0	---	3840.0	30800.0	1220.0	298.0	362.0
5	---	504.0	977.0	1380.0	1070.0	2420.0	---	3290.0	26000.0	971.0	268.0	364.0
6	754.0	503.0	863.0	737.0	1030.0	2380.0	---	4090.0	21400.0	892.0	264.0	347.0
7	2180.0	535.0	732.0	666.0	1200.0	2240.0	---	5770.0	16000.0	1040.0	285.0	364.0
8	942.0	1590.0	756.0	1170.0	1250.0	2140.0	---	4200.0	15400.0	1220.0	290.0	362.0
9	971.0	2800.0	802.0	990.0	1400.0	2120.0	---	3560.0	13000.0	1200.0	301.0	391.0
10	769.0	1720.0	593.0	1280.0	1440.0	1840.0	---	3230.0	9810.0	875.0	298.0	377.0
11	744.0	1510.0	680.0	855.0	1250.0	1950.0	---	3550.0	9830.0	716.0	290.0	367.0
12	581.0	1300.0	706.0	785.0	2460.0	1700.0	1580.0	3220.0	7810.0	945.0	303.0	364.0
13	588.0	1750.0	937.0	830.0	2840.0	1920.0	1500.0	2940.0	7380.0	459.0	294.0	391.0
14	462.0	1720.0	927.0	549.0	2370.0	---	1890.0	2280.0	6930.0	429.0	291.0	391.0
15	465.0	1510.0	945.0	440.0	1690.0	---	1500.0	1540.0	6090.0	470.0	298.0	394.0
16	535.0	1470.0	1770.0	756.0	2790.0	---	1600.0	1630.0	4650.0	404.0	310.0	392.0
17	431.0	1390.0	1450.0	712.0	2780.0	---	2840.0	1190.0	3910.0	298.0	297.0	397.0
18	399.0	1090.0	596.0	823.0	2690.0	---	2930.0	1520.0	5610.0	201.0	309.0	371.0
19	356.0	1500.0	1040.0	906.0	2600.0	---	1250.0	2260.0	5450.0	265.0	354.0	363.0
20	443.0	1220.0	1210.0	842.0	2470.0	---	980.0	1990.0	4260.0	281.0	332.0	415.0
21	422.0	788.0	962.0	699.0	2270.0	---	589.0	1910.0	4400.0	225.0	309.0	353.0
22	420.0	775.0	951.0	680.0	2270.0	1580.0	1120.0	2210.0	5720.0	314.0	330.0	322.0
23	441.0	888.0	545.0	656.0	2370.0	931.0	987.0	2950.0	5430.0	227.0	332.0	320.0
24	374.0	888.0	589.0	681.0	2700.0	1130.0	735.0	2040.0	4910.0	261.0	315.0	332.0
25	462.0	822.0	670.0	718.0	2990.0	1350.0	749.0	1950.0	4390.0	285.0	327.0	353.0
26	498.0	696.0	670.0	695.0	3350.0	1310.0	730.0	2600.0	3620.0	293.0	344.0	353.0
27	480.0	935.0	510.0	679.0	3280.0	1190.0	573.0	5000.0	3120.0	279.0	363.0	403.0
28	382.0	731.0	638.0	725.0	3850.0	---	659.0	11200.0	2880.0	285.0	382.0	382.0
29	309.0	842.0	663.0	758.0	---	---	739.0	15000.0	2570.0	286.0	357.0	365.0
30	496.0	930.0	732.0	666.0	---	---	577.0	13800.0	2280.0	324.0	344.0	428.0
31	394.0	---	785.0	730.0	---	---	---	11500.0	---	278.0	321.0	---

ARKANSAS RIVER BASIN

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07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, OK

LOCATION.--Lat 36°40'13", long 97°18'33", in NW¼SE¼ sec.4, T.25 N., R.1 W., Kay County, Hydrologic Unit 11060004, near right bank on downstream side of pier of bridge on U.S. Highway 77 in Tonkawa, 4 mi (6 km) downstream from Thompson Creek, 7.8 mi (12.6 km) upstream from Chikaskia River, and at mile 33.8 (54.4 km).

DRAINAGE AREA.--4,528 mi² (11,728 km²) of which 8 mi² (20.7 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 930.22 ft (283.531 m) Corps of Engineers datum. September 1903 to October 1905, nonrecording gage near present site at different datum. Jan. 2, 1936, to Jan. 22, 1939 nonrecording gage, and Jan. 23, 1939, to June 20, 1960, water-stage recorder at site 100 ft (30.5 m) upstream at same datum.

REMARKS.--Records good. Some regulation since June 1941 by Great Salt Plains Lake, 69.5 miles (111.8 km) upstream (station 07150000).

AVERAGE DISCHARGE.--(since regulation by Great Salt Plains Dam) 37 years (water years 1942-78), 727 ft³/s (20.59 m³/s), 526,700 acre-ft/yr (649 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97,300 ft³/s (2,760 m³/s) Oct. 11, 1973, gage height, 28.98 ft (8.833 m); no flow Aug. 31 to Oct. 12, Oct. 14-16, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1923 reached a stage of 26.8 ft (8.17 m), from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,230 ft³/s (91.5 m³/s) June 4, gage height, 10.10 ft (3.078 m), no peaks above base of 11,000 ft³/s (312 m³/s); minimum daily, 26 ft³/s (0.74 m³/s) Aug. 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	260	78	114	89	100	794	221	175	2070	364	48	117
2	256	66	121	104	90	688	250	138	2150	336	48	66
3	245	84	134	90	68	636	241	164	2860	322	53	50
4	216	79	134	93	64	614	1620	270	3160	281	126	42
5	193	79	127	130	68	602	844	413	3150	241	225	38
6	185	87	116	133	74	561	644	616	2930	226	144	35
7	178	89	121	107	80	539	552	516	2940	312	80	32
8	154	99	130	86	60	531	623	520	3060	463	61	34
9	155	141	157	68	54	496	601	602	2600	302	51	32
10	150	226	159	80	56	473	480	552	2160	221	48	32
11	137	282	132	54	150	448	413	487	1830	213	52	34
12	134	248	132	60	811	433	386	438	1560	186	54	34
13	122	211	150	100	1620	421	345	434	1330	160	50	33
14	119	180	132	80	1040	479	304	396	1130	1090	41	30
15	103	172	117	84	659	390	294	348	995	519	37	31
16	110	175	117	98	610	393	307	287	885	160	35	30
17	99	171	115	90	493	394	281	239	788	124	35	30
18	92	169	137	68	471	406	244	304	694	107	33	28
19	95	168	169	84	427	359	285	407	648	92	30	27
20	90	151	132	80	368	347	357	311	714	82	29	34
21	87	150	107	82	292	301	253	463	877	74	30	53
22	88	161	122	82	303	302	200	472	1010	71	32	62
23	112	133	135	82	420	289	177	347	1300	80	32	63
24	99	121	110	80	1360	317	167	304	959	75	29	60
25	91	120	109	100	2970	269	174	301	927	70	28	70
26	89	121	91	88	2010	260	164	279	730	63	26	86
27	84	121	87	88	1330	265	155	352	642	59	38	70
28	86	112	92	84	975	255	148	1740	537	56	45	56
29	87	116	95	72	---	240	138	2320	454	54	33	48
30	88	115	91	78	---	233	137	2020	410	50	34	40
31	85	---	94	86	---	224	---	2020	---	49	145	---
TOTAL	4089	4245	3779	2744	17225	12863	11011	16255	45500	6502	1758	1397
MEAN	132	142	122	88.5	615	415	367	589	1517	210	56.7	46.6
MAX	260	282	169	133	2970	798	1620	2320	3160	1090	225	117
MIN	84	78	87	58	54	224	137	138	410	49	26	27
AC-FT	8110	8420	7500	5440	34170	25510	21840	36210	90250	12900	3490	2770
CAL YR 1977	TOTAL	126002	MEAN	345	MAX	7410	MIN	19	AC-FT	249900		
WTR YR 1978	TOTAL	129368	MEAN	354	MAX	3160	MIN	26	AC-FT	256600		

ARKANSAS RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1952-63, 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 May 1969.

REMARKS.--In addition to water quality monitor, samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples 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 calculated from specific conductance values.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 14,800 micromhos June 30, 1972, Dec. 30, 1973; minimum daily, 193 micromhos Aug. 17, 1974.

WATER TEMPERATURE: Maximum daily, 35.0°C July 14, 1969; 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, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS 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
OCT											
01...	1730	262	6990	7.5	19.0	460	350	130	34	1300	86
15...	1730	96	5080	7.9	17.0	430	250	110	37	940	82
NOV											
03...	1730	81	6710	7.7	15.0	490	330	130	39	1200	84
08...	1700	122	6480	7.8	16.0	480	330	130	36	1200	84
29...	1630	120	6120	8.1	8.0	490	300	130	39	1100	83
DEC											
05...	1600	131	6250	7.8	5.0	510	340	140	38	1200	84
16...	1600	115	5990	8.2	11.0	510	330	140	39	1100	82
26...	1730	92	5710	8.3	--	510	330	140	40	1000	81
JAN											
05...	1700	117	5600	8.0	4.5	490	290	150	41	1000	81
15...	1530	113	6380	7.9	0	570	350	150	47	1200	82
27...	1600	88	5740	7.8	0	530	320	140	43	1000	80
MAR											
05...	1700	585	5260	7.6	4.0	460	320	120	39	970	82
15...	1700	409	4600	7.8	10.0	420	270	110	35	830	81
26...	1730	258	4240	7.8	14.0	460	270	120	39	740	77
APR											
05...	1730	844	2460	7.2	21.0	280	160	72	24	420	76
15...	1700	294	5140	7.8	19.0	430	280	110	38	960	83
25...	1900	511	5480	7.4	26.0	450	260	110	43	1000	82
MAY											
05...	1700	476	4040	7.3	17.0	360	230	95	31	760	82
15...	1630	335	6050	7.4	27.0	490	350	130	41	1100	83
25...	2000	301	6610	7.3	30.0	500	350	130	43	1200	84
JUN											
04...	1435	3140	5610	7.8	24.0	400	290	110	31	1100	85
15...	1920	959	4440	7.5	28.0	420	290	120	29	800	80
25...	1730	869	3640	7.4	27.0	310	190	88	23	650	81
JUL											
05...	1930	237	5290	7.4	31.0	440	310	120	34	990	83
15...	1900	249	3630	7.3	34.0	300	180	60	24	680	83
25...	2000	74	4940	7.7	31.0	420	240	110	35	930	83
AUG											
05...	1930	252	1910	7.7	30.0	210	98	59	14	320	77
15...	1730	38	4730	7.5	33.0	370	200	90	35	880	84
25...	1730	28	6640	7.2	34.5	420	270	98	43	1200	86
SEP											
05...	0900	38	5100	7.3	27.0	360	180	85	36	960	85
15...	1830	33	7450	7.9	31.0	440	290	110	41	1500	88
25...	1830	68	7400	8.2	25.0	470	300	110	47	1300	85

ARKANSAS RIVER BASIN

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07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, 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- LINEITY (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 DTS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
UCT											
01...	26	9.1	140	0	110	7.1	350	2100	4040	5.49	2860
15...	20	6.5	220	0	180	4.4	280	1400	2890	3.93	749
NOV											
03...	24	7.8	190	0	160	6.1	350	1900	3820	5.20	835
08...	24	8.1	180	0	150	4.6	340	1800	3710	5.05	1220
29...	22	7.0	220	0	180	2.8	330	1700	3450	4.69	1120
DEC											
05...	23	7.2	200	0	160	5.1	330	1800	4400	5.98	1560
16...	21	7.6	220	0	180	2.2	320	1700	3300	4.49	1030
26...	19	6.8	230	0	190	1.8	320	1600	3250	4.42	807
JAN											
05...	20	6.3	250	0	210	4.0	330	1600	3100	4.22	979
15...	22	7.2	260	0	210	5.2	370	1800	3640	4.95	1110
27...	19	6.6	250	0	210	6.3	340	1600	3210	4.37	763
FEB											
05...	20	7.4	170	0	140	6.8	310	1500	3010	4.09	4750
15...	18	7.4	180	0	150	4.6	340	1300	2550	3.47	2820
26...	15	6.9	230	0	190	5.8	270	1200	2270	3.09	1580
APR											
05...	11	8.3	150	0	120	15	170	630	1350	1.84	3080
15...	20	8.5	190	0	160	4.8	300	1400	2870	3.90	2280
25...	20	9.1	230	0	190	15	310	1500	3070	4.18	4240
MAY											
05...	17	6.8	170	0	140	14	240	1100	2260	3.07	2910
15...	22	7.1	180	0	150	11	340	1700	3540	4.81	3200
25...	23	8.0	180	0	150	14	320	1900	3820	5.20	3110
JUN											
04...	24	8.3	140	0	110	3.6	310	1600	3230	4.39	27400
15...	17	8.3	160	0	130	8.1	280	1200	2460	3.35	6370
25...	16	9.3	150	0	120	9.6	200	980	2010	2.73	4720
JUL											
05...	21	9.3	160	0	130	10	330	1500	3100	4.22	1980
15...	17	8.5	140	0	110	11	210	980	2000	2.72	1350
25...	20	7.6	220	0	180	7.0	250	1400	2870	3.90	573
AUG											
05...	9.7	5.7	130	0	110	4.2	140	430	1050	1.43	714
15...	20	6.8	210	0	170	11	220	1300	2740	3.73	281
25...	25	7.7	190	0	160	19	320	1900	3790	5.15	287
SEP											
05...	22	10	220	0	180	18	270	1400	2890	3.93	297
15...	31	8.2	190	0	160	3.8	360	2200	4230	5.75	377
25...	26	9.6	200	4	170	2.1	350	2000	4310	5.86	791

ARKANSAS RIVER BASIN

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

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6990	---	6060	5120	5860	4320	4780	4440	3670	5330	5570	2320
2	6980	---	5960	5090	6080	5290	4460	5340	3190	5410	5560	1060
3	6870	6710	6120	5100	6200	5850	4470	4920	4980	5480	3540	3010
4	6130	---	6280	5190	6530	5900	1470	3530	5610	5330	3540	3960
5	6510	---	6250	5600	6540	5260	2460	4040	5610	5290	1910	5100
6	6120	---	5970	5700	6970	4420	3490	4020	5380	5470	2090	5240
7	6130	5350	5550	5410	7430	4620	3390	5210	4580	3240	3040	5840
8	6120	6480	5820	5560	---	4500	3960	6200	3660	2920	3430	6250
9	6240	---	6260	5790	7320	4720	3510	---	3530	2780	3890	6590
10	5980	---	6290	6060	7350	4600	4380	6180	4030	4460	4340	6720
11	6150	---	6090	6380	7890	4640	4880	6240	---	4780	4920	6900
12	---	---	5720	6510	4200	4650	4880	5970	3100	4960	5670	6890
13	---	---	6080	6640	1660	4670	5270	6370	4230	5010	5690	7100
14	---	---	5880	6370	1410	4480	5300	6030	3850	634	5580	7260
15	5080	---	5620	6380	3410	4600	5140	6050	4440	3630	4730	7450
16	---	---	5990	5860	4490	4600	5150	6670	4470	4180	5350	7580
17	4420	---	6090	5760	4510	4540	5600	6630	4560	4340	6000	7480
18	5470	---	6010	---	5400	4650	---	4490	4290	4440	5970	7800
19	---	---	6310	---	6780	4670	6210	4520	4390	4910	6090	7870
20	---	---	6160	---	8300	4550	6630	4700	4390	5090	6200	7300
21	---	---	5650	---	8740	4650	5930	4630	4100	5160	6280	7130
22	---	---	5320	---	9130	4530	5430	3760	3230	5110	6470	7570
23	---	---	5610	---	5050	4680	5100	4800	2700	5080	6560	7480
24	---	---	5980	6060	5030	4740	5460	5900	4130	5070	6590	7130
25	---	---	5720	5690	978	4210	5480	6610	3640	4940	6640	7400
26	---	---	5710	5690	1690	4240	5880	6670	4630	5130	6700	3680
27	---	---	5540	5740	2320	4610	5870	---	4970	5300	4560	5180
28	---	---	5400	5760	3190	4910	5700	1640	4810	5260	4520	5170
29	---	6120	5480	5760	---	5020	5470	2700	4750	5280	5970	5930
30	---	6120	5340	5860	---	5040	5440	4480	5260	2770	6630	5810
31	---	---	5260	5920	---	4920	---	3820	---	5440	3800	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	---	8.0	.0	3.0	4.0	21.5	15.0	27.0	31.0	31.0	32.0
2	19.0	---	8.0	1.0	2.0	4.0	21.0	16.0	25.0	32.0	27.0	31.0
3	20.0	19.0	9.0	2.0	3.0	.0	21.0	17.0	24.0	31.0	27.0	32.0
4	19.0	---	8.0	2.5	1.0	1.0	18.0	17.0	24.0	32.0	32.0	32.0
5	19.0	---	5.0	4.5	.5	4.0	21.0	17.0	25.0	31.0	30.0	27.0
6	20.0	---	1.0	5.0	.0	11.0	23.0	16.5	25.0	30.0	31.0	32.0
7	17.0	17.0	2.5	5.0	.0	4.0	22.0	21.0	24.0	31.0	33.0	31.0
8	17.0	16.0	2.5	.0	---	4.0	22.0	20.0	25.0	---	30.0	31.0
9	17.0	---	.0	.0	.0	6.0	21.0	---	25.0	34.0	31.0	29.0
10	17.0	---	.0	.0	.5	9.0	17.0	23.0	26.0	34.0	31.0	31.5
11	19.0	---	3.0	.0	1.0	10.0	17.0	25.0	---	34.0	33.0	31.0
12	19.0	---	4.0	.0	1.5	11.0	18.0	24.0	29.0	31.0	32.0	31.0
13	19.0	---	8.0	.0	1.5	13.0	---	19.0	28.0	31.0	32.0	31.0
14	19.0	---	8.0	.0	1.0	11.0	23.0	27.0	26.0	31.0	33.0	30.0
15	17.0	---	10.0	.0	1.0	10.0	19.0	27.0	28.0	34.0	33.0	31.0
16	18.0	---	11.0	.0	1.0	11.0	17.5	25.0	31.0	35.0	34.0	32.0
17	18.0	---	8.5	.0	1.0	12.0	20.0	22.0	31.0	31.0	35.0	25.0
18	18.0	---	8.0	---	3.0	17.0	---	23.0	28.0	31.0	35.0	26.0
19	17.0	---	6.0	---	4.0	16.0	17.0	24.0	28.0	33.0	28.0	31.0
20	---	---	3.5	---	5.0	15.0	16.0	24.0	27.0	30.0	30.0	22.0
21	---	---	1.5	---	4.0	17.0	25.0	24.0	26.0	32.0	34.0	24.0
22	---	---	2.0	---	6.0	18.0	19.0	26.0	27.0	29.0	34.0	24.0
23	---	---	5.0	---	5.0	13.0	19.0	30.0	28.0	30.0	32.0	26.0
24	---	---	4.0	1.0	3.0	11.0	19.0	30.0	31.0	31.0	31.5	28.0
25	---	---	4.0	1.0	4.0	---	20.0	30.0	27.0	31.0	34.5	25.0
26	---	---	5.0	1.0	4.0	14.0	24.0	25.0	30.0	31.0	33.5	26.0
27	---	---	2.5	.0	4.0	17.0	24.0	---	30.0	31.0	33.0	29.0
28	---	---	3.0	2.0	4.0	19.5	23.0	22.0	31.5	30.0	29.0	29.0
29	---	---	8.0	4.0	---	21.0	23.0	25.0	31.5	31.0	30.0	29.5
30	---	7.0	5.0	3.0	---	21.5	23.0	27.0	31.0	31.0	30.0	25.0
31	---	---	6.0	3.0	---	21.0	---	28.0	---	30.0	29.0	---

ARKANSAS RIVER BASIN

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

SPECIFIC CONDUCTANCE (MICROMHUS/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	6900	---	6120	5060	5830	4020	4770	---	4070	5230	---	2380
2	---	6940	5970	5140	6070	5050	4510	---	3390	5290	---	1070
3	---	6860	6100	---	6210	5500	4470	---	4580	5100	---	3010
4	---	6710	6230	4920	6550	8150	1550	---	5340	5470	4030	3990
5	---	---	5960	5580	6550	---	2240	4010	5640	5060	4210	5010
6	---	---	5950	5800	6970	---	3270	4630	---	5220	1940	4800
7	---	---	5320	5480	7500	---	3560	4960	---	4230	3230	5810
8	---	---	5720	5530	7500	4500	3970	5840	---	2640	3670	6250
9	6140	---	5030	5840	7390	4720	3540	6770	---	2940	3810	6530
10	5880	4420	6280	6080	7410	4930	4300	6440	---	4230	4300	6910
11	---	5570	6170	6300	7840	4490	---	6060	---	4720	4890	7070
12	---	6060	5760	6490	---	4960	---	5940	3620	4750	5590	6980
13	---	6250	6030	6690	---	4870	---	6290	4860	4880	5590	7870
14	---	6350	5900	6420	---	4470	---	6040	3830	1990	5750	7870
15	---	6240	5070	6470	1400	4460	---	6170	4490	3050	4740	6680
16	---	---	5970	6020	3680	4800	5100	6500	4500	3910	5300	8740
17	---	---	6000	5870	---	4580	5590	6600	4690	4470	5890	7040
18	---	---	6000	5840	---	4700	6220	5590	4670	4230	6820	9070
19	---	---	6200	5880	---	4670	5920	4310	4800	4830	6310	8500
20	---	---	6080	6050	---	4640	---	4940	4430	5130	6300	6440
21	4580	---	5510	6300	---	6120	---	4570	4460	5160	6240	7020
22	4420	6820	5180	6490	---	4150	---	3610	3820	4690	6430	7640
23	---	6640	5570	6280	---	---	---	4280	3160	5420	6530	7390
24	---	6280	5580	6130	5130	---	---	5850	3670	---	6570	7140
25	---	6190	5600	5790	1600	---	---	6500	3680	---	6590	7430
26	---	6230	5700	5730	1520	---	---	6840	4450	---	6570	4580
27	---	6220	5910	5770	2200	---	---	5400	4830	---	4550	4900
28	---	6230	5400	5810	2910	---	---	1970	4840	---	4900	5120
29	---	6160	5410	5790	---	---	---	2340	4900	---	5900	6870
30	---	6150	5340	5910	---	5050	---	4150	5220	---	6750	6160
31	---	---	5280	5880	---	4960	---	3510	---	---	5160	---

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	14.5	5.5	.0	.0	2.0	19.5	---	26.0	29.0	---	---
2	20.0	10.0	6.0	.0	.0	2.5	20.0	---	23.5	30.0	---	---
3	18.5	13.0	6.5	.0	.0	.0	19.5	---	22.5	31.5	29.0	---
4	17.5	15.0	7.0	.0	.0	.0	17.5	---	23.0	32.0	29.0	---
5	17.5	15.5	5.0	2.0	.0	1.0	17.5	---	23.0	30.5	28.0	---
6	17.0	15.0	.0	2.5	.0	6.5	18.5	14.5	---	30.0	29.0	---
7	18.0	15.0	.0	3.0	.0	3.5	20.5	17.0	---	31.0	28.5	---
8	17.0	14.0	1.5	.0	.0	4.0	22.0	20.0	---	29.5	28.5	---
9	16.0	8.0	.0	.0	.0	5.5	21.0	21.0	---	30.0	29.5	---
10	16.0	7.5	.0	.0	.0	8.0	16.5	20.5	---	30.5	28.5	---
11	13.0	8.5	.0	.0	---	8.0	---	22.5	---	31.0	30.0	---
12	13.0	9.0	1.5	.0	---	8.0	---	24.0	---	29.5	30.0	---
13	14.0	11.0	6.5	.0	---	10.5	---	22.0	27.0	29.0	30.5	---
14	15.5	12.0	5.5	.0	---	9.0	---	23.0	27.5	29.0	---	28.0
15	14.0	13.0	6.5	.0	.5	8.0	---	24.5	28.0	29.0	---	30.5
16	13.0	12.5	8.0	.0	.0	7.5	19.0	23.5	28.0	31.5	---	29.5
17	14.5	11.0	6.5	.0	.0	9.5	19.0	22.5	28.0	29.0	---	27.0
18	15.5	10.0	5.0	.0	---	12.0	16.0	21.5	28.5	28.5	---	27.0
19	15.5	13.5	4.5	.0	---	14.5	---	23.5	28.5	29.0	---	27.0
20	16.5	13.5	1.0	.0	---	13.0	---	23.5	27.5	29.5	---	20.0
21	18.5	7.5	.0	.0	---	13.5	---	22.5	28.0	30.5	---	20.0
22	19.0	7.0	.0	.0	---	17.5	---	24.0	25.5	27.5	---	19.5
23	16.5	6.0	2.0	.0	---	11.0	---	27.5	26.0	28.5	---	22.5
24	17.0	6.5	3.5	.0	---	4.5	---	28.5	28.0	---	---	24.5
25	16.5	7.0	2.0	.0	2.0	5.0	---	28.5	28.0	---	---	22.5
26	17.0	5.0	1.0	.0	2.5	7.5	---	27.0	28.0	---	---	23.0
27	18.5	7.0	.0	.0	2.5	13.0	---	23.5	29.0	---	---	24.5
28	18.5	6.0	.0	.0	2.5	17.5	---	21.5	30.0	---	---	24.5
29	19.0	6.0	2.0	.0	---	19.0	---	23.0	30.5	---	---	23.0
30	17.5	5.0	4.0	.0	---	17.5	---	25.0	30.0	---	---	21.5
31	19.0	---	3.0	.0	---	18.5	---	26.5	---	---	---	---

ARKANSAS RIVER BASIN

07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, 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	360	---	330	280	310	240	270	---	240	290	---	170
2	---	---	320	290	320	280	260	---	210	290	---	120
3	---	---	320	---	330	300	260	---	260	280	---	200
4	---	---	330	280	340	410	140	---	290	300	240	240
5	---	---	320	300	340	---	170	240	310	280	250	280
6	---	---	320	310	360	---	210	260	---	290	160	270
7	---	---	290	300	380	---	220	280	---	250	210	310
8	---	---	310	300	380	260	240	310	---	180	230	330
9	330	---	310	310	380	270	220	350	---	200	230	340
10	320	260	330	320	380	280	250	340	---	250	250	360
11	---	300	330	330	390	260	---	320	---	270	280	360
12	---	320	310	340	---	280	---	320	220	270	300	360
13	---	330	320	350	---	270	---	330	270	270	300	400
14	---	330	320	340	---	260	---	320	230	160	310	400
15	---	330	310	340	130	260	---	330	260	200	270	350
16	---	---	320	320	230	270	280	340	260	240	290	430
17	---	---	320	310	---	260	300	340	270	260	320	360
18	---	---	320	310	---	270	330	300	270	250	350	440
19	---	---	330	320	---	270	320	250	270	270	330	420
20	---	---	320	320	---	270	---	280	260	290	330	340
21	260	---	300	330	---	330	---	260	260	290	330	360
22	260	350	290	340	---	250	---	220	230	270	340	390
23	---	350	300	330	---	---	---	250	210	300	340	380
24	---	330	300	330	290	---	---	310	230	---	340	370
25	---	330	300	310	140	---	---	340	230	---	340	380
26	---	330	310	310	140	---	---	350	260	---	340	260
27	---	330	320	310	170	---	---	300	270	---	260	280
28	---	330	300	310	200	---	---	160	270	---	280	280
29	---	330	300	310	---	---	---	170	280	---	320	360
30	---	330	290	320	---	280	---	250	290	---	350	330
31	---	---	290	320	---	280	---	220	---	---	290	---

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	253.0	---	102.0	67.3	83.7	517.0	161.0	---	1340.0	285.0	---	53.7
2	---	83.6	105.0	81.4	77.8	520.0	140.0	---	1220.0	263.0	---	21.4
3	---	81.6	116.0	---	60.6	515.0	169.0	---	2010.0	243.0	---	27.0
4	---	74.7	119.0	70.3	58.8	680.0	612.0	---	2470.0	228.0	81.6	27.2
5	---	---	110.0	105.0	62.4	---	387.0	268.0	2640.0	182.0	152.0	28.7
6	---	---	100.0	111.0	71.9	---	365.0	432.0	---	177.0	62.2	25.5
7	---	---	94.7	86.7	82.1	---	320.0	390.0	---	211.0	48.8	26.8
8	---	---	109.0	69.7	61.6	373.0	404.0	435.0	---	225.0	37.9	30.3
9	138.0	---	131.0	56.9	55.4	362.0	357.0	569.0	---	163.0	31.7	29.4
10	130.0	159.0	142.0	69.1	59.5	358.0	324.0	507.0	---	149.0	32.4	31.1
11	---	228.0	118.0	51.7	158.0	314.0	---	421.0	---	155.0	39.3	33.0
12	---	214.0	110.0	73.4	---	327.0	---	378.0	927.0	136.0	43.7	33.0
13	---	188.0	130.0	94.5	---	307.0	---	387.0	970.0	117.0	40.5	35.6
14	---	160.0	114.0	73.4	---	266.0	---	342.0	702.0	471.0	34.3	32.4
15	---	153.0	97.9	77.1	302.0	274.0	---	310.0	698.0	280.0	27.0	29.3
16	---	---	101.0	84.7	379.0	286.0	232.0	263.0	621.0	104.0	27.4	34.8
17	---	---	99.4	75.3	---	277.0	228.0	219.0	574.0	87.0	30.2	29.2
18	---	---	118.0	73.7	---	296.0	217.0	246.0	506.0	72.2	31.2	33.3
19	---	---	151.0	72.6	---	262.0	246.0	275.0	472.0	67.1	28.7	30.6
20	---	---	114.0	69.1	---	253.0	---	235.0	501.0	64.2	25.8	31.2
21	61.1	---	86.7	73.1	---	268.0	---	325.0	616.0	57.9	26.7	51.5
22	61.8	152.0	95.5	75.3	---	204.0	---	280.0	627.0	51.8	29.4	65.3
23	---	126.0	109.0	73.1	---	---	---	234.0	737.0	64.8	29.4	64.6
24	---	108.0	89.1	71.3	1060.0	---	---	254.0	596.0	---	26.6	59.9
25	---	107.0	88.3	83.7	1120.0	---	---	276.0	576.0	---	25.7	71.8
26	---	108.0	76.2	73.7	760.0	---	---	264.0	512.0	---	23.9	60.4
27	---	108.0	75.2	73.7	610.0	---	---	285.0	468.0	---	26.7	52.9
28	---	99.8	74.5	70.3	528.0	---	---	752.0	391.0	---	34.0	42.3
29	---	103.0	78.9	60.3	---	---	---	1060.0	343.0	---	28.5	46.7
30	---	102.0	71.3	67.4	---	176.0	---	1360.0	321.0	---	32.1	39.6
31	---	---	73.6	74.3	---	169.0	---	1200.0	---	---	114.0	---

ARKANSAS RIVER BASIN

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07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, 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	1900	---	1700	1400	1600	1000	1300	---	1100	1400	---	530
2	---	2000	1700	1400	1700	1400	1200	---	850	1400	---	130
3	---	1900	1700	---	1700	1500	1200	---	1200	1400	---	730
4	---	1900	1700	1300	1600	2300	280	---	1500	1500	1000	1000
5	---	---	1600	1500	1600	---	490	1000	1500	1400	1100	1400
6	---	---	1600	1600	2000	---	810	1200	---	1400	400	1300
7	---	---	1400	1500	2100	---	900	1300	---	1100	800	1600
8	---	---	1600	1500	2100	1200	1000	1600	---	610	930	1700
9	1700	---	1500	1600	2100	1300	890	1900	---	710	980	1800
10	1600	1200	1700	1700	2100	1300	1100	1800	---	1100	1100	1900
11	---	1500	1700	1800	2200	1200	---	1700	---	1300	1300	2000
12	---	1700	1600	1800	---	1300	---	1600	920	1300	1500	2000
13	---	1700	1700	1900	---	1300	---	1800	1300	1300	1500	2200
14	---	1800	1600	1600	---	1200	---	1700	980	410	1600	2200
15	---	1700	1600	1800	230	1200	---	1700	1200	740	1300	1900
16	---	---	1700	1700	940	1300	1400	1800	1200	1000	1400	2500
17	---	---	1700	1600	---	1200	1500	1800	1300	1200	1600	2000
18	---	---	1700	1600	---	1300	1700	1500	1200	1100	1900	2600
19	---	---	1700	1600	---	1200	1600	1100	1300	1300	1800	2400
20	---	---	1700	1700	---	1200	---	1300	1200	1400	1800	1800
21	1200	---	1500	1800	---	1700	---	1200	1200	1400	1700	2000
22	1200	1900	1400	1800	---	1100	---	920	980	1300	1800	2200
23	---	1900	1500	1700	---	---	---	1100	780	1500	1800	2100
24	---	1700	1500	1700	1400	---	---	1600	930	---	1800	2000
25	---	1700	1500	1600	290	---	---	1800	940	---	1800	2100
26	---	1700	1600	1600	270	---	---	1900	1200	---	1800	1200
27	---	1700	1600	1600	480	---	---	1500	1300	---	1200	1300
28	---	1700	1500	1600	700	---	---	410	1300	---	1300	1400
29	---	1700	1500	1600	---	---	---	520	1300	---	1600	1900
30	---	1700	1500	1600	---	1400	---	1100	1400	---	1900	1700
31	---	---	1400	1600	---	1300	---	890	---	---	1400	---

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	1330.0	---	523.0	336.0	432.0	2150.0	776.0	---	6150.0	1380.0	---	167.0
2	---	464.0	555.0	393.0	413.0	2600.0	829.0	---	4930.0	1270.0	---	23.2
3	---	431.0	615.0	---	312.0	2580.0	781.0	---	9270.0	1220.0	---	96.5
4	---	405.0	615.0	326.0	311.0	3810.0	1220.0	---	12800.0	1140.0	340.0	113.0
5	---	---	549.0	526.0	330.0	---	1120.0	1120.0	12800.0	911.0	668.0	144.0
6	---	---	501.0	575.0	400.0	---	1410.0	2000.0	---	854.0	156.0	123.0
7	---	---	457.0	433.0	454.0	---	1340.0	1810.0	---	927.0	186.0	138.0
8	---	---	562.0	348.0	340.0	1720.0	1680.0	2250.0	---	763.0	153.0	156.0
9	711.0	---	636.0	294.0	306.0	1740.0	1440.0	3090.0	---	579.0	135.0	156.0
10	648.0	732.0	730.0	367.0	329.0	1660.0	1430.0	2680.0	---	656.0	143.0	164.0
11	---	1140.0	606.0	282.0	891.0	1450.0	---	2240.0	---	748.0	163.0	164.0
12	---	1140.0	570.0	389.0	---	1520.0	---	1890.0	3880.0	653.0	219.0	184.0
13	---	968.0	606.0	513.0	---	1480.0	---	2110.0	4670.0	562.0	202.0	196.0
14	---	875.0	570.0	389.0	---	1230.0	---	1820.0	2990.0	1210.0	177.0	178.0
15	---	789.0	505.0	408.0	533.0	1260.0	---	1600.0	3220.0	1040.0	130.0	199.0
16	---	---	537.0	450.0	1550.0	1380.0	1160.0	1390.0	2870.0	432.0	132.0	202.0
17	---	---	526.0	389.0	---	1280.0	1140.0	1160.0	2770.0	402.0	151.0	162.0
18	---	---	629.0	380.0	---	1430.0	1120.0	1230.0	2250.0	318.0	169.0	197.0
19	---	---	776.0	363.0	---	1160.0	1230.0	1210.0	2270.0	323.0	146.0	175.0
20	---	---	606.0	367.0	---	1120.0	---	1090.0	2310.0	310.0	141.0	163.0
21	282.0	---	433.0	399.0	---	1380.0	---	1500.0	2840.0	280.0	136.0	266.0
22	285.0	626.0	461.0	399.0	---	897.0	---	1170.0	2670.0	249.0	156.0	368.0
23	---	682.0	547.0	376.0	---	---	---	1030.0	2740.0	324.0	156.0	357.0
24	---	555.0	445.0	367.0	5140.0	---	---	1310.0	2410.0	---	141.0	324.0
25	---	551.0	441.0	432.0	2330.0	---	---	1460.0	2350.0	---	136.0	397.0
26	---	555.0	393.0	380.0	1470.0	---	---	1430.0	2370.0	---	126.0	279.0
27	---	555.0	376.0	380.0	1720.0	---	---	1430.0	2250.0	---	123.0	246.0
28	---	514.0	373.0	363.0	1840.0	---	---	1930.0	1880.0	---	156.0	212.0
29	---	532.0	385.0	311.0	---	---	---	3260.0	1590.0	---	143.0	246.0
30	---	528.0	369.0	337.0	---	881.0	---	6000.0	1550.0	---	174.0	184.0
31	---	---	355.0	372.0	---	786.0	---	4850.0	---	---	548.0	---

ARKANSAS RIVER BASIN

07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, 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	3950	---	3470	2810	3290	2170	2640	---	2200	2920	---	1160
2	---	3970	3370	2860	3440	2810	2480	---	1790	2960	---	356
3	---	3920	3450	---	3520	3090	2450	---	2520	2840	---	1550
4	---	3830	3530	2730	3730	4720	652	---	2990	3070	2180	2150
5	---	---	3370	3130	3730	---	1080	2170	3170	2810	2290	2780
6	---	---	3360	3270	3990	---	1710	2550	---	2910	892	2650
7	---	---	2970	3070	4320	---	1890	2750	---	2300	1690	3280
8	---	---	3220	3100	4320	2470	2140	3290	---	1320	1960	3550
9	3480	---	3170	3290	4250	2600	1880	3870	---	1510	2040	3720
10	3520	2420	3570	3440	4260	2730	2350	3660	---	2300	2350	3950
11	---	3130	3500	3580	4530	2460	---	3430	---	2600	2710	4050
12	---	3430	3250	3690	---	2750	---	3360	1930	2620	3140	4000
13	---	3550	3410	3820	---	2700	---	3570	2690	2700	3140	4540
14	---	3610	3330	3650	---	2450	---	3420	2060	923	3240	4540
15	---	3540	3190	3680	559	2440	---	3500	2460	1580	2620	3810
16	---	---	3370	3410	1960	2650	2840	3700	2470	2110	2960	5080
17	---	---	3390	3310	---	2520	3140	3760	2590	2450	3330	4030
18	---	---	3390	3290	---	2590	3530	3140	2570	2300	3900	5280
19	---	---	3520	3320	---	2570	3340	2350	2650	2670	3580	4930
20	---	---	3440	3420	---	2560	---	2740	2430	2860	3580	3660
21	2520	---	3090	3580	---	3470	---	2510	2440	2860	3540	4020
22	2420	3900	2690	3690	---	2250	---	1920	2050	2590	3660	4400
23	---	3790	3130	3570	---	---	---	2330	1640	3040	3720	4250
24	---	3570	3130	3470	2860	---	---	3300	1960	---	3740	4100
25	---	3510	3150	3260	683	---	---	3700	1960	---	3760	4270
26	---	3530	3210	3230	633	---	---	3910	2440	---	3740	2520
27	---	3530	3340	3250	1050	---	---	3020	2670	---	2500	2720
28	---	3530	3020	3280	1490	---	---	911	2680	---	2720	2850
29	---	3490	3030	3260	---	---	---	1140	2720	---	3330	3930
30	---	3490	2990	3340	---	2810	---	2250	2910	---	3860	3490
31	---	---	2950	3320	---	2750	---	1860	---	---	2880	---

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	2770.0	---	1070.0	675.0	688.0	4680.0	1580.0	---	12300.0	2870.0	---	366.0
2	---	922.0	1100.0	803.0	836.0	5220.0	1710.0	---	10400.0	2690.0	---	63.4
3	---	889.0	1250.0	---	646.0	5310.0	1590.0	---	19500.0	2470.0	---	209.0
4	---	817.0	1280.0	686.0	645.0	7820.0	2850.0	---	25500.0	2330.0	742.0	244.0
5	---	---	1160.0	1100.0	685.0	---	2460.0	2420.0	27000.0	1830.0	1390.0	285.0
6	---	---	1050.0	1170.0	797.0	---	2970.0	4240.0	---	1780.0	347.0	250.0
7	---	---	970.0	887.0	933.0	---	2820.0	3830.0	---	1940.0	392.0	283.0
8	---	---	1130.0	720.0	700.0	3540.0	3600.0	4620.0	---	1650.0	323.0	326.0
9	1460.0	---	1340.0	604.0	620.0	3480.0	3050.0	6290.0	---	1230.0	281.0	321.0
10	1340.0	1480.0	1530.0	743.0	667.0	3490.0	3050.0	5450.0	---	1370.0	305.0	341.0
11	---	2380.0	1250.0	561.0	1630.0	2980.0	---	4510.0	---	1500.0	380.0	372.0
12	---	2300.0	1160.0	797.0	---	3220.0	---	3970.0	8130.0	1320.0	458.0	367.0
13	---	2020.0	1380.0	1030.0	---	3070.0	---	4180.0	9660.0	1170.0	424.0	405.0
14	---	1750.0	1190.0	788.0	---	2510.0	---	3660.0	6290.0	2720.0	359.0	368.0
15	---	1640.0	1010.0	835.0	1300.0	2570.0	---	3290.0	6610.0	2210.0	262.0	319.0
16	---	---	1060.0	902.0	3230.0	2810.0	2350.0	2870.0	5900.0	912.0	280.0	411.0
17	---	---	1050.0	804.0	---	2680.0	2380.0	2430.0	5510.0	820.0	315.0	326.0
18	---	---	1250.0	782.0	---	2840.0	2330.0	2580.0	4820.0	664.0	347.0	399.0
19	---	---	1610.0	753.0	---	2490.0	2570.0	2580.0	4640.0	663.0	290.0	359.0
20	---	---	1230.0	739.0	---	2400.0	---	2300.0	4680.0	633.0	280.0	336.0
21	592.0	---	893.0	793.0	---	2820.0	---	3140.0	5780.0	575.0	287.0	575.0
22	575.0	1700.0	952.0	817.0	---	1830.0	---	2450.0	5590.0	497.0	316.0	737.0
23	---	1360.0	1140.0	790.0	---	---	---	2180.0	5760.0	657.0	321.0	723.0
24	---	1170.0	930.0	750.0	10500.0	---	---	2710.0	5080.0	---	293.0	664.0
25	---	1140.0	927.0	880.0	5480.0	---	---	3010.0	4910.0	---	284.0	807.0
26	---	1150.0	789.0	767.0	3440.0	---	---	2950.0	4810.0	---	263.0	585.0
27	---	1150.0	785.0	772.0	3770.0	---	---	2870.0	4630.0	---	256.0	514.0
28	---	1070.0	750.0	744.0	3920.0	---	---	4280.0	3890.0	---	330.0	431.0
29	---	1090.0	777.0	634.0	---	---	---	7140.0	3330.0	---	297.0	509.0
30	---	1080.0	735.0	703.0	---	1770.0	---	12300.0	3220.0	---	354.0	377.0
31	---	---	749.0	771.0	---	1660.0	---	10100.0	---	---	1130.0	---

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK

LOCATION.--Lat 36°48'31", long 97°16'39", in NE¼NW¼ sec.23, T.27 N., R.1 W., Kay County, Hydrologic Unit 11060005, near right bank on downstream side of pier of St. Louis-San Francisco Railway Co. bridge at northeast edge of Blackwell, 0.2 mi (0.3 km) downstream from Bitter Creek, and at mile 28.2 (45.4 km).

DRAINAGE AREA.--1,859 mi² (4,815 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 967.41 ft (29.487 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). See WSP 1921 for history of changes prior to April, 1952.

REMARKS.--Records fair. Some regulation at low flow by Lake Blackwell, capacity, 3,600 acre-ft (4.44 hm³) 12.6 mi (20.3 km) above station. Small diversion made from reservoir for municipal supply of city of Blackwell.

AVERAGE DISCHARGE.--43 years, 482 ft³/s (13.65 m³/s), 349,200 acre-ft/yr (431 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85,000 ft³/s (2,410 m³/s), June 22, 1942, gage height, 53.3 ft (10.15 m), from floodmark, present site and datum; no flow at times in 1954, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1923 reached a stage of about 34 ft (10.4 m), present site and datum, from information by local residents, discharge 100,000 ft³/s (2,830 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,700 ft³/s (246 m³/s) at 1600 May 19, gage height, 24.88 ft (7.583 m), no other peaks above base of 8,000 ft³/s (227 m³/s); minimum, 7.6 ft³/s (0.22 m³/s) Sept. 7.

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	208	221	172	150	122	598	180	199	1460	165	8.2	58
2	186	464	171	126	145	497	182	638	7360	140	11	43
3	179	841	171	73	127	423	360	649	3590	136	17	40
4	181	307	171	90	101	319	874	411	1210	130	22	41
5	184	240	171	148	96	345	344	332	855	126	22	33
6	178	218	169	168	109	425	685	519	701	135	20	16
7	196	186	150	161	111	459	679	756	844	3040	26	27
8	208	215	153	148	132	425	340	461	658	4050	38	33
9	217	2080	150	145	83	344	254	390	485	531	36	24
10	199	1480	115	96	57	318	235	322	410	240	32	15
11	337	578	101	134	60	307	233	260	367	175	34	8.9
12	378	363	125	80	409	302	239	233	350	140	38	8.4
13	361	290	221	134	1340	310	240	208	325	141	37	8.5
14	362	260	217	166	825	282	244	186	273	1580	38	8.5
15	358	245	192	124	527	293	225	169	258	364	34	8.2
16	349	233	181	140	388	288	220	149	244	170	28	8.0
17	348	224	177	158	328	272	223	140	230	120	18	1760
18	342	211	165	144	276	261	218	1610	292	94	16	1560
19	340	202	161	136	250	248	204	7680	832	82	19	742
20	356	200	153	135	205	239	204	3800	409	70	15	284
21	358	189	145	125	203	223	194	910	440	57	13	714
22	405	186	120	132	201	196	188	594	2500	53	14	527
23	549	184	122	128	249	206	180	472	1510	51	13	258
24	227	181	165	130	1710	269	171	438	550	41	12	167
25	202	178	161	127	4740	350	167	385	376	38	10	245
26	189	176	147	171	3470	318	155	337	295	38	14	1300
27	180	174	129	139	1520	251	128	910	244	25	20	581
28	185	173	121	141	850	225	122	3900	218	8.5	468	225
29	190	173	135	133	---	206	122	1910	204	8.4	471	149
30	200	173	164	112	---	190	130	988	180	8.2	169	105
31	216	---	155	122	---	186	---	662	---	8.2	95	---
TOTAL	8368	10847	4850	4116	18638	9575	7980	30618	27670	11965.3	1808.2	8997.5
MEAN	270	362	156	133	666	309	266	988	922	386	58.3	300
MAX	549	2080	221	171	4740	598	874	7680	7360	4050	471	1760
MIN	178	173	101	73	57	186	122	140	180	8.2	8.2	8.0
AC-FT	16600	21520	9620	8160	36970	18990	15830	60730	54880	23730	3590	17850
CAL YR 1977	TOTAL	176282.2	MEAN 483	MAX 11800	MIN 6.9	AC-FT 349700						
WTR YR 1978	TOTAL	145433.0	MEAN 398	MAX 7680	MIN 8.0	AC-FT 288500						

ARKANSAS RIVER BASIN

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952-63, 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, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCTANCE (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)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL)
OCT										
19...	1030	337	1100	8.3	13.5	12	10.5	103	14	--
NOV										
03...	0915	841	695	7.6	12.5	210	9.0	86	--	100
DEC										
08...	0850	140	1200	8.3	3.5	9	11.8	92	12	--
JAN										
26...	1015	190	120	8.3	.0	3	17.0	120	5	--
FEB										
14...	0945	857	650	8.0	.5	86	13.6	97	39	--
MAR										
13...	1645	312	1000	8.4	8.5	1	11.8	105	10	--
APR										
11...	1000	262	920	8.2	16.0	40	9.6	100	19	--
MAY										
08...	1830	441	900	8.0	17.0	70	9.0	97	--	30
JUN										
19...	1700	569	742	8.3	25.5	42	8.1	108	17	--
JUL										
06...	1530	135	1500	7.9	30.0	25	7.6	103	16	--
AUG										
07...	1545	38	1680	8.1	28.5	4	9.9	130	18	--
SEP										
17...	1145	1140	900	7.5	25.5	710	5.7	70	--	130

DATE	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)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT										
19...	367	100	250	28	80	3.5	107	143	.4	723
NOV										
03...	--	--	--	--	--	--	71	70	--	--
DEC										
08...	370	100	250	29	67	2.7	122	165	.4	--
JAN										
26...	--	--	--	--	--	--	169	210	.3	--
FEB										
14...	212	44	132	16	45	8.0	28	79	.2	--
MAR										
13...	--	--	--	--	--	--	115	131	.2	--
APR										
11...	275	86	216	12	55	4.9	107	114	.2	--
MAY										
08...	--	--	--	--	--	--	97	106	.2	--
JUN										
19...	256	63	158	24	46	4.9	74	92	.2	--
JUL										
06...	--	--	--	--	--	--	104	168	.2	--
AUG										
07...	629	180	450	43	133	6.1	179	315	.3	--
SEP										
17...	--	--	--	--	--	--	58	136	.1	--

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO ₂ +NO ₃ 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 NO ₃)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 19...	--	.40	1.7	2.1	9.6	.11	--	--	--	--
NOV 03...	1389	.50	5.1	5.6	25	.59	--	--	--	--
DEC 08...	14	.80	1.3	2.1	9.5	.08	--	--	--	--
JAN 26...	4	1.4	1.5	2.9	13	4.6	--	--	--	--
FEB 14...	177	1.7	2.4	4.1	18	.36	3	1	29	9
MAR 13...	31	1.4	1.5	2.9	13	.11	--	--	--	--
APR 11...	87	.60	1.7	2.3	10	.24	--	--	--	--
MAY 08...	235	.70	2.1	2.8	13	.27	--	--	--	--
JUN 19...	97	.10	1.8	1.9	8.8	.20	--	--	--	--
JUL 06...	62	.30	1.8	2.1	9.3	.11	--	--	--	--
AUG 07...	33	.10	1.2	1.3	5.9	.17	2	3	10	15
SEP 17...	2671	.10	5.2	5.3	24	.95	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

07152260 SALT FORK ARKANSAS RIVER NEAR WHITE EAGLE, OK

LOCATION.--Lat 36°34'41", long 97°04'36", on west line NE¼ sec.10, T.24 N., R.2 E., Noble County, Hydrologic Unit 11060004, at bridge on U. S. Highway 177, 2 mi (3.2 km) south of White Eagle, and at mile 2.7 (4.3 km).

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	SPE- CIFIC CON- DUCT- ANCE (MICRO- MH/CM)	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)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS Ca)	CALCIUM DIS- SOLVED (MG/L AS CaCO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS Mg)	
OCT 18...	1410	2400	8.6	18.5	--	16.2	178	--	--	--	--	--	
NOV 02...	1445	2450	8.4	12.0	--	10.5	101	--	--	--	--	--	
DEC 07...	1415	3600	8.4	3.0	--	14.2	108	--	--	--	--	--	
JAN 25...	1430	3300	8.6	.0	2	14.3	102	11	--	--	--	--	
FEB 13...	1630	450	8.0	.5	175	12.6	91	88	133	48	88	19	
MAR 13...	1415	3000	8.6	11.0	1	12.4	117	21	--	--	--	--	
APR 10...	1900	2550	8.3	16.5	64	8.7	92	42	361	92	232	30	
MAY 08...	1530	2400	8.1	19.5	68	8.5	96	40	--	--	--	--	
JUN 20...	1415	2270	8.3	25.5	120	6.7	84	38	302	73	183	29	
JUL 06...	0900	3800	8.2	26.0	47	6.6	82	29	--	--	--	--	
AUG 08...	0945	1900	8.4	25.5	18	--	--	26	328	86	215	27	
SEP 16...	1730	475	8.8	31.5	18	15.5	209	44	--	--	--	--	
DATE		SODIUM, TOTAL RECOV- ERABLE (MG/L AS Na)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
OCT 18...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 02...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC 07...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 25...	--	--	--	259	710	.3	4	.50	1.8	2.3	10	.12	--
FEB 13...	115	19	41	188	.1	880	.90	4.2	5.1	23	.90	7	
MAR 13...	--	--	196	596	.2	58	.70	1.8	2.5	11	.19	--	--
APR 10...	230	14	199	535	.2	397	.40	3.1	3.5	16	.64	--	--
MAY 08...	--	--	194	451	.2	458	.50	3.1	3.6	16	.41	--	--
JUN 20...	320	7.6	155	347	.2	370	.20	1.2	1.4	6.3	.52	--	--
JUL 06...	--	--	254	931	.3	105	.10	1.8	1.9	8.4	.13	--	--
AUG 08...	260	6.5	137	460	.3	90	.40	1.9	2.3	11	.32	5	
SEP 16...	--	--	222	1105	.4	411	.20	3.2	3.4	15	.27	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OK

LOCATION.--Lat 36°30'09", long 96°43'22", in NW¼ sec.1, T.23 N., R.5 E., Osage County, Hydrologic Unit 11060006, near left bank on downstream side of pier of bridge on State Highway 18 at Ralston, 2 mi (3.2 km) downstream from Salt Creek, 2 mi (3.2 km) upstream from Grayhorse Creek, and at mile 594.0 (955.7 km).

DRAINAGE AREA.--54,465 mi² (141,064 km²), of which 7,615 mi² (19,723 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 776.70 ft (236.738 m) National Geodetic Vertical Datum of 1929. Oct. 1, 1925, to Nov. 13, 1935, nonrecording gage at site of former highway bridge 1,200 ft (366 m) downstream at same datum. Nov. 14, 1935, to Feb. 23, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good except for January and February which are poor. Flow regulated since April 1976 by Kaw Lake (station 07148130) 59.7 mi (96.1 km) upstream; some regulation by Great Salt Plains Lake (station 07150000) since 1941.

AVERAGE DISCHARGE.--50 years (water years 1926-75), 4,826 ft³/s (136.7 m³/s), 3,496,000 acre-ft/yr (4.31 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 211,000 ft³/s (5,980 m³/s) Oct. 13, 1973, gage height, 22.98 ft (7.004 m); minimum, 14 ft³/s (0.40 m³/s) Oct. 12, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 11, 1923, reached a stage of 23.8 ft (7.25 m), referred to outside gage on basis of stages observed in 1923 and 1944 at site 1,200 ft (366 m) downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,900 ft³/s (479 m³/s) May 30, gage height, 8.14 ft (2.481 m); minimum daily, 52 ft³/s (1.47 m³/s) 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	4940	1970	1860	1440	800	13100	4120	2570	8290	3060	588	498
2	4740	2170	1780	1530	1200	12400	3890	2640	8730	2940	570	415
3	4630	2710	1730	1540	1350	11600	3910	3670	10700	2870	518	408
4	4580	2420	1700	1400	1350	11000	4330	3740	13800	2750	604	385
5	3820	3630	1690	1400	1350	10800	5000	3320	10400	2700	565	383
6	2570	3440	1640	1360	1350	10500	6320	4000	9430	2460	502	348
7	2410	3330	1620	1400	1350	8350	5450	6200	9060	1850	505	331
8	2280	3400	1600	1460	1350	5170	5320	7870	8560	1810	500	296
9	2200	4240	1630	1450	1350	4900	5100	6280	8560	3760	449	294
10	2160	4700	1620	1490	1350	4900	5010	5810	7640	4010	432	265
11	2120	7230	1510	1370	1350	5240	5910	5680	6550	2170	436	255
12	2090	8370	1450	1350	5400	5240	7650	5550	6000	1140	393	258
13	2200	7920	1490	1350	9540	5210	7480	5280	5670	831	373	272
14	2740	7660	1490	1350	11000	5130	7330	5120	5360	813	358	231
15	2720	7230	1530	1200	11400	5110	6200	4990	5000	1390	357	159
16	2730	7290	1320	1000	7710	5100	4340	4660	4730	3090	341	115
17	2710	6000	1190	800	6490	5090	4190	3510	4500	2100	328	81
18	2650	3680	1150	800	5970	5110	3810	5200	4430	1540	322	52
19	2650	2800	1120	800	5590	5080	3100	5920	4360	876	315	70
20	2540	2630	1110	800	5230	5080	3140	7410	4570	705	313	1050
21	1810	2530	1140	800	5160	5000	3710	11800	7030	1140	305	1010
22	1650	2600	1430	800	5020	5020	3730	8360	6890	1350	294	616
23	1770	2570	1450	800	5050	4620	3470	6830	7030	1420	280	480
24	1820	2490	1460	800	5190	3570	2790	6290	8040	1390	267	682
25	1880	2410	1470	800	5990	3590	2660	7120	6400	1370	266	522
26	1670	2360	1470	800	10300	4710	2620	9150	5590	1400	268	424
27	1570	2310	1490	800	11500	5020	2590	9330	4830	1300	262	376
28	1530	2270	1480	800	10700	5420	2270	11600	3220	803	266	635
29	1550	2240	1480	800	---	6970	2240	14700	3310	691	303	1310
30	1890	2170	1480	800	---	6840	2240	15800	3050	624	306	1380
31	1970	---	1470	800	---	4590	---	11200	---	606	515	---
TOTAL	78590	116770	46050	34090	141390	199460	129920	211600	201730	54959	12101	13571
MEAN	2535	3692	1485	1100	5050	6434	4331	6826	6724	1773	390	492
MAX	4940	8370	1860	1540	11500	13100	7650	15800	13800	4010	604	1380
MIN	1530	1970	1110	800	800	3570	2240	2570	3050	606	262	52
AC-FT	155900	231600	91340	67620	280400	395600	257700	419700	400100	109000	24000	26920

CAL YR 1977 TOTAL 1621440 MEAN 4442 MAX 28800 MIN 250 AC-FT 3216000
WTR YR 1978 TOTAL 1240231 MEAN 3398 MAX 15800 MIN 52 AC-FT 2460000

ARKANSAS RIVER BASIN

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07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1950 to September 1963, July 1968 to current year.

WATER TEMPERATURE: January 1950 to September 1963, July 1968 to current year.

INSTRUMENTATION.--Water quality monitor since July 1968.

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 calculated from specific conductance values.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 7,510 micromhos Sept. 14, 1955; minimum, 200 micromhos Aug. 16, 1974.

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

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,110 micromhos Jan. 28; minimum daily, 269 micromhos Feb. 13.

WATER TEMPERATURE: Maximum daily, 31.5°C Aug. 7; minimum, -0.5°C on many days during winter months.

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, DEMAND, SOLVED CHEM- ICAL CENT SATUR- ATION (MG/L)	CULI- FURN, FECAL, 0.7 UM-HF (COLS./ 100 ML)	STREP- TUOCOCCI FFCAL, KF AGAR (COLS. PER 100 ML)
OCT											
05...	0730	4495	981	8.1	17.5	--	--	--	--	--	--
05...	1400	3750	--	--	20.0	--	--	--	--	--	--
15...	0730	2681	970	8.1	15.0	--	--	--	--	--	--
18...	1320	2647	930	8.6	16.5	17	--	11.2	117	21	--
25...	0730	1912	1280	8.2	17.0	--	--	--	--	--	--
NOV											
02...	1240	2256	1125	8.3	12.0	16	--	11.2	108	16	--
06...	0830	3340	924	8.2	16.0	--	--	--	--	--	--
09...	1215	4280	--	--	10.5	--	--	--	--	--	--
16...	0730	7290	962	8.2	13.0	--	--	--	--	--	--
26...	0730	2358	1340	8.4	5.5	--	--	--	--	--	--
DEC											
05...	0730	1710	1340	8.5	7.5	--	--	--	--	--	--
07...	1215	1650	1500	8.3	1.5	9	--	12.8	93	17	--
07...	1530	1600	--	--	--	--	--	--	--	--	--
15...	0730	1545	1420	8.4	6.5	--	--	--	--	--	--
25...	0900	1474	1430	8.0	3.0	--	--	--	--	--	--
JAN											
05...	0730	1409	1340	8.5	3.5	--	--	--	--	--	--
10...	1430	1350	1590	8.1	.0	8	--	15.0	103	--	K5
15...	0930	1200	1330	8.4	.0	--	--	--	--	--	K3
25...	0730	800	1860	8.2	.0	--	--	--	--	--	--
FEB											
03...	1000	1350	2000	8.3	.0	4	--	12.6	87	--	K8
03...	1545	--	15000	--	--	--	--	--	--	--	--
05...	0930	1350	1900	8.5	.0	--	--	--	--	--	--
15...	0730	11400	1080	8.1	.0	--	--	--	--	--	--
25...	1430	6410	1510	7.8	5.5	--	--	--	--	--	--
MAR											
03...	1200	11580	1100	8.5	1.5	40	--	12.3	89	--	120
05...	1000	10900	1220	7.8	1.5	--	--	--	--	--	--
09...	1215	5010	--	--	5.5	--	--	--	--	--	--
15...	0730	5088	1360	8.3	7.0	--	--	--	--	--	--
25...	0730	3480	1420	8.2	4.5	--	--	--	--	--	--
APR											
05...	0730	4010	1210	7.9	16.5	--	--	--	--	--	--
06...	1230	6350	--	--	--	--	--	--	--	--	--
12...	1200	7696	1200	8.4	14.5	85	--	9.8	98	--	260
15...	0730	7166	1160	8.2	17.0	--	--	--	--	--	240
25...	0730	2681	1380	8.1	14.5	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, 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, SATUR- ATION	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAY												
05...	0730	3380	1220	7.5	12.0	--	--	--	--	--	--	--
11...	0900	5752	1180	8.0	19.0	40	--	8.9	99	--	K6000	250
15...	0730	5034	1500	8.1	19.5	--	--	--	--	--	--	--
25...	0730	6006	1160	7.8	23.5	--	--	--	--	--	--	--
JUN												
05...	1245	10130	1560	7.8	21.0	--	--	--	--	--	--	--
07...	1240	9070	--	--	--	--	--	--	--	--	--	--
15...	0730	5034	1700	7.7	24.0	--	--	--	--	--	--	--
22...	1600	6410	916	7.6	24.5	--	100	8.6	105	--	220	84
25...	0730	6650	994	7.6	26.0	--	--	--	--	--	--	--
JUL												
05...	0730	2715	1280	7.9	28.0	--	--	--	--	--	--	--
15...	0730	1370	1740	7.5	27.0	--	--	--	--	--	--	--
19...	1500	831	1080	8.4	31.0	--	35	8.6	118	--	K6400	9200
25...	0830	1370	1050	7.9	27.0	--	--	--	--	--	--	--
AUG												
05...	0730	606	1230	7.9	20.5	--	--	--	--	--	--	--
10...	1430	418	1550	8.3	25.0	--	8.4	8.8	107	--	430	510
15...	0730	353	1560	7.7	25.0	--	--	--	--	--	--	--
25...	0730	266	1570	8.2	25.5	--	--	--	--	--	--	--
SEP												
05...	0730	365	1770	7.8	25.0	--	--	--	--	--	--	--
14...	0730	230	1520	7.6	24.0	--	--	--	--	--	--	--
19...	1600	36	1850	8.2	28.0	--	4.0	7.8	101	--	91	170
25...	0730	543	908	7.7	23.0	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS Ca)	CALCIUM DIS- SOLVED (MG/L AS Ca)	CALCIUM DIS- SOLVED (MG/L AS CaCO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS Mg)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, 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)
UCT												
05...	170	66	--	51	--	--	11	120	59	4.0	5.8	130
05...	--	--	--	--	--	--	--	--	--	--	--	--
15...	190	64	--	55	--	--	12	130	59	4.1	5.9	150
18...	--	--	--	--	--	--	--	--	--	--	--	--
25...	240	87	--	71	--	--	16	170	60	4.7	5.6	190
NOV												
02...	--	--	34	--	85	13	--	--	--	--	--	--
06...	200	65	--	62	--	--	12	99	50	3.0	5.6	170
09...	--	--	--	--	--	--	--	--	--	--	--	--
16...	200	56	--	57	--	--	13	110	54	3.4	5.9	170
26...	250	40	--	72	--	--	16	170	59	4.7	5.9	190
DEC												
05...	260	110	--	76	--	--	18	180	59	4.8	5.7	190
07...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	280	99	--	80	--	--	19	190	59	5.0	5.7	210
25...	280	120	--	82	--	--	19	190	59	4.9	5.7	200
JAN												
05...	290	110	--	83	--	--	20	170	56	4.3	5.5	220
10...	320	120	--	92	--	--	21	210	59	5.1	5.9	240
15...	290	110	--	83	--	--	20	170	55	4.3	5.7	220
25...	350	150	--	100	--	--	25	250	60	5.8	5.4	250
FEB												
03...	380	150	--	110	--	--	25	250	59	5.6	5.5	280
03...	--	--	--	--	--	--	--	--	--	--	--	--
05...	350	110	--	110	--	--	18	260	61	6.1	5.3	270
15...	220	85	--	62	--	--	15	130	56	3.8	5.7	160
25...	240	97	--	70	--	--	17	210	65	5.8	5.1	180
MAR												
03...	260	94	--	77	--	--	16	130	52	3.5	5.6	200
05...	260	82	--	77	--	--	17	150	55	4.0	6.3	220
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	270	99	--	79	--	--	18	170	57	4.5	5.9	210
25...	280	100	--	79	--	--	19	180	58	4.7	5.6	210
APR												
05...	240	92	--	68	--	--	17	150	57	4.2	6.2	180
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	240	88	--	68	--	--	16	140	56	4.0	5.8	180
15...	240	95	--	69	--	--	17	150	57	4.2	6.7	180
25...	260	98	--	72	--	--	20	180	59	4.8	7.0	200
MAY												
05...	280	120	--	79	--	--	21	150	53	3.9	5.2	200
11...	250	0	--	72	--	--	16	160	58	4.4	5.5	350
15...	260	96	--	73	--	--	19	210	63	5.7	5.3	200
25...	230	77	--	67	--	--	16	150	58	4.3	5.4	190
JUN												
05...	240	100	--	68	--	--	16	200	64	5.7	6.0	160
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	270	110	--	80	--	--	17	220	63	5.8	5.8	190
22...	200	74	--	62	--	--	12	110	53	3.4	4.9	--
25...	200	65	--	57	--	--	13	120	56	3.7	5.6	160
JUL												
05...	240	93	--	70	--	--	16	170	60	4.8	5.8	180
15...	270	120	--	77	--	--	20	260	67	6.8	6.9	190
19...	230	84	--	69	--	--	15	140	56	4.0	6.5	--
25...	230	83	--	66	--	--	16	130	54	3.7	5.9	180
AUG												
05...	240	88	--	68	--	--	16	150	57	4.3	5.2	180
10...	230	68	--	65	--	--	16	190	64	5.5	6.0	--
15...	300	120	--	87	--	--	20	190	57	4.8	6.4	220
25...	260	92	--	73	--	--	20	210	63	5.6	6.4	210
SEP												
05...	260	100	--	71	--	--	20	260	68	7.0	6.7	190
14...	280	120	--	76	--	--	21	200	60	5.2	6.6	190
19...	290	120	--	85	--	--	20	230	62	5.8	6.2	--
25...	160	65	--	44	--	--	11	110	60	3.8	5.2	110

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CAP- BONATE (MG/L AS CO3)	ALKA- LINEITY (MG/L AS CO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	FLUOR- IDE, DIS- SOLVED (MG/L AS F)	FLUOR- IDE, 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, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS AC=FT)
OCT												
05...	0	110	1.7	66	190	--	--	--	524	--	--	.71
05...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	120	1.9	59	190	--	--	--	537	--	--	.73
18...	--	--	--	--	--	.3	--	--	--	575	--	--
25...	0	160	1.9	83	260	--	--	--	718	--	--	.98
NOV												
02...	--	--	--	--	--	.4	--	--	--	--	--	--
06...	0	140	1.7	77	140	--	--	--	511	--	--	.70
09...	--	--	--	--	--	--	--	--	--	--	--	--
16...	0	140	1.7	61	160	--	--	--	528	--	--	.72
26...	0	160	1.2	87	250	--	--	--	742	--	--	1.01
DEC												
05...	0	160	1.0	93	310	--	--	--	754	--	--	1.03
07...	--	--	--	--	--	.4	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	4	180	1.4	99	280	--	--	--	786	--	--	1.07
25...	0	160	1.3	110	290	--	--	--	803	--	--	1.09
JAN												
05...	1	180	1.1	96	260	--	--	--	747	--	--	1.02
10...	0	200	3.1	110	320	--	.3	9.4	908	--	887	1.23
15...	1	180	1.4	84	300	--	--	--	742	--	--	1.01
25...	0	210	2.5	120	390	--	--	--	1040	--	--	1.41
FEB												
03...	0	230	2.2	130	390	--	.4	8.3	1070	--	1060	1.46
03...	--	--	--	--	--	--	--	--	--	--	--	--
05...	8	230	1.4	130	390	--	--	--	1050	--	--	1.43
15...	0	130	2.0	76	210	--	--	--	592	--	--	.81
25...	0	150	4.6	84	330	--	--	--	818	--	--	1.11
MAR												
03...	0	160	1.0	71	210	--	.3	8.3	619	--	617	.84
05...	0	180	5.6	81	230	--	--	--	685	--	--	.93
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	170	1.7	96	270	--	--	--	764	--	--	1.04
25...	0	170	2.1	99	290	--	--	--	792	--	--	1.08
APR												
05...	0	150	3.6	85	230	--	--	--	664	--	--	.90
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	0	150	1.1	78	230	--	.3	7.1	635	--	634	.86
15...	0	150	1.8	81	220	--	--	--	639	--	--	.87
25...	0	160	2.5	98	280	--	--	--	766	--	--	1.04
MAY												
05...	0	160	10	98	220	--	--	--	695	--	--	.95
11...	0	290	5.6	80	250	--	.3	4.3	680	--	761	.92
15...	0	160	2.5	99	320	--	--	--	821	--	--	1.12
25...	0	160	4.8	78	220	--	--	--	635	--	--	.86
JUN												
05...	0	130	4.1	110	300	--	--	--	889	--	--	1.21
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	160	6.1	130	320	--	--	--	941	--	--	1.28
22...	--	130	--	67	170	--	.3	7.4	490	--	512	.67
25...	0	130	6.4	74	180	--	--	--	559	--	--	.76
JUL												
05...	0	150	3.6	90	260	--	--	--	716	--	--	.97
15...	0	160	9.6	120	400	--	--	--	978	--	--	1.33
19...	--	150	--	76	210	--	.3	8.6	621	--	616	.84
25...	0	150	3.6	72	200	--	--	--	589	--	--	.80
AUG												
05...	0	150	3.6	93	240	--	--	--	690	--	--	.94
10...	--	160	--	96	290	--	.4	6.3	735	--	766	1.00
15...	0	180	7.0	97	320	--	--	--	869	--	--	1.18
25...	0	170	2.1	93	340	--	--	--	882	--	--	1.20
SEP												
05...	0	160	4.8	130	400	--	--	--	982	--	--	1.34
14...	0	160	7.6	100	320	--	--	--	850	--	--	1.16
19...	--	170	--	120	380	--	.4	7.2	984	--	951	1.34
25...	0	90	3.5	53	180	--	--	--	501	--	--	.68

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, DTS- 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 TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + OXG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DTS. (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)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT												
05...	6360	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--	--	--
15...	3890	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	.60	--	--	1.8	--	--	2.4	11	.22	--
25...	3710	--	--	--	--	--	--	--	--	--	--	--
NOV												
02...	--	49	.60	--	--	2.3	--	--	2.9	13	.29	--
06...	4610	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
16...	10400	--	--	--	--	--	--	--	--	--	--	--
26...	4720	--	--	--	--	--	--	--	--	--	--	--
DEC												
05...	3480	--	--	--	--	--	--	--	--	--	--	--
07...	--	11	.80	--	--	1.7	--	--	2.5	11	.23	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	3280	--	--	--	--	--	--	--	--	--	--	--
25...	3200	--	--	--	--	--	--	--	--	--	--	--
JAN												
05...	2840	--	--	--	--	--	--	--	--	--	--	--
10...	3310	--	.76	.09	.08	.17	.00	.37	.93	4.1	.24	.21
15...	2400	--	--	--	--	--	--	--	--	--	--	--
25...	2250	--	--	--	--	--	--	--	--	--	--	--
FEB												
03...	3900	--	.76	.51	.59	1.1	.34	.76	1.9	8.2	.31	.24
03...	--	--	--	--	--	--	--	--	--	--	--	--
05...	3830	--	--	--	--	--	--	--	--	--	--	--
15...	18200	--	--	--	--	--	--	--	--	--	--	--
25...	14200	--	--	--	--	--	--	--	--	--	--	--
MAR												
03...	19400	--	.86	.26	.70	.96	.28	.68	1.8	8.1	.35	.28
05...	20200	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	10500	--	--	--	--	--	--	--	--	--	--	--
25...	7440	--	--	--	--	--	--	--	--	--	--	--
APR												
05...	7190	--	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
12...	13200	--	1.4	.20	.90	1.1	.53	.57	2.5	11	.35	.18
15...	12400	--	--	--	--	--	--	--	--	--	--	--
25...	5550	--	--	--	--	--	--	--	--	--	--	--
MAY												
05...	6340	--	--	--	--	--	--	--	--	--	--	--
11...	10600	--	.81	.01	.86	.87	.48	.39	1.7	7.4	.22	.11
15...	11200	--	--	--	--	--	--	--	--	--	--	--
25...	10300	--	--	--	--	--	--	--	--	--	--	--
JUN												
05...	24300	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	12800	--	--	--	--	--	--	--	--	--	--	--
22...	8480	--	.67	.03	.97	1.0	.01	.99	1.7	7.4	.27	.14
25...	10000	--	--	--	--	--	--	--	--	--	--	--
JUL												
05...	5250	--	--	--	--	--	--	--	--	--	--	--
15...	3620	--	--	--	--	--	--	--	--	--	--	--
19...	1390	--	.34	.04	.78	.82	.00	.86	1.2	5.1	.20	.11
25...	2180	--	--	--	--	--	--	--	--	--	--	--
AUG												
05...	1130	--	--	--	--	--	--	--	--	--	--	--
10...	830	--	.02	.02	1.6	1.6	1.1	.49	1.6	7.2	.16	.08
15...	828	--	--	--	--	--	--	--	--	--	--	--
25...	633	--	--	--	--	--	--	--	--	--	--	--
SEP												
05...	968	--	--	--	--	--	--	--	--	--	--	--
14...	528	--	--	--	--	--	--	--	--	--	--	--
19...	95	--	.00	.03	.69	.72	.29	.43	.69	3.2	.24	.14
25...	739	--	--	--	--	--	--	--	--	--	--	--

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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ARKANSAS RIVER BASIN

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07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE D RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, SUS- PENDE D RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, SUS- PENDE D RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE D RECOV- ERABLE (UG/L AS AG)
OCT											
05...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
NOV											
02...	60	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
DEC											
07...	--	--	--	--	--	--	--	--	--	--	--
JAN											
10...	--	--	--	--	--	--	--	--	--	--	--
FEB											
03...	50	30	20	.0	.0	.0	1	0	1	0	0
MAR											
03...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
APR											
06...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
MAY											
11...	100	100	0	.0	.0	.0	0	0	0	0	0
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
19...	--	--	--	--	--	--	--	--	--	--	--
AUG											
10...	200	190	10	.0	.0	.0	1	0	1	0	0
SEP											
19...	--	--	--	--	--	--	--	--	--	--	--

DATE	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE D RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARRON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARRON, ORGANIC SUS- PENDE D RECOV- ERABLE (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE D RECOV- ERABLE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE D RECOV- ERABLE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT											
05...	--	--	--	--	--	--	--	--	110	1110	--
18...	--	--	--	--	4.0	--	--	--	--	--	--
NOV											
02...	--	--	--	--	4.0	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	600	6930	--	--
DEC											
07...	--	--	--	--	--	--	--	60	259	--	--
JAN											
10...	--	--	--	--	3.8	--	--	63	230	68	--
FEB											
03...	0	280	0	450	--	3.8	.7	38	139	98	--
MAR											
03...	--	--	--	--	--	--	--	1800	131	4100	92
09...	--	--	--	--	--	--	--	--	130	1760	--
APR											
06...	--	--	--	--	--	--	--	1380	23700	--	--
12...	--	--	--	--	7.1	--	--	333	6920	69	--
MAY											
11...	0	30	20	10	--	6.9	--	22000	138	2140	90
JUN											
07...	--	--	--	--	--	--	--	480	11800	--	--
22...	--	--	--	--	7.8	--	--	228	3950	95	--
JUL											
19...	--	--	--	--	4.6	--	--	71	159	86	--
AUG											
10...	0	20	20	<3	--	--	--	23000	39	44	96
SEP											
19...	--	--	--	--	5.2	--	--	1200	45	4.4	89

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	MAR 3,78 1200	MAY 11,78 0900	JUN 22,78 1600	AUG 10,78 1430	SEP 19,78 1600
TOTAL CELLS/ML	1800	15000	570	23000	1200
DIVERSITY: DIVISION	0.8	1.5	1.2	1.5	0.3
..CLASS	0.8	1.5	1.2	1.5	0.3
..ORDER	1.4	2.0	1.8	1.9	1.0
...FAMILY	1.7	2.7	3.0	2.6	1.0
....GENUS	1.9	3.2	3.7	3.1	1.4

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										
....CHLORACIACEAE										
....SCHWABERIA	--	--	--	--	--		360	2	--	--
....COELASTRACEAE										
....COELASTRUM	--	--	1800	12	100#	18	--	--	--	--
....HYDRODICTYACEAE										
....PEDIASTRUM	--	--	--	--	20	4	810	3	--	--
....MICRACIINIACEAE										
....GOLENKINIA	--	--	--	--	--		*	0	--	--
....MICRACIINIUM	--	--	370	2	16	3	360	2	--	--
....OOCYSTACEAE										
....ANKISTRUESMUS	52	3	140	1	7	1	900	4	*	0
....CHODATELLA	--	--	--	--	*	0	--	--	*	0
....DICTYOSPHAERIUM	--	--	550	4	16	3	360	2	--	--
....KIRCHNERIFLLA	--	--	230	1	--		630	3	16	1
....OOCYSTIS	--	--	730	5	16	3	360	2	--	--
....TETRAEDRON	--	--	--	--	*	0	180	1	--	--
....TREPARIARIA	--	--	--	--	--		--	--	*	0
....SCENEDESMACEAE										
....ACTINASTRUM	--	--	180	1	23	4	--	--	--	--
....CRUCIGENIA	--	--	550	4	--		360	2	6	1
....SCENEDESMUS	--	--	920	6	160#	27	3600#	15	15	1
....TETRASTRUM	--	--	730	5	24	4	--	--	--	--
....CLADOPHYALES										
....CLADOPHYACEAE										
....CLADOPHYA	--	--	--	--	42	7	--	--	--	--
....TETRASPORALES										
....PALMELLACEAE										
....SPHAEROCYSTIS	--	--	--	--	5	1	--	--	--	--
....TETRASPORACEAE										
....TETRASPORA	--	--	--	--	--		1100	5	7	1
....VULVOCALES										
....CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	--	--	--	--		360	2	--	--
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCACEAE										
....COSCINODISCUS										
....CYCLOTILLA	1100#	63	2700#	18	20	4	3800#	16	*	0
....HELOSIRA	87	5	--	--	*	0	630	3	--	--
....STEPHANODISCUS	--	--	--	--	*	0	--	--	--	--
...PENNALES										
....ACHNANTHACEAE										
....ACHNANTHES	--	--	--	--	*	0	--	--	--	--
....FRAGILARIACEAE										
....SYNEDRA	--	--	140	1	--		--	--	--	--
....GOMPHONEMACEAE										
....GOMPHONEMA	100	6	*	0	--		--	--	--	--
....NAVICULACEAE										
....NAVICULA	190	10	92	1	*	0	360	2	--	--
....NITZSCHACEAE										
....NANTZSCHIA	--	--	*	0	--		--	--	--	--
....NITZSCHIA	52	3	92	1	5	1	*	0	--	--
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTO,UNADACEAE										
....CRYPTOMONAS	--	--	--	--	23	4	--	--	--	--

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

CONTINUE

ARKANSAS RIVER BASIN

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07152500 ARKANSAS RIVER AT RALSTON, OK--Continued
 PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

(CONTINU

DATE TIME	MAR 3,78 1200		MAY 11,78 0900		JUN 22,78 1600		AUG 10,78 1430		SEP 19,78 1600	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	"	--	"	22	4	8700*	37	100	9
....ANACYSTIS	--	"	4600*	30	16	3	360	2	89	8
...NORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	"	--	"	24	4	--	"	--	"
....NOSTOC	--	"	--	"	15	3	--	"	--	"
...OSCILLATORIACEAE										
....LYNGBYA	--	"	--	"	--	"	--	"	44	4
....OSCILLATORIA	--	"	1400	9	--	"	--	"	860*	75
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	100	0	--	"	4	1	--	"	--	"
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	87	5	--	"	--	"	--	"	--	"

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

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, 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	1010	1250	1290	1360	1950	1150	1250	1340	1380	1360	1530	1480
2	935	1160	1320	1500	2000	1190	1250	1300	1750	1310	1340	1290
3	935	908	1340	1430	1900	1210	1220	1310	1640	1290	1340	1370
4	950	973	1330	1310	1920	1240	1140	1120	1010	1280	1200	2020
5	981	1080	1340	1340	1900	1220	1210	1220	1560	1280	1230	1770
6	1220	924	1380	1360	1940	1280	1100	1150	2030	1270	1340	1420
7	1290	889	1420	1380	1940	1300	994	1090	2090	1380	1700	1350
8	1250	919	1400	1540	1960	1590	1020	1100	2000	1330	1710	1340
9	1240	883	1400	1650	1990	1580	1280	1290	1880	1590	1940	1340
10	1220	925	1330	1560	2060	1560	1310	1320	1610	702	1460	1370
11	1170	1100	1300	1400	2080	1550	1290	1570	1690	794	1300	1380
12	1160	814	1420	1380	1880	1340	1120	1640	1780	1020	1330	1420
13	1160	851	1310	1360	269	1320	1150	1550	1770	1140	1420	1480
14	989	912	1370	1340	997	1310	1140	1510	1640	1260	1500	1520
15	970	935	1420	1330	1080	1360	1160	1500	1700	1740	1560	1520
16	957	962	1610	1560	1210	1260	1320	1510	1510	1440	---	1560
17	942	976	1740	1620	1390	1200	1260	1680	1570	755	1660	1640
18	928	1110	1610	1690	1670	1270	1320	1540	1510	964	1670	1660
19	925	1240	1590	1730	1600	1280	1390	1430	1430	1050	1640	1660
20	930	1310	1640	1600	1580	1390	1460	1210	1410	1280	1660	977
21	967	1580	1720	1660	1710	1520	1330	746	1580	1420	1620	692
22	1250	1580	1880	1780	1780	1480	1480	849	1220	1070	1570	805
23	1250	1560	1590	1650	1630	1210	1520	1080	1170	1030	1540	1020
24	1250	1330	1470	1700	1450	1400	1510	1150	1020	1050	1560	1220
25	1280	1370	1430	1860	1510	1420	1380	1160	994	1050	1570	908
26	1310	1340	1460	1930	1820	1280	1320	1080	1000	1060	1560	1170
27	1260	1280	1510	1970	802	1260	1320	1080	1170	1060	1560	1330
28	1270	1430	2110	2005	1260	1340	1010	1300	---	---	1540	1450
29	1300	1260	1360	2030	---	1080	1420	1110	1730	1280	1520	811
30	1270	1280	1340	2010	---	1100	1400	932	1440	1320	1540	1090
31	1230	---	1330	1970	---	1240	---	1080	---	1320	1760	---

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	24.0	18.0	6.0	.0	.0	2.0	15.0	16.0	23.5	27.0	25.5	22.0
2	20.0	12.0	6.0	.0	.0	2.5	16.0	12.0	21.5	27.0	25.0	23.5
3	18.0	14.0	7.0	.0	.0	.5	16.5	11.0	20.0	29.0	24.5	25.5
4	18.0	14.5	6.0	1.0	.5	.0	16.0	10.5	21.0	28.5	22.5	26.0
5	17.5	16.5	7.5	3.5	.0	1.5	16.5	12.0	21.0	28.0	20.5	25.0
6	18.5	16.0	1.0	3.0	.0	4.0	16.0	13.5	21.0	27.5	24.0	22.0
7	17.5	16.0	.0	5.0	.0	4.5	17.0	15.0	21.5	26.0	31.5	25.0
8	17.0	15.0	4.5	.0	.0	2.5	18.5	15.0	21.5	28.0	25.5	24.5
9	14.5	10.5	.0	.5	.0	2.0	18.5	17.0	21.5	27.5	26.0	25.0
10	16.0	8.0	.0	.5	.0	4.5	15.5	17.0	22.0	27.5	26.5	24.5
11	13.5	9.0	.0	.0	.0	6.5	12.0	18.0	23.0	27.0	24.0	24.0
12	12.0	11.0	4.0	.0	1.0	5.0	13.0	21.0	24.0	27.0	25.0	24.0
13	13.0	11.0	8.0	.0	.0	6.5	14.0	17.0	23.0	27.0	26.5	25.0
14	14.5	12.0	6.0	1.0	.0	7.5	14.0	17.5	23.0	25.0	25.5	24.0
15	15.0	13.5	6.5	.0	.0	7.0	17.0	19.5	24.0	27.0	25.0	25.0
16	14.0	13.0	8.0	1.0	.0	5.0	18.0	18.5	25.0	28.0	---	25.0
17	13.5	12.0	7.0	1.0	.0	5.5	17.0	19.0	25.0	27.0	28.5	25.0
18	14.0	10.5	5.0	1.0	.0	7.0	15.0	19.5	25.0	26.5	24.0	23.5
19	14.5	12.5	5.5	.0	.0	9.5	11.0	21.5	25.0	26.0	22.5	23.5
20	15.0	16.5	3.0	1.0	.0	11.0	10.5	23.0	24.5	26.5	27.0	24.5
21	17.0	8.5	.0	.0	.0	9.0	12.0	20.0	24.0	27.0	25.0	19.0
22	18.5	6.5	.0	.0	.0	10.0	12.5	20.0	21.5	27.0	26.5	17.0
23	18.5	9.0	2.0	.0	3.5	13.5	15.0	22.5	24.0	25.0	25.0	17.0
24	16.0	8.0	5.0	.0	3.0	8.0	16.0	23.5	26.0	25.5	25.0	21.5
25	17.0	8.0	3.0	.0	5.5	4.5	14.5	23.5	26.0	27.0	25.5	23.0
26	20.0	5.5	4.0	.0	3.0	6.5	15.5	22.5	26.0	28.0	25.5	21.0
27	17.0	7.0	.0	.5	2.5	8.0	16.0	21.5	27.0	25.0	26.0	20.5
28	19.0	7.0	3.0	1.0	2.5	10.5	16.0	19.0	27.5	---	23.5	20.5
29	20.5	6.5	3.5	.0	---	11.0	17.0	21.0	28.0	26.0	23.0	21.5
30	18.5	6.0	5.0	.5	---	11.5	18.0	21.0	28.0	26.0	21.0	21.0
31	14.5	---	5.5	.0	---	13.0	---	22.0	---	25.0	21.0	---

ARKANSAS RIVER BASIN

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07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHUS/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	1050	1240	1290	---	1950	1190	1470	1410	1450	1370	1530	1500
2	961	---	1330	---	1970	1170	1490	1290	1700	1300	1550	1290
3	933	1050	1340	---	1890	1200	1480	1260	1560	1260	1370	1230
4	945	1000	1320	---	1930	1180	1160	---	1050	1250	1590	2020
5	983	983	1360	1350	1880	1280	1190	---	1610	1210	1350	1690
6	1220	927	1390	1330	1920	1240	1040	---	1990	1230	1380	1240
7	---	889	1420	1410	1940	1240	1020	---	1960	1330	1720	1350
8	---	901	1400	1550	2010	1640	1070	---	2000	1230	1690	1490
9	---	896	1300	1630	2000	1510	1240	---	1860	1420	1900	1340
10	---	936	1280	1520	2060	1610	1380	---	1610	689	1500	1370
11	1180	1000	1200	1390	2090	1330	1250	1420	1690	851	1330	1470
12	1160	830	1420	1370	1830	1360	1160	1750	1770	1040	1370	---
13	1150	867	1280	1300	408	1290	1150	1540	1750	1180	1270	1510
14	1000	909	1400	1320	939	1310	1130	1500	1630	1360	1520	1560
15	944	949	1430	1330	1170	1320	1190	1480	1700	1410	1560	1640
16	960	958	1580	1570	1210	1210	1350	1500	1530	1010	1660	1600
17	951	981	1780	1640	1510	1160	1360	1650	1570	814	1660	1600
18	930	1120	1620	1680	1470	1420	1320	1450	1510	982	1650	---
19	935	1230	1620	1740	1500	1270	1390	1420	1440	1120	1590	---
20	932	---	1650	1760	1630	1330	1490	1230	1400	1580	1560	1100
21	1000	---	---	1670	1740	1290	1530	738	1240	1410	1640	979
22	1250	1230	---	1750	1650	1380	1500	957	1160	1200	1570	860
23	1250	1350	---	1650	1570	1220	1500	1160	1190	---	1510	1040
24	1260	1330	---	1740	1550	1510	1310	1180	1000	---	1570	1050
25	1380	1370	---	1860	1440	1420	1360	1180	975	---	1530	994
26	1340	1320	---	1900	1800	1320	1310	1100	1050	1030	1560	1200
27	1260	1280	---	1950	809	1250	1320	1270	1160	1080	1560	1370
28	1270	1270	---	2040	872	1160	---	1200	1300	---	1540	1500
29	1300	1260	---	2000	---	1080	---	1100	1540	1810	1530	904
30	1270	1270	---	1980	---	1100	1390	902	1440	1820	1560	1120
31	1230	---	---	1970	---	1380	---	1110	---	1560	1730	---

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	17.0	7.0	---	-0.5	2.0	17.5	16.5	24.0	29.0	27.0	26.5
2	20.5	12.0	7.5	---	-0.5	1.0	17.5	13.5	22.0	29.5	25.5	28.0
3	19.5	14.0	8.0	---	-0.5	.5	17.5	11.0	21.0	30.5	22.0	29.0
4	18.5	16.0	8.0	---	-0.5	.5	16.5	---	21.0	31.0	24.0	25.0
5	18.5	16.5	6.0	---	-0.5	2.0	17.0	---	20.5	30.0	27.5	25.5
6	18.0	16.0	1.5	4.0	-0.5	4.0	18.5	---	21.0	29.5	28.0	27.5
7	19.0	16.0	1.5	4.0	-0.5	3.5	19.5	---	24.0	29.0	28.5	26.5
8	15.5	15.0	3.0	.0	-0.5	2.5	20.5	---	25.5	30.0	29.0	25.0
9	15.0	11.0	-0.5	-0.5	-0.5	3.5	20.0	---	26.0	29.5	27.0	26.5
10	17.5	8.5	.0	-0.5	-0.5	6.0	16.5	---	27.0	29.5	27.0	25.0
11	14.5	10.5	4.0	-0.5	-0.5	6.5	14.5	---	26.0	30.0	28.0	25.5
12	14.0	12.0	7.5	-0.5	-0.5	6.0	16.0	21.5	26.5	29.0	29.0	---
13	14.5	12.5	6.0	-0.5	-0.5	7.5	16.5	19.0	26.5	28.5	28.0	28.0
14	16.0	13.5	7.5	-0.5	-0.5	8.0	17.0	20.0	27.5	28.0	27.5	27.0
15	15.0	14.0	9.0	-0.5	-0.5	7.0	19.0	21.0	26.5	29.5	27.5	27.0
16	14.0	14.0	---	-0.5	-0.5	6.0	17.5	20.5	27.0	30.0	27.0	27.0
17	15.0	13.0	---	-0.5	-0.5	7.5	18.0	20.0	27.0	29.5	27.0	28.0
18	16.0	11.5	---	-0.5	.0	---	15.5	19.0	27.0	28.5	24.0	---
19	16.5	14.0	---	-0.5	.0	11.5	12.0	22.0	26.0	27.5	25.0	---
20	17.0	13.0	---	-0.5	.0	11.5	13.0	22.0	26.5	23.5	28.0	24.5
21	18.5	5.0	---	-0.5	.0	11.0	14.5	19.5	26.0	24.5	28.5	19.5
22	19.5	7.0	---	-0.5	1.0	12.5	15.5	21.0	24.5	24.0	28.0	18.5
23	18.0	9.5	---	-0.5	2.5	11.5	17.5	24.5	26.0	22.0	28.0	20.5
24	17.5	8.5	---	-0.5	4.0	7.0	16.0	25.5	27.0	27.5	28.0	23.0
25	17.5	8.5	---	-0.5	4.0	5.5	13.5	25.0	27.5	26.5	27.5	23.0
26	17.0	6.5	---	-0.5	3.0	8.0	17.5	23.0	27.5	29.0	27.5	22.5
27	18.5	7.5	---	-0.5	2.0	---	18.5	20.0	28.5	29.0	25.0	23.5
28	19.0	7.0	---	-0.5	2.0	17.0	18.5	18.5	29.5	---	25.0	23.0
29	19.5	7.0	---	-0.5	---	12.5	20.0	21.5	29.5	30.5	24.0	23.0
30	18.5	6.5	---	-0.5	---	14.0	19.0	22.0	30.0	30.0	24.0	22.0
31	19.5	---	---	-0.5	---	16.0	---	24.0	---	27.0	25.0	---

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, 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	73	85	88	---	130	82	100	96	99	93	100	100
2	67	---	91	---	130	80	100	88	110	89	100	88
3	65	73	91	---	130	82	100	88	110	86	93	84
4	66	70	90	---	130	81	80	---	73	86	110	140
5	68	68	93	92	130	88	82	---	110	83	92	110
6	84	65	95	91	130	85	72	---	130	84	94	85
7	---	62	97	96	130	85	71	---	130	91	120	92
8	---	63	95	100	130	110	74	---	130	84	110	100
9	---	63	89	110	130	100	85	---	120	97	130	91
10	---	65	86	100	140	110	94	---	110	50	100	93
11	81	70	82	95	140	91	86	97	110	60	91	100
12	80	59	97	93	120	93	80	120	120	72	93	---
13	79	61	88	89	32	88	79	100	120	81	87	100
14	70	64	95	90	66	89	78	100	110	93	100	110
15	66	66	97	91	80	90	82	100	110	96	110	110
16	67	67	110	110	83	83	92	100	100	70	110	110
17	66	68	120	110	100	80	93	110	110	58	110	110
18	65	77	110	110	100	97	90	99	100	68	110	---
19	65	---	110	120	100	87	95	97	98	77	110	---
20	65	---	110	120	110	91	100	84	95	110	110	76
21	70	---	---	110	120	88	100	53	85	96	110	68
22	86	64	---	120	110	94	100	67	80	82	110	61
23	86	92	---	110	110	84	100	80	82	---	100	72
24	86	91	---	120	100	100	89	81	70	---	110	73
25	94	93	---	120	98	97	93	81	68	---	100	69
26	91	90	---	130	120	90	89	76	73	71	110	82
27	86	88	---	130	57	88	90	87	80	75	110	93
28	87	87	---	140	61	80	---	82	89	---	100	100
29	89	86	---	130	---	75	---	76	100	120	100	63
30	87	87	---	130	---	76	95	63	98	120	110	77
31	84	---	---	130	---	94	---	77	---	110	120	---

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	974.0	452.0	442.0	---	281.0	2900.0	1110.0	666.0	2220.0	768.0	159.0	134.0
2	857.0	---	437.0	---	421.0	2680.0	1050.0	627.0	2590.0	706.0	154.0	98.6
3	813.0	534.0	425.0	---	474.0	2570.0	1060.0	872.0	3180.0	666.0	130.0	92.5
4	816.0	457.0	413.0	---	474.0	2410.0	935.0	---	2720.0	639.0	179.0	146.0
5	701.0	666.0	424.0	348.0	474.0	2570.0	1110.0	---	3090.0	605.0	140.0	114.0
6	583.0	604.0	421.0	334.0	474.0	2410.0	1230.0	---	3310.0	558.0	127.0	79.9
7	---	557.0	424.0	363.0	474.0	1920.0	1040.0	---	3180.0	455.0	164.0	82.2
8	---	578.0	410.0	394.0	474.0	1540.0	1060.0	---	3000.0	411.0	148.0	79.9
9	---	721.0	392.0	431.0	474.0	1320.0	1170.0	---	2770.0	985.0	158.0	72.2
10	---	825.0	385.0	402.0	510.0	1460.0	1270.0	---	2270.0	541.0	117.0	66.5
11	464.0	1370.0	334.0	351.0	510.0	1290.0	1370.0	1490.0	1950.0	352.0	107.0	68.8
12	451.0	1330.0	380.0	339.0	1750.0	1320.0	1650.0	1800.0	1940.0	222.0	96.7	---
13	469.0	1300.0	354.0	324.0	824.0	1240.0	1600.0	1430.0	1840.0	182.0	87.6	73.4
14	518.0	1320.0	382.0	328.0	1960.0	1230.0	1540.0	1380.0	1590.0	204.0	96.7	68.6
15	485.0	1290.0	401.0	295.0	2460.0	1240.0	1370.0	1350.0	1490.0	360.0	106.0	47.2
16	494.0	1320.0	392.0	297.0	1730.0	1140.0	1080.0	1260.0	1280.0	584.0	101.0	34.2
17	483.0	1100.0	386.0	238.0	1750.0	1100.0	1050.0	1040.0	1340.0	329.0	97.4	24.1
18	465.0	765.0	342.0	238.0	1610.0	1340.0	926.0	1390.0	1200.0	283.0	95.6	---
19	465.0	635.0	333.0	259.0	1510.0	1190.0	795.0	1550.0	1150.0	182.0	93.6	---
20	446.0	---	330.0	259.0	1550.0	1250.0	848.0	1680.0	1170.0	209.0	93.0	215.0
21	342.0	---	---	238.0	1670.0	1190.0	1000.0	1690.0	1610.0	295.0	90.6	185.0
22	383.0	590.0	---	259.0	1490.0	1270.0	1010.0	1510.0	1490.0	299.0	87.3	101.0
23	411.0	638.0	---	238.0	1500.0	1050.0	937.0	1480.0	1560.0	---	75.6	93.3
24	423.0	612.0	---	259.0	1400.0	964.0	670.0	1380.0	1520.0	---	79.3	129.0
25	477.0	605.0	---	259.0	1580.0	940.0	668.0	1560.0	1180.0	---	71.8	97.2
26	410.0	573.0	---	281.0	3340.0	1140.0	630.0	1880.0	1100.0	268.0	79.6	93.9
27	365.0	549.0	---	281.0	1770.0	1170.0	629.0	2190.0	1040.0	263.0	77.8	94.4
28	359.0	533.0	---	302.0	1760.0	1170.0	---	2570.0	774.0	---	71.8	171.0
29	372.0	520.0	---	281.0	---	1410.0	---	3020.0	894.0	224.0	81.8	223.0
30	444.0	510.0	---	281.0	---	1400.0	575.0	2690.0	807.0	202.0	90.9	287.0
31	447.0	---	---	281.0	---	1160.0	---	2330.0	---	180.0	167.0	---

ARKANSAS RIVER BASIN

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07152500 ARKANSAS RIVER AT RALSTON, 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	200	240	260	---	410	230	300	280	290	280	310	310
2	180	---	270	---	420	230	300	260	350	260	320	260
3	170	200	270	---	400	240	300	250	320	250	280	240
4	180	190	260	---	410	230	230	---	200	250	330	430
5	180	180	270	270	390	250	230	---	330	240	270	350
6	240	170	280	270	400	240	200	---	420	240	280	240
7	---	160	290	280	410	240	190	---	410	270	360	270
8	---	170	280	320	430	340	200	---	420	240	350	300
9	---	160	260	340	420	310	240	---	390	290	400	270
10	---	170	250	310	440	330	280	---	330	120	310	280
11	230	190	240	280	440	270	250	290	350	150	270	300
12	230	150	290	280	380	270	230	360	370	200	280	---
13	220	160	250	260	50	260	220	320	360	230	250	310
14	190	170	280	260	170	260	220	310	340	270	310	320
15	180	180	290	270	230	260	230	300	350	280	320	340
16	180	180	320	320	240	240	270	310	310	190	340	330
17	180	180	370	340	310	230	270	340	320	140	340	330
18	170	220	330	350	300	290	260	290	310	180	340	---
19	170	240	330	360	310	250	280	290	290	220	330	---
20	170	---	340	370	340	270	300	240	280	320	320	210
21	190	---	---	350	360	260	310	130	240	280	340	180
22	250	240	---	360	340	280	310	180	230	240	320	160
23	250	270	---	340	320	240	310	230	230	---	310	200
24	250	270	---	360	320	310	260	230	190	---	320	200
25	280	280	---	390	290	290	270	230	180	---	310	190
26	270	260	---	400	390	260	260	210	200	200	320	240
27	250	250	---	410	140	250	260	250	230	210	320	280
28	250	250	---	430	160	230	---	240	260	---	320	310
29	260	250	---	420	---	210	---	210	320	380	310	170
30	250	250	---	420	---	210	280	170	290	380	320	220
31	240	---	---	420	---	280	---	210	---	320	360	---

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	2670.0	1280.0	1310.0	---	886.0	8140.0	3340.0	1940.0	6490.0	2310.0	492.0	417.0
2	2300.0	---	1300.0	---	1360.0	7700.0	3150.0	1850.0	8250.0	2060.0	492.0	291.0
3	2130.0	1460.0	1260.0	---	1460.0	7520.0	3170.0	2480.0	9240.0	1940.0	392.0	264.0
4	2230.0	1240.0	1190.0	---	1490.0	6430.0	2690.0	---	7450.0	1860.0	538.0	447.0
5	1860.0	1760.0	1230.0	1020.0	1420.0	7290.0	3110.0	---	9270.0	1750.0	412.0	362.0
6	1670.0	1580.0	1240.0	991.0	1460.0	6800.0	3410.0	---	10700.0	1590.0	380.0	226.0
7	---	1440.0	1270.0	1060.0	1490.0	5410.0	2800.0	---	10000.0	1350.0	491.0	241.0
8	---	1560.0	1210.0	1260.0	1570.0	4750.0	2870.0	---	9710.0	1170.0	472.0	200.0
9	---	1830.0	1140.0	1330.0	1530.0	4100.0	3300.0	---	9010.0	2940.0	485.0	214.0
10	---	2160.0	1090.0	1250.0	1600.0	4370.0	3790.0	---	6810.0	1300.0	362.0	200.0
11	1320.0	3710.0	978.0	1040.0	1600.0	3820.0	3990.0	4450.0	6190.0	879.0	318.0	207.0
12	1300.0	3390.0	1140.0	1020.0	5540.0	3820.0	4750.0	5390.0	5990.0	616.0	297.0	---
13	1310.0	3420.0	1010.0	948.0	1290.0	3660.0	4440.0	4560.0	5510.0	516.0	252.0	228.0
14	1410.0	3520.0	1130.0	948.0	5050.0	3600.0	4350.0	4290.0	4920.0	593.0	300.0	200.0
15	1320.0	3510.0	1200.0	875.0	7080.0	3540.0	3850.0	4040.0	4720.0	1050.0	308.0	146.0
16	1330.0	3540.0	1140.0	864.0	5000.0	3300.0	3160.0	3900.0	3960.0	1590.0	313.0	102.0
17	1320.0	2920.0	1190.0	734.0	5430.0	3160.0	3050.0	3220.0	3890.0	794.0	301.0	72.2
18	1220.0	2190.0	1020.0	756.0	4840.0	4000.0	2670.0	4070.0	3710.0	748.0	296.0	---
19	1220.0	1810.0	998.0	778.0	4680.0	3430.0	2340.0	4640.0	3410.0	520.0	281.0	---
20	1170.0	---	1020.0	799.0	4600.0	3700.0	2540.0	4800.0	3450.0	609.0	270.0	595.0
21	929.0	---	---	756.0	5020.0	3510.0	3110.0	4140.0	4560.0	862.0	280.0	491.0
22	1110.0	1680.0	---	778.0	4610.0	3800.0	3120.0	4060.0	4280.0	875.0	254.0	266.0
23	1190.0	1870.0	---	734.0	4360.0	2990.0	2900.0	4240.0	4370.0	---	234.0	259.0
24	1230.0	1820.0	---	778.0	4480.0	2990.0	1960.0	3910.0	4120.0	---	231.0	352.0
25	1420.0	1820.0	---	842.0	4690.0	2810.0	1940.0	4420.0	3110.0	---	223.0	268.0
26	1220.0	1660.0	---	864.0	10600.0	3310.0	1840.0	5190.0	3020.0	756.0	232.0	275.0
27	1060.0	1560.0	---	886.0	4350.0	3390.0	1820.0	6300.0	3000.0	737.0	226.0	284.0
28	1030.0	1530.0	---	929.0	4620.0	3370.0	---	7520.0	2260.0	---	230.0	531.0
29	1090.0	1510.0	---	907.0	---	3950.0	---	8330.0	2860.0	709.0	254.0	601.0
30	1280.0	1468.0	---	907.0	---	3880.0	1690.0	7250.0	2390.0	640.0	264.0	820.0
31	1280.0	---	---	907.0	---	3470.0	---	6350.0	---	524.0	501.0	---

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, 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	584	687	714	---	1070	660	812	779	801	758	844	828
2	536	---	736	---	1080	649	823	714	936	720	855	714
3	521	584	741	---	1040	666	817	709	861	698	758	682
4	527	557	731	---	1060	655	644	---	584	693	877	1110
5	548	548	752	747	1030	709	660	---	888	671	747	931
6	676	518	768	736	1060	687	579	---	1090	682	763	687
7	---	497	785	779	1070	687	568	---	1080	736	947	747
8	---	503	774	855	1100	904	595	---	1100	682	931	823
9	---	501	720	899	1100	834	687	---	1020	765	1040	741
10	---	522	709	839	1130	888	763	---	888	389	828	758
11	655	557	666	768	1150	736	693	785	931	476	736	812
12	644	465	785	758	1010	752	644	964	974	579	758	---
13	638	485	709	720	236	714	636	850	964	655	703	834
14	557	508	774	731	524	725	628	828	899	752	839	861
15	527	530	790	736	649	731	660	817	936	779	861	904
16	535	534	871	866	671	671	747	828	844	563	915	842
17	531	547	980	904	834	644	752	909	866	456	915	882
18	519	622	893	926	612	785	731	801	834	547	909	---
19	522	682	893	958	626	703	766	785	796	622	877	---
20	520	---	909	969	699	736	823	662	774	871	861	611
21	557	---	---	920	956	714	644	415	687	779	904	546
22	693	682	---	964	909	763	828	534	644	666	866	461
23	693	747	---	909	866	676	828	644	666	---	834	579
24	696	736	---	958	855	834	725	655	557	---	866	580
25	763	758	---	1020	796	765	752	655	544	---	844	554
26	741	731	---	1040	991	731	725	611	584	573	861	666
27	696	709	---	1070	454	693	731	703	644	600	861	758
28	703	703	---	1120	445	644	---	666	720	---	850	828
29	720	698	---	1100	---	600	---	611	850	996	844	505
30	703	703	---	1090	---	611	788	504	796	1000	861	622
31	682	---	---	1067	---	763	---	617	---	861	953	---

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	7790.0	3650.0	3590.0	---	2310.0	23300.0	9030.0	5410.0	17900.0	6260.0	1340.0	1110.0
2	6860.0	---	3540.0	---	3500.0	21700.0	8640.0	5090.0	22100.0	5720.0	1320.0	800.0
3	6510.0	4270.0	3460.0	---	3790.0	20900.0	8630.0	7030.0	24900.0	5410.0	1060.0	751.0
4	6520.0	3640.0	3360.0	---	3860.0	19500.0	7530.0	---	21800.0	5150.0	1430.0	1150.0
5	5650.0	5370.0	3430.0	2820.0	3750.0	20700.0	8910.0	---	24900.0	4890.0	1140.0	963.0
6	4690.0	4810.0	3400.0	2700.0	3860.0	19500.0	9880.0	---	27800.0	4530.0	1030.0	646.0
7	---	4470.0	3430.0	2940.0	3900.0	15500.0	9360.0	---	26400.0	3680.0	1290.0	668.0
8	---	4620.0	3340.0	3370.0	4010.0	12600.0	8550.0	---	25400.0	3330.0	1260.0	658.0
9	---	5740.0	3170.0	3520.0	4010.0	11000.0	9460.0	---	23600.0	7970.0	1260.0	588.0
10	---	6620.0	3100.0	3380.0	4120.0	11700.0	10300.0	---	18300.0	4210.0	966.0	542.0
11	3750.0	10900.0	2720.0	2840.0	4190.0	10400.0	11100.0	12000.0	16500.0	2790.0	866.0	559.0
12	3630.0	10500.0	3070.0	2760.0	14700.0	10600.0	13300.0	14400.0	15800.0	1780.0	804.0	---
13	3790.0	10400.0	2850.0	2620.0	6080.0	10000.0	12900.0	12100.0	14800.0	1470.0	708.0	612.0
14	4120.0	10500.0	3110.0	2660.0	15600.0	10000.0	12400.0	11400.0	13000.0	1650.0	811.0	537.0
15	3870.0	10300.0	3260.0	2380.0	20000.0	10100.0	11000.0	11000.0	12600.0	2920.0	830.0	388.0
16	3940.0	10500.0	3100.0	2340.0	14000.0	9240.0	8750.0	10400.0	10800.0	4700.0	842.0	274.0
17	3890.0	8860.0	3150.0	1950.0	14600.0	8850.0	8510.0	8610.0	10500.0	2590.0	810.0	193.0
18	3710.0	6180.0	2770.0	2000.0	13100.0	10800.0	7520.0	11200.0	9980.0	2270.0	790.0	---
19	3730.0	5160.0	2700.0	2070.0	12500.0	9640.0	6430.0	12500.0	9370.0	1470.0	746.0	---
20	3570.0	---	2720.0	2090.0	12700.0	10100.0	6980.0	13600.0	9550.0	1660.0	728.0	1730.0
21	2720.0	---	---	1990.0	13300.0	9640.0	8450.0	13200.0	13000.0	2400.0	744.0	1490.0
22	3090.0	4790.0	---	2080.0	12300.0	10300.0	8340.0	12100.0	12000.0	2430.0	687.0	800.0
23	3310.0	5180.0	---	1960.0	11800.0	8430.0	7760.0	11900.0	12500.0	---	631.0	750.0
24	3430.0	4950.0	---	2070.0	12000.0	8040.0	5460.0	11100.0	12100.0	---	624.0	1030.0
25	3870.0	4930.0	---	2200.0	12900.0	7610.0	5400.0	12600.0	9400.0	---	606.0	781.0
26	3340.0	4660.0	---	2250.0	27600.0	9300.0	5130.0	15100.0	8810.0	2170.0	623.0	762.0
27	2960.0	4420.0	---	2310.0	14100.0	9390.0	5110.0	17700.0	8400.0	2110.0	609.0	770.0
28	2900.0	4310.0	---	2420.0	14100.0	9420.0	---	20900.0	6260.0	---	610.0	1420.0
29	3010.0	4220.0	---	2380.0	---	11300.0	---	24300.0	7600.0	1860.0	690.0	1790.0
30	3590.0	4120.0	---	2350.0	---	11300.0	4640.0	21500.0	6560.0	1680.0	711.0	2320.0
31	3630.0	---	---	2330.0	---	9460.0	---	18700.0	---	1410.0	1330.0	---

ARKANSAS RIVER BASIN

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07153000 BLACK BEAR CREEK AT PAWNEE, OK

LOCATION.--Lat 36°20'37", long 96°47'57", on east line of SE¼NE¼ sec.31, T.22 N., R.5 E., Pawnee County, Hydrologic unit 11060006, on downstream side of left pier of bridge on State Highway 18 in north Pawnee, 300 ft (91.4 m) downstream from Skedee Creek, and at mile 23.4 (37.7 km).

DRAINAGE AREA.--576 mi² (1,492 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 802.73 ft (244.672 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Sept. 21, 1944, nonrecording gage at present site and datum except for Aug. 27, 1953, to Apr. 29, 1954, nonrecording gage at site 500 ft (152 m) downstream at same datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--34 years, 174 ft³/s (4.928 m³/s), 126,100 acre-ft/yr (155 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,200 ft³/s (855 m³/s) Oct. 3, 1959, gage height, 31.43 ft (9.580 m); no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 19, 1943, reached a stage of 28.19 ft (8.592 m), from floodmark, discharge, 17,800 ft³/s (504 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,760 ft³/s (49.8 m³/s) Feb. 13, gage height, 7.68 ft (2.341 m), no peaks above base of 4,000 ft³/s (113 m³/s); minimum, 0.30 ft³/s (0.008 m³/s) Sept. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	12	2.1	2.7	4.8	77	12	9.6	108	11	1.1	3.1
2	1.3	10	2.5	2.7	4.5	62	10	6.9	75	8.4	1.3	4.2
3	1.1	20	2.4	3.2	4.4	49	107	51	60	6.7	1.4	4.7
4	1.0	6.7	2.2	3.2	4.2	39	255	55	43	5.4	7.8	4.7
5	1.2	2.6	2.2	3.3	5.2	27	232	72	504	4.6	16	6.0
6	1.3	1.6	1.8	3.6	5.7	25	329	77	519	3.4	3.9	6.5
7	1.5	1.7	1.9	4.0	6.0	27	132	291	261	2.6	1.9	4.3
8	1.5	6.1	2.0	3.8	5.8	30	97	105	177	2.4	1.3	2.3
9	1.3	22	1.6	3.8	6.1	27	64	54	103	2.0	1.1	2.8
10	1.3	20	1.6	3.4	5.9	23	68	37	66	2.1	1.1	2.5
11	1.3	6.0	1.7	3.2	6.0	20	67	27	46	1.4	1.2	2.7
12	1.7	6.6	1.9	3.8	355	19	72	29	34	1.1	1.3	2.9
13	2.6	5.1	2.1	3.7	1450	18	43	18	27	.93	1.5	3.1
14	1.6	3.1	1.8	3.7	1160	17	30	10	22	1.1	1.6	2.8
15	1.6	2.3	2.3	3.9	415	16	25	13	18	2.4	1.9	2.6
16	1.4	1.7	2.3	6.1	209	14	45	14	15	1.6	1.8	2.3
17	1.4	1.5	1.6	4.5	122	13	61	14	13	1.0	1.9	2.2
18	1.4	1.2	1.6	4.3	84	13	40	18	15	.85	2.3	1.8
19	1.2	1.1	1.7	4.3	56	13	30	16	14	.84	2.8	1.8
20	1.1	1.4	1.6	4.3	40	12	17	20	14	.78	2.8	2.1
21	1.5	.92	1.8	4.7	38	10	15	38	50	.80	2.8	2.4
22	2.1	1.0	2.3	4.9	28	8.9	12	42	60	.99	3.6	2.1
23	3.4	1.4	2.3	5.0	68	9.3	18	23	92	2.7	3.3	1.8
24	3.5	1.5	2.1	5.4	469	12	16	16	99	3.2	3.8	1.7
25	4.1	1.5	1.9	5.3	623	181	11	14	58	2.5	4.0	1.5
26	5.0	1.3	2.0	4.6	372	92	6.9	12	36	2.1	4.1	1.1
27	9.3	1.4	2.1	4.5	183	44	5.6	59	27	2.0	4.1	.94
28	7.3	1.3	1.9	4.2	112	28	5.3	992	23	1.6	4.8	.69
29	6.5	1.7	1.9	4.2	---	23	5.6	1090	18	1.5	4.6	.48
30	7.6	1.9	1.8	4.2	---	17	5.3	363	14	1.5	4.2	.36
31	8.6	---	2.2	4.4	---	14	---	173	---	1.2	2.8	---
TOTAL	87.5	146.82	61.4	126.9	5842.6	980.2	1834.7	3759.5	2611	80.69	168.3	78.47
MEAN	2.82	4.89	1.98	4.09	209	31.6	61.2	121	87.0	2.60	5.43	2.62
MAX	9.3	22	2.5	6.1	1450	181	329	1090	519	11	78	6.5
MIN	1.0	.92	1.6	2.7	4.2	8.9	5.3	6.9	13	.78	1.1	.36
AC-FT	174	291	122	252	11590	1940	3640	7460	5180	160	334	156

CAL YR 1977 TOTAL 33597.02 MEAN 92.0 MAX 4500 MIN .92 AC-FT 66640
WTP YR 1978 TOTAL 15778.08 MEAN 43.2 MAX 1450 MIN .36 AC-FT 31300

ARKANSAS RIVER BASIN

07153000 BLACK BEAR CREEK AT PAWNEE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--1952-53, 1956-59, 1961-71, 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	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 (LUM LEVEL) (MG/L)	HARD- NESS (MG/L AS CACU3)
OCT										
18...	1215	1.5	1750	8.1	15.5	--	9.2	94	--	--
NOV										
02...	1140	9.2	1290	7.5	14.0	--	6.8	67	--	--
DEC										
07...	1115	2.0	1670	7.8	3.5	--	12.8	98	--	--
JAN										
25...	1245	5.7	5600	7.8	1.0	10	9.5	69	19	--
FEB										
13...	1345	1660	750	7.7	.5	98	12.4	89	120	177
MAR										
13...	1230	19	1000	8.0	7.5	3	11.6	101	21	--
APR										
10...	1700	78	930	7.9	19.0	45	7.4	82	27	230
MAY										
08...	1400	95	590	8.1	17.5	52	9.0	97	32	--
JUN										
20...	1230	14	951	8.1	26.5	22	5.8	72	23	231
JUL										
06...	1030	3.7	2400	7.6	30.0	10	5.4	100	23	--
AUG										
08...	1145	1.4	1320	7.6	26.0	8	--	--	24	322
SEP										
16...	1515	2.5	810	8.2	29.5	8	9.0	115	17	--

DATE	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACU3)	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 SU4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT									
18...	--	--	--	--	--	--	--	--	--
NOV									
02...	--	--	--	--	--	--	--	--	--
DEC									
07...	--	--	--	--	--	--	--	--	--
JAN									
25...	--	--	--	--	--	48	1556	.2	28
FEB									
13...	--	123	--	102	20	119	260	.1	3033
MAR									
13...	--	--	--	--	--	32	213	.1	67
APR									
10...	54	137	19	90	6.1	51	176	.2	114
MAY									
08...	--	--	--	--	--	33	112	.2	99
JUN									
20...	58	145	21	90	7.3	15	181	.2	39
JUL									
06...	--	--	--	--	--	25	646	.2	15
AUG									
08...	82	205	27	128	6.9	19	272	.3	123
SEP									
16...	--	--	--	--	--	18	131	.2	7

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07154500 CIMARRON RIVER NEAR KENTON, OK

LOCATION.--Lat 36°55'36", long 102°57'31", in SE⁴ sec. 4, T. 5 N., R. 1 E., Cimarron County, Hydrologic Unit 11040001, near right bank on downstream side of pier of county road bridge, 1.5 mi (2.4 km) upstream from North Carrizo Creek, 1.7 mi (2.7 km) northeast of Kenton, 2.2 mi (3.5 km) downstream from Carrizo Creek, and at mile 594.0 (955.7 km).

DRAINAGE AREA.--1,106 mi² (2,865 km²), of which 68 mi² (176.1 km²) is probably noncontributing.

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

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

GAGE.--Water-stage recorder. Datum of gage is 4,262.08 ft (1,299.082 m) National Geodetic Vertical Datum of 1929, (levels by State Highway Department). April 1904 to July 1905 nonrecording gage at site 0.9 mi (1.45 km) upstream at different datum. Oct. 1, 1950, to Sept. 19, 1967, water-stage recorder at same site and at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records fair except for winter periods which are poor. Extensive diversions for irrigation above station.

AVERAGE DISCHARGE.--28 years, (water years 1951-78), 23.5 ft³/s (0.666 m³/s), 17,030 acre-ft/yr (21.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,400 ft³/s (1,230 m³/s) Oct. 17, 1965; gage height, 22.32 ft (6.803 m), present datum, from rating curve extended above 7,000 ft³/s (198 m³/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s)	(m ³ /s)	GAGE HEIGHT (ft)	(m)	DATE	TIME	DISCHARGE (ft ³ /s)	(m ³ /s)	GAGE HEIGHT (ft)	(m)
June 5	0030	*31,400	889	*20.74	6.322	June 8	1000	3,380	95.7	12.45	3.795

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	.39	.94	1.9	1.3	2.5	3.0	.12	2.7	3.8	.00	.39	.00
2	.30	1.4	2.3	.87	2.4	2.8	.06	1.2	3.6	.00	.00	.00
3	.30	2.5	2.5	1.6	2.3	2.0	.34	5.7	2.4	.00	.00	.00
4	.48	1.3	2.3	2.2	2.2	3.0	.02	6.2	808	.00	.13	.00
5	.48	1.5	2.1	2.2	2.1	3.5	.00	15	4080	.00	.00	.00
6	.48	.81	2.3	2.6	2.1	2.8	.00	29	1390	.00	.00	.00
7	.39	1.9	2.2	1.1	2.5	2.2	.00	14	126	.00	.00	.00
8	.30	3.6	2.0	.99	3.0	2.2	.00	8.0	1590	.00	.00	.00
9	.30	4.0	1.4	1.5	2.6	3.0	.01	5.2	428	.00	.00	.00
10	.30	3.6	1.9	.89	2.3	2.8	.03	4.1	180	.00	.00	.00
11	.22	2.4	2.5	1.8	4.0	3.0	.30	4.6	81	.00	.00	.00
12	.22	1.9	2.1	2.0	4.3	3.0	.15	2.8	34	.00	.00	.00
13	.30	1.8	2.0	1.6	4.0	3.0	.08	1.8	27	.00	.00	.00
14	.34	2.1	1.8	2.6	4.0	3.2	.03	1.6	12	.00	.00	.00
15	.07	1.9	1.8	2.7	3.3	3.2	.11	1.2	3.8	.00	.00	.00
16	.00	1.7	1.8	1.3	3.7	3.0	.26	.86	1.2	.00	.00	.00
17	.57	1.4	2.2	2.2	3.1	2.0	.26	.27	.65	.00	.00	.00
18	.79	2.3	1.5	1.8	3.0	1.5	.23	.06	.22	.00	.00	.00
19	.46	2.9	.88	2.1	3.5	1.0	.17	.00	.10	.00	.00	.00
20	.83	2.7	.40	2.1	3.4	1.0	.08	47	.08	.00	.00	.00
21	.60	1.9	.64	2.3	3.3	.91	.07	79	.03	.00	.00	.00
22	.03	1.7	1.7	2.5	3.2	.91	.02	11	.00	.00	.00	.00
23	.00	1.9	1.7	2.3	3.2	.71	.03	3.8	.00	.00	.00	.00
24	.00	1.8	1.8	2.5	3.0	1.5	.03	2.9	.00	.00	.00	.00
25	.00	2.1	1.2	2.7	2.2	1.8	.03	.71	.00	.00	.00	.78
26	.00	1.7	1.5	2.2	2.5	1.1	.02	.24	.00	.00	.00	.00
27	.00	1.4	1.7	2.4	3.0	.37	.02	.33	.13	.00	.00	.00
28	.03	1.7	2.0	2.3	3.0	.30	.01	.50	2.0	.00	.00	.00
29	.00	1.7	.77	2.6	---	.23	.01	.27	.05	.00	.00	.00
30	.09	1.9	.84	2.8	---	.14	1.4	.36	.00	6.4	.00	.00
31	.91	---	1.2	2.7	---	.09	---	.10	---	20	.00	---
TOTAL	9.18	60.45	52.93	62.75	83.7	59.26	3.89	250.50	8774.06	26.40	.52	.78
MEAN	.30	2.02	1.71	2.02	2.99	1.91	.13	8.08	292	.85	.017	.026
MAX	.91	4.0	2.5	2.8	4.3	3.5	1.4	79	4080	20	.39	.78
MIN	.00	.81	.40	.87	2.1	.09	.00	.00	.00	.00	.00	.00
AC-FT	18	120	105	124	166	116	7.7	497	17400	52	1.0	1.5

CAL YR 1977 TOTAL 25274.45 MEAN 69.2 MAX 7050 MIN .00 AC-FT 50130
WTR YR 1978 TOTAL 9384.42 MEAN 25.7 MAX 4080 MIN .00 AC-FT 18610

ARKANSAS RIVER BASIN

87

07156900 CIMARRON RIVER NEAR FORGAN, OK

LOCATION.--Lat 37°00'45", long 100°29'39", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.8, T.35 S., R.24 E., Mead County, Kans., Hydrologic Unit 11040006, near center of span on downstream side of pier of bridge on Kansas State Highway 23, 0.8 mi (1.3 km) north of Oklahoma-Kansas State line, 7.8 mi (12.5 km) north of Forgan, and at mile 375.7 (604.5 km).

DRAINAGE AREA.--8,536 mi² (22,108 km²), of which 4,316 mi² (11,178 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,325 ft (708.7 m) (from topographic map).

REMARKS.--Records good. Extensive diversion for irrigation above station.

AVERAGE DISCHARGE.--13 years, 85.9 ft³/s (2.433 m³/s), 62,230 acre-ft/yr (76.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s (600 m³/s) Oct. 20, 1965, gage height, 8.10 ft (2.469 m); minimum, 18 ft³/s (0.51 m³/s) Jan. 4, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

DATE	TIME	DISCHARGE		GAGE HEIGHT		DATE	TIME	DISCHARGE		GAGE HEIGHT	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
June 7	1115	*5,240	148	*5.15	1.570	June 10	1030	3,320	94.0	4.64	1.414
June 8	1030	5,200	147	5.14	1.567						

Minimum daily discharge, 21 ft³/s (0.59 m³/s) Aug. 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	42	53	64	39	56	52	62	203	49	32	21	28
2	37	56	62	35	52	50	65	112	54	35	21	29
3	37	67	59	40	80	43	63	94	58	35	56	27
4	35	65	67	48	90	50	65	71	89	34	38	27
5	35	65	77	54	100	74	64	74	100	31	32	26
6	36	62	65	61	120	67	64	80	430	35	25	27
7	42	62	65	58	607	64	64	76	3970	37	26	26
8	45	62	62	64	454	62	64	66	2980	35	37	26
9	43	61	45	55	365	61	69	60	115	34	53	29
10	42	61	52	51	330	63	71	71	1680	31	35	27
11	38	59	60	40	285	65	66	57	190	31	32	25
12	39	59	87	42	200	64	63	49	120	34	29	25
13	38	62	41	56	160	65	60	53	105	37	30	26
14	37	59	46	54	120	61	65	54	87	34	26	28
15	37	55	48	50	100	72	66	54	83	32	26	27
16	39	51	49	45	90	70	63	51	77	31	25	24
17	46	56	52	33	80	69	64	55	73	32	26	24
18	45	56	52	40	90	64	60	73	69	31	25	23
19	43	58	49	38	110	66	61	59	65	32	25	27
20	45	55	46	37	150	68	65	58	62	34	28	46
21	53	56	42	40	200	65	61	60	59	35	28	39
22	56	64	48	45	230	63	60	60	56	35	26	34
23	56	61	42	56	200	67	58	56	53	35	22	33
24	53	56	45	65	150	69	57	51	49	34	22	33
25	53	58	35	58	77	63	57	55	46	34	22	34
26	51	64	40	52	64	58	71	64	43	31	25	36
27	52	73	45	56	64	63	72	82	41	31	26	37
28	51	65	46	54	59	63	60	86	38	29	39	33
29	53	59	51	60	---	64	59	61	35	29	30	34
30	53	64	49	64	---	66	66	53	35	26	30	34
31	51	---	45	60	---	65	---	51	---	25	30	---
TOTAL	1385	1804	1636	1554	4683	1956	1905	2149	10911	1011	916	894
MEAN	44.7	60.1	52.8	50.1	167	63.1	63.5	69.3	364	32.6	29.5	29.8
MAX	56	73	87	65	607	74	72	203	3970	37	56	46
MIN	35	51	35	33	52	43	57	49	35	25	21	23
AC=FT	2750	3580	3250	3080	9290	3880	3780	4260	21640	2010	1820	1770
CAL YR 1977	TOTAL	35865	MEAN 98.3	MAX 3410	MIN 23	AC=FT 71140						
WTR YR 1978	TOTAL	30804	MEAN 84.4	MAX 3970	MIN 21	AC=FT 61100						

ARKANSAS RIVER BASIN

07157000 CIMARRON RIVER NEAR MOCANE, OK

LOCATION.--Lat 36°58'31", long 100°18'49", on west line of NW¼ sec.24, T.6 N., R.25 E., Beaver County, Hydrologic Unit 11040006, at county road bridge 6.5 mi (10.4 km) northeast Mocane, 13 mi (21 km) upstream from Crooked Creek.

PERIOD OF RECORD.--Water years 1947-49, 1952-64, 1977 to current year.

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)
OCT							
12...	1200	39	3200	--	12.0	--	--
12...	1215	39	--	--	--	--	--
NOV							
01...	1200	38	2600	8.3	7.0	13.2	119
MAR							
28...	1145	29	3300	8.3	17.0	9.7	109
APR							
19...	1230	49	2900	8.2	15.0	10.0	105
MAY							
24...	1335	55	2850	8.2	27.5	8.2	110
JUN							
14...	1730	83	1680	8.0	29.0	6.7	93
JUL							
13...	1115	32	3000	8.1	24.0	8.6	109
AUG							
02...	1630	20	4800	8.5	33.5	7.4	112
SEP							
13...	1000	12	3790	8.5	19.5	8.9	106

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 105 DEG. C, TOTAL (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT							
12...	91	600	190	820	2060	--	--
12...	--	--	--	--	--	500	53
NOV							
01...	95	470	190	730	--	--	--
MAR							
28...	82	510	200	800	1710	--	--
APR							
19...	95	470	210	700	1850	--	--
MAY							
24...	88	430	190	800	1740	--	--
JUN							
14...	74	230	130	360	22100	--	--
JUL							
13...	84	470	210	760	1890	--	--
AUG							
02...	74	570	220	870	2000	--	--
SEP							
13...	95	610	210	980	2170	--	--

LOCATION.--Lat 36°55'28", long 99°23'56", in NW¼SW¼ sec.7, T.28 N., R.20 W., Harper County, Hydrologic Unit 11050001, on left bank 800 ft (244 m) downstream from unnamed tributary, 6 miles (10 km) upstream from Keno Creek, 7 mi (11 km) upstream from bridge on U.S. Highway 64, 14 mi (23 km) northeast of Buffalo, and at mile 296.0 (476.3 km).

WATER-DISCHARGE RECORDS

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum:

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	23	2.8	43	51	78	246	67	58	240	3.0	.00	.00
2	21	2.9	46	58	70	222	49	1110	229	2.6	.00	.00
3	18	3.5	50	54	33	153	34	1250	175	2.3	.00	.00
4	15	4.8	53	46	36	136	25	1090	295	1.9	131	.00
5	12	6.2	55	40	48	178	23	549	1230	1.5	95	.00
6	9.3	7.7	45	39	69	329	23	526	1850	1.9	53	.00
7	7.9	9.4	42	37	66	250	22	609	1840	468	36	.00
8	6.5	12	39	36	101	170	21	503	4970	1800	27	.00
9	6.0	15	37	35	103	130	23	402	3490	460	30	.00
10	6.0	17	45	40	35	120	79	267	1070	188	37	.00
11	5.4	18	51	50	29	110	39	212	2210	115	27	.00
12	4.3	19	53	60	41	94	31	176	1100	79	30	.00
13	2.7	20	56	50	58	100	25	134	562	56	14	.00
14	2.0	19	66	39	77	110	22	116	359	42	4.7	.00
15	1.6	20	80	35	49	130	23	120	250	34	1.5	.00
16	1.1	21	74	32	45	160	27	102	163	29	.61	.00
17	.75	22	66	33	40	130	31	91	117	25	.75	.00
18	.75	22	62	38	31	110	28	382	174	23	.54	.00
19	.75	23	74	49	40	100	21	1180	208	18	.07	.01
20	.75	24	60	50	55	93	19	599	145	12	.00	202
21	.75	25	40	46	80	97	19	553	90	6.9	.00	47
22	.85	25	44	42	100	97	19	410	86	37	.00	23
23	1.3	26	49	38	140	84	17	337	76	29	.00	18
24	1.5	27	52	43	190	73	17	283	53	24	.00	14
25	1.7	28	60	52	240	86	16	354	39	14	.00	19
26	2.2	31	58	57	220	123	16	3340	29	6.0	.00	30
27	2.8	33	50	49	190	144	16	2220	20	1.5	7.4	20
28	3.7	35	38	54	251	140	16	5060	14	.23	50	14
29	3.0	36	36	61	---	123	16	2540	8.4	.00	2.8	10
30	3.0	40	42	66	---	101	26	814	4.0	.00	.75	7.3
31	3.0	---	61	79	---	85	---	407	---	.00	.06	---
TOTAL	168.60	595.3	1627	1459	2515	4224	810	25794	21096.4	3482.83	549.18	404.31
MEAN	5.44	19.8	52.5	47.1	89.8	136	27.0	832	703	112	17.7	13.5
MAX	23	40	80	79	251	329	79	5060	4970	1800	131	202
MIN	.75	2.8	36	32	29	73	16	58	4.0	.00	.00	.00
AC=FT	334	1180	3230	2890	4990	8380	1610	51160	41840	6910	1090	802
CAL YR 1977	TOTAL	34194.21	MEAN	93.7	MAX	2360	MIN	.00	AC=FT	67820		
WTR YR 1978	TOTAL	62725.62	MEAN	172	MAX	5060	MIN	.00	AC=FT	124400		

ARKANSAS RIVER BASIN

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

WATER-QUALITY RECORDS

LOCATION.--Samples collected at bridge on U. S. Highway 64, 7.0 mi (11.3 km) downstream from discharge station.

PERIOD OF RECORD.--Water years 1953, 1961-63, 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 Mar. 1969.

REMARKS.--In addition to water quality monitor, samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples 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 calculated from specific conductance values.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 99,100 micromhos July 26, 1977; minimum daily, 1,020 micromhos July 2, 1975.

WATER TEMPERATURE: Maximum daily, 38.0°C Aug. 14, 1974; minimum daily, -0.5°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 80,000 micromhos Aug. 28; minimum, 1,180 micromhos July 10.

WATER TEMPERATURE: Maximum, 35.0°C July 8; minimum, -0.5°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTANTANEOUS (CFS)	SPE- CIFIC CON- DUCTANCE (MICRO- MHOS)	pH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, SATUR- ATION	COLI- FORM, FECAL, CFU, 100 ML	STREP- TOCOCCI FECAL, KF AGAR (COLS, PER 100 ML)
OCT											
05...	1515	11	17500	8.1	18.0	--	--	--	--	--	--
13...	0930	2.6	16200	8.2	8.0	5	--	10.5	96	330	340
15...	1200	1.5	21000	7.8	15.0	--	--	--	--	--	--
26...	1705	2.3	17300	7.9	22.5	--	--	--	--	--	--
NOV											
02...	1000	3.0	30000	8.4	6.5	20	--	10.6	91	11900	1440
05...	1630	6.0	11700	8.2	19.0	--	--	--	--	--	--
14...	1325	19	10200	8.1	14.0	--	--	--	--	--	--
25...	1130	29	7550	8.3	7.0	--	--	--	--	--	--
DEC											
04...	1500	53	9280	8.4	9.5	--	--	--	--	--	--
15...	1020	80	6510	7.9	5.0	--	--	--	--	--	--
21...	1200	40	7400	8.2	1.5	220	--	13.4	100	88	270
24...	1550	52	9550	8.1	8.5	--	--	--	--	--	--
JAN											
05...	1500	40	15000	8.3	3.0	--	--	--	--	--	--
15...	1420	34	12400	8.0	3.0	--	--	--	--	--	--
26...	1530	60	18700	8.0	2.0	--	--	--	--	--	--
MAR											
04...	1620	131	9970	8.1	5.0	--	--	--	--	--	--
14...	1420	110	6770	8.1	12.0	--	--	--	--	--	--
25...	1700	97	7170	8.2	13.5	--	--	--	--	--	--
29...	1200	123	7000	8.1	18.0	170	--	9.9	110	350	380
APR											
05...	0705	23	13000	8.1	16.5	--	--	--	--	--	--
15...	0820	22	17200	8.1	14.0	--	--	--	--	--	--
19...	1545	21	9850	8.4	17.5	7	--	9.4	103	--	43
25...	0730	16	11600	8.3	11.5	--	--	--	--	--	--
MAY											
02...	1500	1110	--	--	--	--	--	--	--	--	--
05...	0800	549	5230	7.5	11.0	--	--	--	--	--	--
15...	0800	127	5340	8.0	12.5	--	--	--	--	--	--
25...	0745	391	4720	8.0	20.5	--	--	--	--	--	--
25...	1000	372	25600	7.9	20.0	--	510	8.4	96	93	71
JUN											
05...	0930	1160	10100	7.7	21.0	--	--	--	--	--	--
15...	0830	262	2460	7.4	22.0	--	--	--	--	--	--
15...	1100	255	2400	8.1	24.0	--	6200	8.7	109	52	44
25...	0730	40	3680	8.0	25.5	--	--	--	--	--	--
JUL											
05...	1000	1.5	7390	8.0	26.0	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHMS)	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, UMMF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUL											
12...	1215	79	3440	8.3	28.0	--	70	8.0	108	210	100
15...	1000	34	4910	8.0	25.0	--	--	--	--	--	--
27...	1730	1.5	12900	8.1	34.0	--	--	--	--	--	--
AUG											
05...	1700	79	1990	8.0	33.0	--	--	--	--	--	--
14...	1330	8.0	11200	8.1	31.0	--	--	--	--	--	--
29...	1430	2.6	45600	7.8	25.0	--	--	--	--	--	--
SEP											
21...	0800	49	52000	7.6	12.0	--	--	--	--	--	--
25...	1700	21	39900	8.1	21.0	--	--	--	--	--	--
30...	1100	7.0	31000	7.6	25.0	--	--	--	--	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCAR- BONATE (MG/L CACO3)	CALCIUM DISE- SOLVED (MG/L AS CA)	MAGNE- SIUM, DISE- SOLVED (MG/L AS MG)	SODIUM, DISE- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DISE- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)
UCT										
05...	890	730	220	83	3900	90	57	12	200	0
13...	940	760	240	82	3200	88	46	11	220	0
15...	1100	990	300	95	4700	90	61	12	180	0
26...	840	690	200	83	3800	91	57	11	180	0
NOV										
02...	1100	910	270	100	6500	93	86	13	210	0
05...	700	520	170	66	2500	88	38	8.8	210	0
14...	510	320	100	64	2000	89	38	8.1	240	0
25...	580	400	140	57	1400	84	25	7.3	220	0
DEC										
04...	580	390	140	55	1900	88	34	8.2	230	0
15...	520	330	130	47	1200	83	23	8.2	230	0
21...	730	490	190	63	1800	82	28	8.6	300	0
24...	640	430	160	58	1900	85	33	8.4	260	0
JAN										
05...	770	550	190	71	3100	90	49	8.8	260	0
15...	750	530	190	67	2500	88	40	16	270	0
26...	860	640	210	82	4000	91	59	9.8	270	0
MAR										
04...	620	400	150	60	2000	87	35	10	270	0
14...	560	380	140	52	1300	83	24	9.2	230	0
25...	520	330	130	48	1400	85	27	9.2	230	0
29...	540	350	120	58	1500	86	28	7.8	230	0
APR										
05...	760	560	200	64	2700	88	43	12	250	0
15...	890	710	230	77	3700	90	54	13	220	0
19...	740	540	180	70	2300	87	37	11	240	0
25...	720	570	180	65	2400	88	39	11	180	0
MAY										
02...	--	--	--	--	--	--	--	--	--	--
05...	390	220	100	35	960	84	21	10	210	0
15...	540	340	130	52	930	79	17	11	240	0
25...	480	280	120	44	820	78	16	9.7	250	0
25...	840	690	170	100	6800	95	102	18	--	--
JUN										
05...	580	400	150	49	2000	88	36	9.9	220	0
15...	390	210	100	35	360	66	7.9	9.6	230	0
19...	390	190	97	35	370	67	8.2	9.7	--	--
25...	500	320	130	43	590	71	11	8.6	220	0
JUL										
05...	660	490	170	56	1500	83	26	9.4	200	0
12...	460	250	120	39	570	72	12	11	--	--
15...	520	330	130	47	860	78	16	10	230	0
27...	620	680	210	71	2800	88	43	12	170	0
AUG										
05...	240	140	69	17	300	72	8.4	8.5	130	0
14...	830	710	220	67	2300	86	35	12	140	0
29...	1400	1300	390	110	12000	95	138	22	140	0
SEP										
21...	1100	1100	270	110	14000	96	181	20	80	0
25...	1400	1300	380	110	10000	94	116	19	140	0
30...	1500	1400	490	93	9200	93	103	14	190	0

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ALKA- LITY (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, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
UCT										
05...	160	2.5	590	5900	--	--	10700	--	14.6	318
13...	180	2.2	590	5300	.8	18	9990	9550	13.6	70
15...	150	4.6	730	7100	--	--	13000	--	17.7	52
26...	150	3.6	560	5600	--	--	10500	--	14.3	69
NOV										
02...	170	1.5	510	10000	.7	14	18000	17500	24.5	146
05...	170	2.1	450	3500	--	--	6810	--	9.26	110
14...	200	3.1	300	3200	--	--	5880	--	8.00	302
25...	180	1.8	330	2100	--	--	4280	--	5.82	335
DEC										
04...	190	1.5	320	3000	--	--	5400	--	7.34	773
15...	190	4.6	250	1900	--	--	3700	--	5.03	799
21...	250	3.0	480	2400	.9	22	4900	4910	8.66	529
24...	210	3.3	340	3000	--	--	5590	--	7.60	785
JAN										
05...	210	2.1	430	4800	--	--	8890	--	12.1	960
15...	220	4.3	420	3900	--	--	7140	--	9.71	655
26...	220	4.3	490	6300	--	--	11000	--	15.0	1780
MAR										
04...	220	3.4	320	3100	--	--	2790	--	3.79	987
14...	190	2.9	330	2000	--	--	3790	--	5.15	1130
25...	190	2.3	470	2100	--	--	4020	--	5.47	1050
29...	190	2.9	330	2200	.9	16	3750	4350	5.10	1250
APR										
05...	210	3.2	410	4400	--	--	7450	--	10.1	463
15...	180	2.8	490	5900	--	--	10800	--	14.7	642
19...	200	1.5	460	3400	.8	19	6850	6560	9.32	388
25...	150	1.4	470	3700	--	--	6850	--	9.32	296
MAY										
02...	--	--	--	--	--	--	--	--	--	--
05...	170	11	200	1500	--	--	2870	--	3.90	4250
15...	200	3.8	280	1500	--	--	2660	--	3.62	912
25...	210	4.0	270	1300	--	--	2760	--	3.75	2910
25...	150	--	440	11000	.5	11	18500	18600	25.2	18600
JUN										
05...	180	7.0	400	3000	--	--	6050	--	8.23	18900
15...	190	15	220	540	--	--	1430	--	1.94	1010
15...	200	--	200	580	1.0	18	1420	1430	1.93	978
25...	180	3.5	240	940	--	--	2200	--	2.99	238
JUL										
05...	160	3.2	650	2100	--	--	4460	--	6.07	18
12...	210	--	240	900	.8	26	2030	2030	2.76	433
15...	190	3.7	370	1300	--	--	2890	--	3.93	265
27...	140	2.2	640	4300	--	--	7750	--	10.5	31
AUG										
05...	110	2.1	160	460	--	--	1130	--	1.54	241
14...	110	1.8	600	3600	--	--	6710	--	9.13	109
29...	110	3.6	2400	18000	--	--	32000	--	43.5	225
SEP										
21...	66	3.2	--	19000	--	--	37300	--	50.7	4940
25...	110	1.8	1000	15000	--	--	27800	--	37.8	1580
30...	160	7.6	1100	14000	--	--	20500	--	27.9	387

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WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible][illegible][illegible]

ARKANSAS RIVER BASIN

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07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILVER, DTS- SOLVED (UG/L AS AR)	ZINC, TOTAL RECOVER- ABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOVER- ABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARRON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARRON, SUS- PENDED TOTAL (MG/L AS C)	PHYTU- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT CHARGE, SUS- PENDED (T/DAY)	SFD, SUSP. SIFVE DIAM. % FINER THAN .062 MM
UCT 13...	--	--	--	--	2.7	--	--	--	572	3.7	100
NOV 02...	0	70	30	40	--	3.2	.4	400	446	3.6	99
DEC 21...	--	--	--	--	--	--	--	--	492	53	96
MAR 29...	--	--	--	--	5.1	--	--	4400	375	125	95
APR 19...	--	--	--	--	2.8	--	--	--	218	12	98
MAY 02...	--	--	--	--	--	--	--	--	10860	32500	--
MAY 25...	0	100	60	40	--	4.4	--	6100	2140	2170	98
JUN 15...	--	--	--	--	128	--	--	5	--	--	94
JUL 12...	--	--	--	--	7.0	--	--	--	154	33	99

DATE	TIME	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL (UG/KG)	ATRA- ZINE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL (UG/KG)	DDT, TOTAL (UG/L)
NOV 02...	1000	ND	--	ND	ND	--	ND	--	ND	--	ND
MAY 25...	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 02...	0915	ND	--	ND	ND	--	ND	--	ND	--	ND

DATE	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/KG)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, TOTAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL (UG/KG)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/KG)
NOV 02...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 25...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 02...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL (UG/KG)	MALA- THION, TOTAL (UG/L)	MALA- THION, TOTAL (UG/KG)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/KG)	METHYL TRI- THION, TOTAL (UG/L)
NOV 02...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 25...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 02...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG)	PARA- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/KG)	TOXA- PHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL (UG/KG)	TRI- THION, TOTAL (UG/L)	TRI- THION, TOTAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 02...	--	ND	--	ND	--	ND	--	ND	ND	ND
MAY 25...	ND	ND	ND	ND	ND	ND	ND	--	--	--
AUG 02...	--	ND	--	ND	--	ND	--	--	--	--

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO JUNE 1978

DATE TIME	NOV 1000	2,77	MAR 1200	29,78	MAY 1000	25,78	JUN 1100	15,78
TOTAL CELLS/ML	400		4400		6100		5	
DIVERSITY: DIVISION	1.8		1.2		1.4		0.0	
..CLASS	1.8		1.2		1.4		0.0	
...ORDER	2.2		1.4		1.7		0.0	
...FAMILY	2.5		2.0		2.2		0.0	
....GENUS	2.6		2.0		2.3		0.0	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
...SCHROEDERIA								
...NOCTYACEAE	68#	17	--	-	--	-	--	-
...ANKISTRODESMUS	32	8	57	1	140	2	--	-
...TREVABATA	11	3	--	-	--	-	--	-
...SCENEDESMACEAE								
...SCENEDESMUS	*	0	110	3	570	9	--	-
...TETRASTRUM	--	-	--	-	--	-		5#100
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	11	3	1900#	42	240	4	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
..PENNALES								
...NAVICULACEAE								
...ENTOMONEIS	--	-	29	1	--	-	--	-
..CENTRALES								
...COSCINODISCACEAE								
...CYCLOTETRA	32	8	--	-	95	2	--	-
..PENNALES								
...CYMBELLACEAE								
...AMPHORA	--	-	--	-	47	1	--	-
...DIATOMACEAE								
...DIATOMA	--	-	--	-	380	6	--	-
...OPEPHORA	--	-	170	4	--	-	--	-
...GOMPHONEMACEAE								
...GOMPHONEMA	--	-	--	-	950#	16	--	-
...NAVICULACEAE								
...CALONEIS	--	-	--	-	95	2	--	-
...NAVICULA	--	-	340	8	430	7	--	-
...NITZSCHACEAE								
...NITZSCHIA	140#	35	1600#	36	--	-	--	-
...SURIPELLACEAE								
...SURIPELLA	--	-	29	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...HORMOGONALES								
...NOSTOCACEAE								
...ANABAENA	84#	21	--	-	--	-	--	-
...OSCILLATORIACEAE								
...OSCILLATORIA	--	-	--	-	3200#	52	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
...EUGLENA	16	4	200	5	--	-	--	-
...TRACHELOMONAS	11	3	--	-	--	-	--	-

NOTE: # = DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* = OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

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07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27800	25100	15100	---	15200	---	9940	27700	3790	5480	---	---
2	12200	37200	9210	---	16600	---	24900	28200	4280	5480	---	---
3	12300	26000	10200	---	9970	9010	14100	9200	5090	6280	---	---
4	15300	11600	9280	12800	9940	9970	13200	7700	5180	6250	15400	---
5	17500	11700	---	15000	9650	10100	13000	5230	10100	7390	1990	---
6	22600	17500	12300	13900	7600	6560	16500	7000	4590	7380	4120	---
7	31500	16900	9970	14800	9940	4670	11200	12900	4120	3280	1940	---
8	39800	16500	10000	10800	---	5700	15400	7000	4070	3240	4120	---
9	17200	53800	16400	7940	---	6070	15300	5170	2480	2180	48600	---
10	11200	10200	11100	7120	---	7370	68400	5260	2290	2180	48700	---
11	18600	8720	8920	---	---	8980	24400	5910	3930	3570	9830	---
12	---	---	10600	---	---	5890	16300	6220	1990	3550	8800	---
13	17200	9300	12100	---	---	8510	16200	5300	2110	3760	6790	---
14	19400	10200	4740	14000	---	6770	12300	6050	2210	6560	11200	---
15	21000	10800	6510	12400	---	6430	17200	5340	2460	4910	14400	---
16	22600	10400	---	---	---	8230	19800	6940	2790	4920	16200	---
17	17800	10300	13800	32400	---	5520	18300	7330	3090	5850	16400	---
18	18200	8230	6770	17100	---	6630	24700	7730	3060	6170	---	---
19	15800	11000	9050	---	---	7430	13500	4110	3850	6180	---	---
20	17400	11200	6690	---	---	7200	13400	4100	3850	8170	---	---
21	18100	9010	10200	---	---	7630	12200	4170	3820	8220	---	52000
22	16700	7680	14400	---	15700	6530	19400	6610	4370	73300	---	47500
23	22800	9640	10000	---	24800	9800	17400	4650	4810	12400	---	42600
24	22500	7940	9550	---	---	26200	11500	4580	4790	21600	---	39700
25	25700	7550	---	35900	---	7170	11600	4720	3880	7760	---	39900
26	17300	7410	6630	18700	---	6590	12200	4170	4550	7780	---	55300
27	15200	10400	8920	11900	---	7060	16100	4160	4540	12900	---	61400
28	14000	7200	10600	11100	---	7910	16000	4100	5030	16200	80000	44400
29	14800	10100	10100	10800	---	7430	22500	3270	5040	---	45600	31100
30	19400	9040	8280	9570	---	7710	23600	3660	5450	---	28800	31000
31	27200	---	8100	10500	---	7590	---	4100	---	---	---	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	12.0	11.0	---	1.0	---	15.0	9.0	20.0	30.5	---	---
2	22.0	13.0	6.5	---	2.0	---	20.5	8.5	20.0	30.0	---	---
3	23.0	16.0	7.0	---	2.5	.5	15.5	8.5	21.0	34.0	---	---
4	25.0	15.0	9.5	1.0	3.5	5.0	15.0	8.0	21.5	29.0	26.0	---
5	18.0	19.0	---	3.0	3.0	10.0	16.5	11.0	21.0	26.0	33.0	---
6	16.5	15.0	4.0	8.0	1.0	5.0	11.0	10.5	21.5	25.0	32.0	---
7	22.0	19.0	6.0	3.0	.5	4.0	16.0	16.0	21.0	25.0	30.0	---
8	20.5	13.0	2.0	8.0	---	9.5	17.0	13.0	25.0	25.5	28.0	---
9	20.0	5.0	3.0	---	---	13.0	20.0	13.5	20.0	24.0	25.0	---
10	17.0	13.0	5.0	---	---	13.5	9.5	15.0	20.0	23.0	25.0	---
11	20.0	8.5	3.0	---	---	8.0	6.5	16.0	21.0	26.0	30.5	---
12	---	---	7.0	---	---	12.0	11.0	19.0	20.5	29.0	28.0	---
13	22.0	17.0	10.0	---	---	14.0	10.0	11.5	25.0	30.0	30.0	---
14	24.0	14.0	7.0	---	---	12.0	12.5	23.0	22.0	33.0	31.0	---
15	15.0	14.5	5.0	---	---	8.0	14.0	12.5	22.0	25.0	20.0	---
16	20.0	7.5	---	---	---	12.0	14.0	16.0	22.0	26.5	20.5	---
17	21.0	14.0	9.0	1.0	---	16.5	14.0	15.5	22.0	26.0	20.0	---
18	24.0	13.0	10.0	.0	---	18.0	7.0	16.5	21.0	28.0	---	---
19	22.0	12.0	5.0	---	---	14.0	5.5	21.0	28.0	27.0	---	---
20	25.0	8.0	3.0	---	---	17.5	8.0	18.5	26.0	30.0	---	---
21	20.0	5.0	5.0	---	---	15.0	8.0	21.0	21.0	29.0	---	12.0
22	15.5	5.0	2.0	---	5.0	20.0	19.0	19.0	20.5	30.0	---	22.0
23	21.0	12.0	7.0	---	5.0	9.0	19.5	22.0	28.0	32.0	---	26.0
24	18.5	8.5	8.5	---	---	13.0	11.0	21.5	25.0	31.5	---	25.0
25	20.0	7.0	---	2.0	---	13.5	11.5	20.5	25.5	23.0	---	21.0
26	22.5	6.5	4.0	2.0	---	18.0	10.5	20.0	33.0	23.0	---	25.0
27	20.0	12.0	3.0	2.5	---	8.5	10.5	20.5	30.0	34.0	---	20.0
28	24.0	7.0	2.0	3.0	---	11.5	14.5	22.0	31.0	34.5	31.0	18.0
29	24.0	13.5	8.5	1.5	---	12.5	16.0	21.5	32.0	---	25.0	23.0
30	22.0	7.0	5.0	1.0	---	11.0	17.0	22.0	30.0	---	24.0	25.0
31	19.5	---	8.0	.0	---	14.0	---	24.5	---	---	---	---

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHUS/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	27800	32400	14900	11400	13000	8010	9980		---	5570	---	---
2	12000	47400	9340	14100	13400	10100	24600		---	5420	---	---
3	12100	28200	18100	11600	9500	9820	13900		---	6150	---	---
4	16600	11700	11700	12300	10000	9160	13200		---	6310	---	---
5	17700	10800	8840	12600	8110	8620	13400		---	7470	---	---
6	21900	18500	11200	14500	6050	6110	16300		---	7470	---	---
7	29500	17100	9770	13500	10100	5090	11400		---	---	---	---
8	39800	36200	---	9830	---	5750	15500		---	5350	---	---
9	19600	40700	---	8460	---	6030	15300		---	24300	---	---
10	12600	12200	---	7120	---	7140	61600		---	---	---	---
11	18100	8920	---	9540	---	6040	---		---	---	---	---
12	16800	9540	---	12700	---	5810	---		---	---	---	---
13	18200	9570	---	13800	---	10500	---		---	---	---	---
14	19600	10300	---	12500	---	7040	---		---	---	---	---
15	21000	10600	---	10400	---	11200	---		---	---	---	---
16	28100	9990	---	28100	---	10100	---		---	---	16700	---
17	18700	9780	---	38400	---	5560	---		---	---	16300	---
18	18700	8320	---	17100	---	5880	---		---	---	14500	---
19	16200	11400	---	16500	---	7640	---		---	6370	12800	---
20	17200	12000	---	16500	---	7030	---		---	8250	---	---
21	17900	9110	---	19500	---	7480	---		---	8100	---	53300
22	16700	7690	12700	21700	14800	6990	---		---	14100	---	47400
23	25400	8390	8740	24500	25900	8760	---		---	14600	---	42700
24	27200	8680	8010	27800	28500	16200	---		---	23300	---	39800
25	26600	7430	5760	29900	20400	9520	---		---	8050	---	39500
26	20400	7550	5960	16800	13800	6690	---		---	7960	---	53900
27	15600	10100	7790	10900	10600	7080	---		---	12400	---	60500
28	13500	8370	9500	9700	9870	7900	---		---	16000	---	44600
29	14700	11400	10400	9950	---	7750	---		4790	---	---	31100
30	21500	11400	8890	10500	---	7640	---		5660	---	---	30800
31	26500	---	8080	9470	---	7760	---		---	---	---	---

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	11.0	4.5	.0	.0	.5	19.5		---	32.0	---	---
2	17.5	10.0	6.0	.0	.0	1.0	20.0		---	---	---	---
3	17.0	12.5	5.0	.0	.5	.0	19.5		---	---	---	---
4	17.5	12.0	3.5	.5	.5	1.0	18.5		---	---	---	---
5	17.5	14.0	4.5	1.0	.0	4.0	19.0		---	---	---	---
6	15.5	16.5	2.0	2.0	.0	3.5	17.5		---	32.5	---	---
7	20.0	16.0	1.0	2.0	.0	2.0	21.5		---	32.0	---	---
8	17.0	13.0	---	.5	.0	4.5	22.0		---	35.0	---	---
9	15.0	5.5	---	.5	.0	6.0	20.5		---	---	---	---
10	15.0	6.0	---	.5	.0	9.0	12.0		---	33.5	---	---
11	13.0	9.0	---	.5	.0	8.5	---		---	---	---	---
12	13.0	10.0	---	.5	---	7.5	---		---	---	---	---
13	15.0	11.5	---	.5	-0.5	9.0	---		---	---	---	---
14	16.0	10.0	---	.5	.0	7.5	---		---	---	---	---
15	13.5	9.0	---	.5	.0	7.5	---		---	---	---	---
16	12.5	9.5	---	.0	.0	7.0	---		---	---	---	---
17	14.5	8.5	---	.5	.0	9.5	---		---	---	---	---
18	14.5	9.0	---	.0	.0	12.5	---		---	---	---	---
19	15.5	11.5	---	.0	.0	12.0	---		---	---	---	---
20	16.5	7.5	---	.0	-0.5	12.0	---		---	---	---	19.0
21	17.5	3.0	---	-0.5	.0	13.5	---		---	32.5	---	18.5
22	16.0	4.5	.5	-0.5	.0	15.5	---		---	32.5	---	20.5
23	16.0	6.5	2.5	.0	.0	8.5	---		---	---	---	24.0
24	17.0	5.0	4.5	-0.5	.0	8.0	---		---	---	---	27.0
25	17.0	7.0	1.0	-0.5	2.0	8.5	---		---	---	---	26.5
26	16.5	5.5	1.0	.0	1.0	11.5	---		---	---	---	27.5
27	16.5	7.5	.5	.0	1.5	15.0	---		---	---	---	29.0
28	19.0	6.0	1.0	.0	1.5	17.0	---		---	---	---	29.5
29	18.0	5.5	3.5	.0	---	18.0	---		---	---	---	28.5
30	19.0	5.5	3.0	.0	---	18.0	---		32.5	---	---	27.0
31	16.5	---	3.0	.0	---	19.5	---		---	---	---	---

ARKANSAS RIVER BASIN

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07157950 CIMARRON RIVER NEAR BUFFALO, 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	950	1100	550	440	490	340	400		---	270	---	---
2	460	1500	380	530	520	410	850		---	260	---	---
3	470	960	650	450	390	400	520		---	280	---	---
4	600	450	450	470	400	380	500		---	290	---	---
5	640	430	370	480	340	360	510		---	320	---	---
6	770	660	440	540	300	280	590		---	320	---	---
7	1000	620	400	510	410	250	440		---	---	---	---
8	1300	1200	---	400	---	270	570		---	200	---	---
9	700	1300	---	350	---	280	560		---	840	---	---
10	480	470	---	310	---	310	2000		---	---	---	---
11	650	370	---	390	---	340	---		---	---	---	---
12	610	390	---	480	---	270	---		---	---	---	---
13	650	390	---	520	---	420	---		---	---	---	---
14	700	410	---	480	---	310	---		---	---	---	---
15	740	420	---	410	---	440	---		---	---	---	---
16	960	400	---	960	---	410	---		---	---	610	---
17	670	400	---	1300	---	270	---		---	---	590	---
18	670	350	---	620	---	280	---		---	---	540	---
19	590	440	---	600	---	330	---		---	290	490	---
20	620	460	---	600	---	310	---		---	350	---	---
21	640	370	---	690	---	320	---		---	340	---	1700
22	610	330	480	760	550	310	---		---	530	---	1500
23	870	350	360	850	890	360	---		---	540	---	1400
24	930	360	340	950	970	590	---		---	810	---	1300
25	910	320	270	1000	720	390	---		---	340	---	1300
26	720	330	280	610	520	300	---		---	340	---	1700
27	570	410	330	430	420	310	---		---	460	---	1900
28	510	350	390	390	400	340	---		---	590	---	1500
29	550	440	410	400	---	330	---		240	---	---	1000
30	750	440	370	420	---	330	---		270	---	---	1000
31	910	---	340	390	---	330	---		---	---	---	---

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	59.00	8.32	63.9	60.6	103.0	226.0	72.4		---	2.19	---	---
2	26.10	11.70	47.2	83.0	98.3	246.0	112.0		---	1.83	---	---
3	22.80	9.07	87.7	65.6	34.7	165.0	47.7		---	1.74	---	---
4	24.30	5.83	64.4	58.4	38.9	140.0	33.7		---	1.49	---	---
5	20.70	7.20	54.9	51.8	44.1	173.0	31.7		---	1.30	---	---
6	19.30	13.70	53.5	56.9	55.9	249.0	36.6		---	1.64	---	---
7	21.30	15.70	45.4	50.9	73.1	169.0	26.1		---	---	---	---
8	22.80	38.90	---	38.9	---	124.0	32.3		---	972.00	---	---
9	11.30	52.60	---	33.1	---	98.3	34.8		---	1040.00	---	---
10	7.78	21.60	---	33.5	---	100.0	427.0		---	---	---	---
11	9.48	18.00	---	52.6	---	101.0	---		---	---	---	---
12	7.08	20.00	---	77.8	---	68.5	---		---	---	---	---
13	4.74	21.10	---	70.2	---	113.0	---		---	---	---	---
14	3.78	21.00	---	50.5	---	92.1	---		---	---	---	---
15	3.20	22.70	---	38.7	---	154.0	---		---	---	---	---
16	2.85	22.70	---	82.9	---	177.0	---		---	---	1.00	---
17	1.36	23.80	---	116.0	---	94.8	---		---	---	1.19	---
18	1.36	20.80	---	63.6	---	83.2	---		---	---	.79	---
19	1.19	27.30	---	79.4	---	89.1	---		---	14.10	.09	---
20	1.26	29.80	---	81.0	---	77.8	---		---	11.30	---	---
21	1.30	25.00	---	85.7	---	83.8	---		---	6.33	---	216.0
22	1.40	22.30	57.0	86.2	148.0	81.2	---		---	52.90	---	93.1
23	3.05	24.60	47.6	87.2	336.0	81.6	---		---	42.30	---	68.0
24	3.77	26.20	47.7	110.0	498.0	116.0	---		---	52.50	---	49.1
25	4.18	24.20	43.7	140.0	467.0	90.6	---		---	12.90	---	66.7
26	4.28	27.60	43.8	93.9	309.0	99.6	---		---	5.51	---	138.0
27	4.31	36.50	44.5	56.9	215.0	121.0	---		---	1.94	---	103.0
28	5.09	33.10	40.0	56.9	271.0	129.0	---		---	.37	---	56.7
29	4.45	42.80	39.9	65.9	---	110.0	---		5.44	---	---	27.0
30	6.07	47.50	42.0	74.8	---	90.0	---		2.92	---	---	19.7
31	7.37	---	56.0	83.2	---	75.7	---		---	---	---	---

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, 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	10000	12000	5200	3800	4400	2500	3200		---	1500	---	---
2	4000	18000	5000	4900	4800	3300	9000		---	1400	---	---
3	4100	10000	6500	3900	3100	3200	4800		---	1700	---	---
4	5900	3900	3900	4200	3300	2900	4500		---	1800	---	---
5	6300	3600	2600	4300	2500	2700	4600		---	2300	---	---
6	8000	6600	3700	5000	1900	1700	5700		---	2300	---	---
7	11000	6100	4200	4600	3300	1300	3800		---	---	---	---
8	15000	14000	---	5200	---	1600	5400		---	610	---	---
9	7100	15000	---	2600	---	1700	5400		---	8900	---	---
10	4300	4100	---	2100	---	2100	24000		---	---	---	---
11	6500	2800	---	3100	---	2500	---		---	---	---	---
12	5900	3100	---	4300	---	1600	---		---	---	---	---
13	6500	3100	---	4800	---	3500	---		---	---	---	---
14	7100	3400	---	4200	---	2100	---		---	---	---	---
15	7600	3500	---	3400	---	3700	---		---	---	---	---
16	10000	3300	---	10000	---	3300	---		---	---	5900	---
17	6700	3200	---	15000	---	1500	---		---	---	5700	---
18	6700	2600	---	6100	---	1600	---		---	---	5000	---
19	5700	3800	---	5800	---	2300	---		---	1800	4400	---
20	6100	4000	---	5400	---	2100	---		---	2600	---	---
21	6400	2900	---	7000	---	2300	---		---	2500	---	20000
22	5900	2300	4300	7900	5200	2100	---		---	4900	---	18000
23	9400	2600	2000	9000	9600	2800	---		---	5100	---	16000
24	10000	2700	2500	10000	11000	5700	---		---	8500	---	15000
25	9800	2200	1600	11000	7400	3100	---		---	2500	---	15000
26	7400	2300	1700	5900	4800	1900	---		---	2400	---	21000
27	5500	3300	2400	3600	3500	2100	---		---	4200	---	23000
28	4600	2600	3100	3100	3200	2400	---		---	5600	---	17000
29	5100	3800	3400	3200	---	2400	---		1200	---	---	12000
30	7800	3800	2800	3500	---	2300	---		1500	---	---	11000
31	9800	---	2500	3000	---	2400	---		---	---	---	---

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	621.0	90.7	604.0	523.0	927.0	1660.0	579.0		---	12.20	---	---
2	227.0	141.0	373.0	767.0	907.0	1980.0	1190.0		---	9.83	---	---
3	199.0	94.5	877.0	569.0	276.0	1320.0	441.0		---	10.60	---	---
4	239.0	50.5	558.0	522.0	321.0	1060.0	304.0		---	9.23	---	---
5	204.0	60.3	416.0	464.0	324.0	1300.0	286.0		---	9.31	---	---
6	201.0	137.0	450.0	526.0	354.0	1510.0	354.0		---	11.80	---	---
7	235.0	155.0	363.0	460.0	588.0	877.0	226.0		---	---	---	---
8	263.0	454.0	---	311.0	---	734.0	306.0		---	2960.00	---	---
9	115.0	607.0	---	246.0	---	597.0	335.0		---	11100.00	---	---
10	69.7	188.0	---	227.0	---	680.0	5120.0		---	---	---	---
11	94.8	136.0	---	418.0	---	742.0	---		---	---	---	---
12	68.5	159.0	---	697.0	---	406.0	---		---	---	---	---
13	47.4	167.0	---	648.0	---	945.0	---		---	---	---	---
14	38.3	174.0	---	442.0	---	624.0	---		---	---	---	---
15	32.8	189.0	---	321.0	---	1300.0	---		---	---	---	---
16	29.7	187.0	---	864.0	---	1430.0	---		---	---	9.72	---
17	13.6	190.0	---	1340.0	---	526.0	---		---	---	11.50	---
18	13.6	154.0	---	626.0	---	475.0	---		---	---	7.29	---
19	11.5	236.0	---	767.0	---	621.0	---		---	87.50	.83	---
20	12.4	259.0	---	783.0	---	527.0	---		---	84.20	---	---
21	13.0	196.0	---	869.0	---	602.0	---		---	46.60	---	2540.0
22	13.5	155.0	511.0	896.0	1400.0	550.0	---		---	490.00	---	1120.0
23	33.0	183.0	370.0	923.0	3630.0	635.0	---		---	399.00	---	778.0
24	40.5	197.0	351.0	1160.0	5640.0	1120.0	---		---	551.00	---	567.0
25	45.0	166.0	259.0	1540.0	4800.0	720.0	---		---	94.50	---	769.0
26	44.0	193.0	266.0	908.0	2850.0	631.0	---		---	38.90	---	1700.0
27	41.6	294.0	324.0	476.0	1800.0	816.0	---		---	17.00	---	1240.0
28	46.0	246.0	318.0	452.0	2170.0	907.0	---		---	3.48	---	643.0
29	41.3	369.0	330.0	527.0	---	797.0	---		27.2	---	---	324.0
30	63.2	410.0	318.0	624.0	---	627.0	---		16.2	---	---	217.0
31	79.4	---	412.0	640.0	---	551.0	---		---	---	---	---

ARKANSAS RIVER BASIN

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07157950 CIMARRON RIVER NEAR BUFFALO, 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	18600	21900	9430	6940	8080	4530	5930		---	2800	---	---
2	7370	32500	5480	8860	8720	6020	16300		---	2690	---	---
3	7440	18900	11700	7090	5590	5820	8720		---	3210	---	---
4	10600	7160	7160	7580	5950	5350	8220		---	3330	---	---
5	11400	6520	5120	7800	4610	4970	8360		---	4150	---	---
6	14400	12000	6800	9150	3570	3180	10400		---	4150	---	---
7	19800	11000	5780	8440	6020	2460	6940		---	---	---	---
8	27100	24600	---	5830	---	2930	9860		---	1210	---	---
9	12800	27800	---	4850	---	3130	9710		---	16100	---	---
10	7800	7510	---	3900	---	3920	42600		---	---	---	---
11	11700	5180	---	5620	---	4560	---		---	---	---	---
12	10800	5620	---	7870	---	2970	---		---	---	---	---
13	11800	5640	---	8650	---	6300	---		---	---	---	---
14	12800	6160	---	7720	---	3840	---		---	---	---	---
15	13800	6370	---	6230	---	6800	---		---	---	---	---
16	18800	5940	---	18800	---	6020	---		---	---	10700	---
17	12100	5790	---	26100	---	2790	---		---	---	10400	---
18	12100	4750	---	11000	---	3020	---		---	---	9150	---
19	10400	6940	---	10600	---	4270	---		---	3370	7940	---
20	11100	7370	---	10600	---	3840	---		---	4700	---	---
21	11600	5320	---	12700	---	4160	---		---	4600	---	36700
22	10700	4510	7870	14300	9560	3810	---		---	8860	---	32500
23	16900	4800	5050	16300	17200	5070	---		---	9220	---	29200
24	18200	5010	4530	18600	19100	10400	---		---	15400	---	27100
25	17700	4120	2940	20100	13300	5610	---		---	4560	---	26900
26	13300	4210	3090	10800	8650	5600	---		---	4500	---	37100
27	9930	6020	4540	6540	6370	3870	---		---	7650	---	41800
28	8440	4790	5590	5740	5860	4460	---		---	10200	---	30500
29	9290	6940	6230	5910	---	4350	---		2250	---	---	20900
30	14100	6940	5160	6300	---	4270	---		2860	---	---	20700
31	17700	---	4580	5570	---	4360	---		---	---	---	---

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	1160.0	166.0	1090.0	956.0	1700.0	3010.0	1070.0		---	22.70	---	---
2	418.0	254.0	681.0	1390.0	1650.0	3610.0	2160.0		---	18.90	---	---
3	362.0	179.0	1580.0	1030.0	498.0	2400.0	800.0		---	19.90	---	---
4	429.0	92.8	1020.0	941.0	576.0	1960.0	555.0		---	17.10	---	---
5	369.0	109.0	760.0	842.0	597.0	2390.0	519.0		---	16.80	---	---
6	362.0	249.0	626.0	963.0	665.0	2820.0	646.0		---	21.30	---	---
7	422.0	279.0	655.0	843.0	1070.0	1660.0	412.0		---	---	---	---
8	476.0	797.0	---	567.0	---	1340.0	559.0		---	5880.00	---	---
9	207.0	1130.0	---	458.0	---	1100.0	603.0		---	20000.00	---	---
10	126.0	345.0	---	421.0	---	1270.0	9090.0		---	---	---	---
11	171.0	252.0	---	759.0	---	1350.0	---		---	---	---	---
12	125.0	288.0	---	1270.0	---	754.0	---		---	---	---	---
13	86.0	305.0	---	1170.0	---	1700.0	---		---	---	---	---
14	69.1	316.0	---	813.0	---	1140.0	---		---	---	---	---
15	59.6	344.0	---	584.0	---	2390.0	---		---	---	---	---
16	55.8	337.0	---	1620.0	---	2600.0	---		---	---	17.60	---
17	24.5	344.0	---	2330.0	---	979.0	---		---	---	21.10	---
18	24.5	262.0	---	1130.0	---	897.0	---		---	---	13.30	---
19	21.1	431.0	---	1400.0	---	1150.0	---		---	164.00	1.50	---
20	22.5	478.0	---	1430.0	---	964.0	---		---	152.00	---	---
21	23.5	359.0	---	1580.0	---	1090.0	---		---	85.70	---	4660.0
22	24.6	291.0	935.0	1620.0	2530.0	998.0	---		---	885.00	---	2020.0
23	59.3	337.0	668.0	1670.0	6500.0	1150.0	---		---	722.00	---	1420.0
24	73.7	365.0	636.0	2160.0	9800.0	2050.0	---		---	998.00	---	1020.0
25	81.2	311.0	476.0	2820.0	8620.0	1300.0	---		---	172.00	---	1380.0
26	79.0	352.0	482.0	1660.0	5140.0	1200.0	---		---	72.90	---	3010.0
27	75.1	536.0	591.0	872.0	3270.0	1500.0	---		---	31.00	---	2260.0
28	84.3	453.0	574.0	837.0	3970.0	1690.0	---		---	6.33	---	1150.0
29	75.2	675.0	606.0	973.0	---	1440.0	---		51.0	---	---	564.0
30	114.0	750.0	585.0	1120.0	---	1160.0	---		30.9	---	---	408.0
31	143.0	---	754.0	1190.0	---	1000.0	---		---	---	---	---

ARKANSAS RIVER BASIN

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07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to current year.

WATER TEMPERATURE: October 1973 to current year.

INSTRUMENTATION.--Water quality monitor since October 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. 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,990 micromhos July 6, 1974; minimum daily, 349 micromhos Sept. 2, 1974.

WATER TEMPERATURE: Maximum daily, 34.0°C June 18, 1974, July 6, 1975, July 28, 1978; minimum daily, -1.0°C Feb. 16, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum 4,870 micromhos Aug. 1; minimum 1,440 micromhos May 30.

WATER TEMPERATURE: Maximum 34.0°C July 28; minimum 0.0°C Dec. 9, 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PFR- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL)	HARD- NESS (MG/L AS CACU3)
OCT										
01...	1130	.24	2710	7.8	22.0	--	--	--	--	1800
12...	1655	.12	2920	8.0	15.5	--	--	--	--	1700
31...	1945	.42	3130	7.9	16.5	--	--	--	--	--
NOV										
02...	1740	.54	3100	8.1	11.0	--	--	--	--	1800
16...	0915	.84	3210	8.0	11.0	--	--	--	--	1900
28...	1653	1.1	3300	7.9	7.0	--	--	--	--	2000
DEC										
10...	1520	1.1	3500	8.0	2.5	--	--	--	--	2000
13...	1030	1.2	3180	8.0	4.0	--	--	--	--	1900
22...	0930	.92	3300	7.9	1.0	2	13.0	98	11	--
22...	1720	.92	3350	8.0	3.0	--	--	--	--	2000
FEB										
26...	1510	7.4	2840	8.1	3.0	--	--	--	--	1700
MAR										
06...	0845	5.0	2710	7.9	4.0	--	--	--	--	1400
15...	1320	3.1	3000	8.1	9.0	--	--	--	--	1700
29...	1045	1.7	3170	7.4	15.5	--	6.2	65	--	--
31...	1630	1.4	3300	8.1	23.0	--	--	--	--	1900
APR										
05...	1315	1.1	3390	7.7	19.0	--	--	--	--	2100
12...	1315	1.2	3120	7.5	19.0	--	--	--	--	1800
19...	1430	.24	3500	7.8	14.0	4	10.3	104	11	--
MAY										
01...	1715	.18	3560	7.8	16.0	--	--	--	--	2100
09...	1620	1.2	3120	7.7	22.5	--	--	--	--	1800
30...	1645	.41	1450	7.4	27.0	--	--	--	--	720
JUN										
01...	1330	4.9	1920	7.5	24.0	--	--	--	--	970
13...	1855	5.4	2680	7.7	28.0	--	--	--	--	1400
15...	0915	4.5	2610	7.5	25.0	12	5.0	63	31	--
30...	1650	2.8	3400	7.4	30.0	--	--	--	--	1800
JUL										
02...	1935	3.0	3480	7.9	27.0	--	--	--	--	1700
13...	1440	.84	3500	7.6	29.0	2	7.2	97	39	--
29...	1054	.12	4310	7.8	26.0	--	--	--	--	2000
AUG										
02...	1220	6.1	1560	7.1	23.0	28	5.6	68	29	--
03...	1630	3.2	1820	7.8	28.0	--	--	--	--	980
SEP										
25...	1645	1.5	3470	7.2	20.0	--	--	--	--	1800

ARKANSAS RIVER BASIN

07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO ₃)	CALCIUM TOTAL RECov- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACO ₃)	MAGNE- SIUM, TOTAL RECov- ERABLE (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, TOTAL RECov- ERABLE (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO
OCT										
01...	1500	--	480	--	--	100	--	100	12	1.1
12...	1600	--	490	--	--	110	--	100	11	1.1
31...	--	--	--	--	--	--	--	--	--	--
NOV										
02...	1700	--	530	--	--	120	--	110	12	1.1
16...	1900	--	560	--	--	130	--	120	12	1.2
28...	1900	--	570	--	--	140	--	130	12	1.3
DEC										
10...	1900	--	550	--	--	150	--	140	13	1.4
13...	1800	--	540	--	--	130	--	120	12	1.2
22...	--	--	--	--	--	--	--	--	--	--
22...	1900	--	560	--	--	140	--	130	12	1.3
FEB										
26...	1600	--	480	--	--	130	--	100	11	1.0
MAR										
06...	1300	--	380	--	--	120	--	120	15	1.4
15...	1600	--	450	--	--	140	--	130	14	1.4
29...	--	--	--	--	--	--	--	--	--	--
31...	1800	--	510	--	--	150	--	150	15	1.5
APR										
05...	2000	--	590	--	--	160	--	150	13	1.4
12...	1600	--	460	--	--	150	--	140	15	1.5
19...	--	--	--	--	--	--	--	--	--	--
MAY										
01...	2000	--	560	--	--	160	--	170	15	1.6
09...	1600	--	470	--	--	150	--	130	14	1.3
30...	590	--	180	--	--	65	--	62	16	1.0
JUN										
01...	820	--	240	--	--	89	--	83	15	1.2
13...	1300	--	350	--	--	130	--	140	18	1.6
15...	--	--	--	--	--	--	--	--	--	--
30...	1700	--	480	--	--	150	--	170	17	1.7
JUL										
02...	1600	--	440	--	--	150	--	190	19	2.0
13...	--	617	--	1543	192	--	208	--	--	--
29...	1900	--	470	--	--	200	--	270	23	2.6
AUG										
02...	--	--	--	--	--	--	--	--	--	--
03...	900	--	320	--	--	45	--	54	11	.8
SEP										
25...	1700	--	480	--	--	150	--	180	18	1.8

ARKANSAS RIVER BASIN

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07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLU- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)
OCT									
01...	--	7.9	170	0	140	4.3	1400	150	--
12...	--	7.2	120	0	98	1.9	1500	150	--
31...	--	--	170	0	140	3.4	1700	150	--
NOV									
02...	--	8.1	100	0	82	1.3	1600	160	--
16...	--	7.8	94	0	77	1.5	1900	170	--
28...	--	6.7	98	0	80	2.0	1900	170	--
DEC									
10...	--	6.8	130	0	110	2.1	1800	200	--
13...	--	5.8	160	0	130	2.6	1600	180	--
22...	--	--	--	--	--	--	--	--	.4
22...	--	6.5	140	0	110	2.2	1800	180	--
FEB									
26...	--	5.9	200	0	160	2.5	1500	120	--
MAR									
06...	--	6.8	130	0	110	2.6	1300	150	--
15...	--	7.1	130	0	110	1.7	1500	160	--
29...	--	--	--	--	--	--	--	--	--
31...	--	7.8	140	0	110	1.8	1700	190	--
APR									
05...	--	8.4	180	0	150	5.7	1700	190	--
12...	--	8.9	170	0	140	8.6	1600	170	--
19...	--	--	--	--	--	--	--	--	.3
MAY									
01...	--	7.8	130	0	110	3.3	1900	230	--
09...	--	6.9	180	0	150	5.7	1600	160	--
30...	--	15	150	0	120	9.6	600	73	--
JUN									
01...	--	16	180	0	150	9.1	850	96	--
13...	--	13	140	0	110	4.5	1300	170	--
15...	--	--	--	--	--	--	--	--	.4
30...	--	12	130	0	110	8.3	1700	230	--
JUL									
02...	--	11	160	0	130	3.2	1700	230	--
13...	12	--	--	--	--	--	--	--	.3
29...	--	14	150	0	120	3.8	2300	360	--
AUG									
02...	--	--	--	--	--	--	--	--	.1
03...	--	11	100	0	82	2.5	860	81	--
SEP									
25...	--	11	140	0	110	14	1700	280	--

ARKANSAS RIVER BASIN

07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 180 DEG. C DTS- SOLVED (MG/L)	SOLIDS, DTS- SOLVED (TONS PER AC-FT)	SOLIDS, DTS- 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 NU3)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT									
01...	2400	3.26	1.56	--	--	--	--	--	--
12...	2670	3.63	.87	--	--	--	--	--	--
31...	2900	3.94	3.29	--	--	--	--	--	--
NOV									
02...	2860	3.89	4.17	--	--	--	--	--	--
16...	3050	4.15	6.92	--	--	--	--	--	--
28...	3040	4.13	9.03	--	--	--	--	--	--
DEC									
10...	3310	4.50	9.83	--	--	--	--	--	--
13...	2920	3.97	9.46	--	--	--	--	--	--
22...	--	--	--	12	.10	1.1	1.2	5.4	.12
22...	3090	4.20	7.68	--	--	--	--	--	--
FEB									
26...	2550	3.47	50.9	--	--	--	--	--	--
MAR									
06...	2350	3.20	31.7	--	--	--	--	--	--
15...	2630	3.58	22.0	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--
31...	3010	4.09	11.4	--	--	--	--	--	--
APR									
05...	3070	4.18	9.12	--	--	--	--	--	--
12...	2880	3.92	9.33	--	--	--	--	--	--
19...	--	--	--	20	<.10	.89	.91	--	--
MAY									
01...	3350	4.56	1.63	--	--	--	--	--	--
09...	2880	3.92	9.33	--	--	--	--	--	--
30...	1130	1.54	125	--	--	--	--	--	--
JUN									
01...	1580	2.15	20.9	--	--	--	--	--	--
13...	2280	3.10	33.2	--	--	--	--	--	--
15...	--	--	--	--	.10	2.2	2.3	10	8.0
30...	3040	4.13	23.0	--	--	--	--	--	--
JUL									
02...	3100	4.22	25.1	--	--	--	--	--	--
13...	--	--	--	43	.20	3.0	3.2	15	--
29...	4040	5.49	1.31	--	--	--	--	--	--
AUG									
02...	--	--	--	77	1.0	2.0	3.0	13	--
03...	1570	2.14	13.6	--	--	--	--	--	--
SEP									
25...	3090	4.20	12.5	--	--	--	--	--	--

DATE	TIME	PHOS- PHORUS, ORTHU, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CP)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
DEC							
22...	0930	--	--	--	--	--	--
APR							
19...	1430	--	--	--	--	--	--
JUN							
15...	0915	--	--	--	--	--	--
JUL							
13...	1440	6.0	9	4	14	12	860
AUG							
02...	1220	--	--	--	--	--	--

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PR)	MANGANESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SILVER, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CADMIUM, TOTAL RECOV- ERABLE (UG/L AS CD)
DEC							
22...	--	--	--	--	--	--	2.0
APR							
19...	--	--	--	--	--	--	1.0
JUN							
15...	--	--	--	--	--	--	11
JUL							
13...	43	500	<.5	<1	3	26	15
AUG							
02...	--	--	--	--	--	--	14

ARKANSAS RIVER BASIN

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07157960 BUFFALO CREEK NEAR LOVEDALE, 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	2710	---	3290	---	---	2790	3300	3560	1920	---	3750	---
2	---	3100	3290	---	---	2790	3320	3550	1970	3480	1830	---
3	2730	3140	3290	---	---	---	3320	3270	2070	3490	1820	---
4	2760	3160	---	---	---	---	3360	3340	2160	3520	1820	---
5	2790	3220	3290	---	---	---	3390	3310	2160	3610	1820	---
6	2810	---	3260	---	---	2710	3390	---	2320	---	2170	---
7	2860	---	3320	---	---	2740	3390	---	2370	3580	2150	---
8	2780	3180	3290	---	---	2760	3410	3040	2370	3590	2160	---
9	---	3170	3370	---	---	2800	3430	3120	2420	3690	2280	---
10	2900	3210	3500	---	---	---	3140	3210	2520	3680	2270	---
11	2900	3230	3260	---	---	2820	3200	3210	2550	3750	---	---
12	2920	---	3320	---	---	2900	3120	3240	2620	3820	2550	---
13	2930	3260	3180	---	---	2930	3180	3280	2680	3870	2600	---
14	2960	3240	3200	---	---	2990	3230	3300	2740	3880	2700	---
15	2960	3250	3230	---	---	3000	3250	3370	2770	---	2830	---
16	2960	3210	---	---	---	3010	3300	3400	2840	3980	---	---
17	---	3240	3280	---	---	3010	3340	3420	2890	---	---	---
18	3000	3210	---	---	---	3040	3390	3360	2830	---	---	---
19	3010	3220	3240	---	---	3000	3410	3360	2830	---	---	---
20	---	3250	3240	---	---	2970	3440	3360	2810	---	---	---
21	3040	3260	3290	---	---	3040	3490	3360	2880	---	---	3870
22	3030	3270	3350	---	---	3110	3480	3430	2930	---	---	3840
23	3040	---	3320	---	---	3120	3510	3460	2990	4200	---	3490
24	3050	---	3260	---	---	3120	3540	3500	3010	4120	---	---
25	3060	---	---	---	---	3150	3560	3520	3110	4110	---	3470
26	3090	---	3320	---	2840	3150	3580	3400	3150	4140	---	3500
27	3080	3280	---	---	2840	3190	3610	3010	3250	---	---	3540
28	3110	3300	3420	---	2820	3240	3620	3320	3340	4260	---	3590
29	3070	3290	3370	---	---	3240	3640	1540	3370	4310	---	3710
30	3100	3280	3260	---	---	3260	---	1450	3400	---	---	3720
31	3130	---	---	---	---	3300	---	1820	---	---	---	---

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	---	4.0	---	---	2.0	17.0	16.0	24.0	---	26.0	---
2	---	11.0	5.0	---	---	3.0	22.0	13.0	20.0	32.0	26.0	---
3	17.0	12.5	5.0	---	---	---	19.5	10.0	23.0	27.0	28.0	---
4	20.0	12.5	---	---	---	---	19.0	9.0	24.0	32.5	28.0	---
5	18.0	12.5	6.0	---	---	---	19.0	13.0	25.0	29.0	28.0	---
6	16.0	---	3.0	---	---	4.0	20.0	---	26.0	---	28.0	---
7	19.0	---	3.0	---	---	3.0	22.0	---	26.5	31.0	28.0	---
8	18.0	14.0	3.0	---	---	8.0	23.0	21.5	27.5	30.0	28.0	---
9	---	9.0	3.0	---	---	10.5	22.0	22.5	28.0	31.0	28.0	---
10	16.0	8.0	2.5	---	---	---	19.5	21.0	28.0	25.5	29.0	---
11	14.5	9.0	3.0	---	---	8.5	19.0	25.0	30.0	30.0	---	---
12	15.5	---	5.0	---	---	11.0	19.0	22.0	28.0	29.0	29.0	---
13	15.0	12.0	4.0	---	---	9.0	20.0	17.5	28.0	30.0	29.0	---
14	16.0	11.0	5.0	---	---	10.5	22.0	18.5	30.0	26.0	28.0	---
15	16.0	10.0	5.0	---	---	9.0	23.0	24.0	29.5	---	28.0	---
16	14.0	11.0	---	---	---	9.0	17.0	19.5	29.0	28.5	---	---
17	---	8.0	5.0	---	---	13.0	18.0	19.0	28.0	---	---	---
18	16.0	9.0	---	---	---	15.0	15.0	22.0	24.0	---	---	---
19	16.0	10.0	5.0	---	---	14.0	15.0	22.0	30.0	---	---	---
20	---	9.0	3.0	---	---	11.5	12.0	21.5	26.0	---	---	---
21	17.0	6.5	2.0	---	---	12.0	13.0	19.0	23.0	---	---	17.0
22	16.0	6.0	3.0	---	---	16.0	17.0	27.0	30.0	---	---	18.0
23	16.0	---	3.0	---	---	11.0	22.0	28.0	31.0	30.0	---	18.0
24	14.5	---	5.0	---	---	7.5	20.0	24.0	26.0	30.5	---	---
25	14.5	---	---	---	---	11.0	18.5	23.0	29.0	30.5	---	20.0
26	18.0	---	4.0	---	3.0	8.5	15.5	27.5	24.5	29.0	---	23.0
27	16.5	7.5	---	---	3.5	16.0	18.0	21.0	31.0	---	---	23.0
28	19.0	7.0	3.0	---	2.0	19.5	23.0	23.0	30.0	29.0	---	22.0
29	17.0	7.0	3.0	---	---	19.0	21.5	26.0	26.5	26.0	---	23.0
30	18.0	7.0	4.0	---	---	14.5	---	27.0	30.0	---	---	24.0
31	16.5	---	---	---	---	23.0	---	28.0	---	---	---	---

ARKANSAS RIVER BASIN

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07157960 BUFFALO CREEK NEAR LOVEDALE, 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	1400	1500	1700	1700	1700	1400	1700	1900	890	1700	2600	---
2	1400	1500	1700	1800	1800	1400	2100	1800	930	1900	1100	---
3	1400	1600	1700	1900	1700	1400	2000	1700	980	1800	840	---
4	1300	1600	1700	1800	1700	1400	1700	1700	1000	1900	830	---
5	1400	1700	1700	1800	1600	1400	1700	1700	1000	2000	840	---
6	1400	1600	1700	1800	1600	1400	1700	1600	1100	2000	1000	---
7	---	1600	1700	1700	1700	1400	1900	1600	1200	1900	1000	---
8	---	1600	1700	1800	1600	1400	1800	1500	1200	1900	1000	---
9	---	1600	1600	1800	1600	1400	1800	1600	1200	2000	1100	---
10	---	1700	1600	1900	1600	1400	1600	1600	1200	1900	1100	---
11	---	1700	1700	1900	1600	1400	1700	1700	1300	2000	1200	---
12	---	1700	1700	2000	1600	1500	1600	1600	1300	2000	1300	---
13	1500	1700	1600	1900	1600	1500	1600	1700	1300	2100	1300	---
14	1500	1700	1600	1800	1600	1500	1700	1700	1400	2100	1300	---
15	1500	1700	1700	1800	2200	1500	1700	1800	1400	2000	1400	---
16	1500	1700	1700	1800	1600	1500	1700	1800	1400	2200	---	---
17	1500	1700	1700	1900	1600	1500	1700	1800	1500	---	---	---
18	1500	1700	1700	1900	1600	1600	1700	1700	1500	---	---	---
19	1500	1700	1700	2000	1600	1500	1800	1800	1400	---	---	---
20	1500	1700	1700	2000	1600	1500	1600	1800	1400	---	---	---
21	1600	1700	1700	2100	1600	1600	1800	1800	1500	---	---	2000
22	1600	1700	1700	2100	1600	1600	1800	1800	1500	---	---	2100
23	1600	1700	1700	1900	1600	1600	1800	1800	1500	2300	---	1800
24	1600	1700	1700	1800	1500	1600	1900	1800	1500	2300	---	1800
25	1600	1700	---	1800	1500	1600	1900	1900	1600	2300	---	1800
26	1600	1700	1700	1900	1400	1600	1900	1700	1700	2100	---	1900
27	1600	1700	1800	1900	1400	1700	1900	1500	1700	1900	---	1900
28	1600	1700	1800	1900	1400	1700	1900	1100	1800	2100	---	1900
29	1600	1700	1700	1800	---	1700	1900	810	1900	2200	---	2100
30	1600	1700	1700	1800	---	1700	1900	610	1800	---	---	2000
31	1600	---	1700	1800	---	1700	---	770	---	---	---	---

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	.91	1.78	5.51	3.86	6.43	25.30	5.97	.97	40.9	14.20	105.00	---
2	1.06	2.11	5.51	3.26	7.29	23.10	6.80	.97	35.2	15.90	27.30	---
3	.95	2.51	5.51	3.64	7.34	21.20	6.48	3.49	31.8	13.10	7.71	---
4	.84	3.15	5.51	3.50	8.26	18.50	5.51	4.59	35.1	12.30	6.27	---
5	.91	3.95	5.51	6.32	8.64	18.90	4.59	5.51	54.0	11.90	6.12	---
6	1.02	3.84	5.51	4.08	7.78	18.90	3.86	6.48	56.4	8.64	7.02	---
7	---	3.24	5.51	4.22	7.80	18.50	3.49	9.07	58.3	12.30	6.21	---
8	---	4.10	5.51	4.47	7.34	17.00	2.92	7.29	68.0	14.40	5.94	---
9	---	4.32	5.35	3.69	6.48	17.80	4.08	5.62	51.8	12.40	5.94	---
10	---	4.50	5.35	3.90	6.05	17.80	9.50	4.15	35.6	9.75	5.35	---
11	---	4.18	5.05	3.49	6.48	15.10	8.26	3.30	29.8	9.72	4.86	---
12	---	4.18	5.51	4.10	7.34	14.60	5.18	2.07	24.6	7.02	3.86	---
13	.65	4.09	5.18	4.31	7.34	13.80	3.63	1.38	19.7	4.71	2.53	---
14	.93	3.99	5.18	4.47	6.48	12.60	2.48	.92	18.9	3.12	1.37	---
15	1.01	3.81	5.05	4.86	10.10	12.60	2.48	1.07	17.8	1.94	.34	---
16	.89	3.81	5.51	5.83	6.48	12.20	1.93	.87	17.4	.77	---	---
17	1.13	3.81	5.51	5.64	6.05	11.70	1.65	.68	17.0	---	---	---
18	1.26	3.90	4.59	5.64	5.18	12.50	1.10	1.33	21.5	---	---	---
19	1.38	3.72	4.27	5.94	6.05	10.50	1.17	1.31	21.9	---	---	---
20	1.21	3.81	4.18	6.48	7.34	9.72	1.17	1.46	19.3	---	---	---
21	1.04	3.86	4.09	6.80	6.05	11.20	1.17	1.26	19.8	---	---	.22
22	1.17	3.67	4.18	6.80	8.64	10.40	1.17	1.31	18.2	---	---	2.61
23	1.43	3.90	3.67	6.67	15.10	9.07	1.17	.63	16.2	3.23	---	9.72
24	1.56	3.44	3.81	6.80	20.20	8.64	.92	.49	14.2	13.70	---	9.72
25	1.47	3.95	---	8.26	26.30	8.21	.31	.05	13.8	13.70	---	7.78
26	1.68	4.36	3.72	6.16	26.10	7.78	.62	1.24	12.4	9.07	---	7.18
27	1.73	4.50	3.79	7.18	28.70	9.64	.31	13.00	14.7	4.77	---	6.16
28	1.81	4.59	3.64	6.67	28.70	8.26	.10	255.00	16.5	2.61	---	4.41
29	1.56	5.05	3.63	5.83	---	7.80	.10	241.00	15.4	---	---	3.12
30	1.77	5.05	3.81	6.32	---	6.88	.26	79.10	13.6	---	---	1.51
31	1.81	---	3.81	6.80	---	6.43	---	54.10	---	---	---	---

ARKANSAS RIVER BASIN

07157960 BUFFALO CREEK, NEAR LOVEDALE, 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	150	170	200	200	200	160	200	220	77	200	340	---
2	150	170	200	220	210	160	260	220	83	230	110	---
3	150	190	200	220	200	160	240	200	90	210	69	---
4	140	140	200	220	190	160	200	200	99	220	68	---
5	160	190	200	210	190	150	190	200	98	240	69	---
6	160	190	200	210	190	150	200	190	110	240	99	---
7	---	190	200	200	190	150	220	180	120	220	96	---
8	---	190	200	210	190	150	210	170	120	220	98	---
9	---	190	200	220	190	150	210	180	120	230	110	---
10	---	190	220	220	180	160	180	190	130	230	110	---
11	---	190	190	230	180	160	200	190	130	240	120	---
12	---	190	200	240	180	160	190	190	140	240	130	---
13	170	190	190	220	180	170	190	200	140	250	140	---
14	170	190	190	210	180	170	190	200	150	260	140	---
15	170	200	190	210	270	170	190	200	150	250	160	---
16	170	190	190	210	180	170	200	210	160	270	---	---
17	170	190	200	220	180	170	200	210	160	---	---	---
18	170	190	200	230	190	180	200	200	160	---	---	---
19	170	190	190	240	190	170	210	210	160	---	---	---
20	170	200	200	250	190	170	210	200	160	---	---	---
21	180	200	200	250	190	180	220	200	160	---	---	250
22	180	200	200	250	180	180	220	210	170	---	---	250
23	180	200	200	230	180	180	220	210	170	290	---	210
24	180	200	190	220	170	180	220	220	170	280	---	220
25	180	200	---	210	160	190	220	220	180	280	---	220
26	180	200	200	220	160	190	220	200	190	260	---	220
27	180	200	210	220	160	190	220	170	190	230	---	220
28	180	200	210	220	160	200	230	110	210	260	---	220
29	180	200	200	220	---	200	230	65	220	280	---	250
30	180	190	200	210	---	190	230	36	210	---	---	250
31	180	---	200	210	---	190	---	59	---	---	---	---

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	.10	.20	.65	.45	.76	2.89	.70	.11	3.53	1.67	13.80	---
2	.11	.24	.65	.40	.85	2.64	.84	.12	3.14	1.93	2.73	---
3	.10	.30	.65	.42	.86	2.42	.78	.41	2.92	1.53	.63	---
4	.09	.37	.65	.43	.92	2.12	.65	.54	3.47	1.43	.51	---
5	.10	.44	.65	.74	1.03	2.02	.51	.65	5.29	1.43	.50	---
6	.12	.46	.65	.48	.92	2.02	.45	.77	5.64	1.04	.69	---
7	---	.38	.65	.50	.87	1.98	.40	1.02	5.83	1.43	.60	---
8	---	.49	.65	.52	.87	1.82	.34	.83	6.80	1.66	.58	---
9	---	.51	.59	.45	.77	1.90	.48	.63	5.18	1.43	.59	---
10	---	.50	.65	.45	.68	2.03	1.07	.49	3.86	1.18	.53	---
11	---	.47	.56	.42	.73	1.73	.97	.37	2.98	1.17	.49	---
12	---	.47	.65	.49	.83	1.56	.62	.25	2.65	.84	.39	---
13	.07	.46	.62	.50	.83	1.56	.43	.16	2.12	.56	.27	---
14	.11	.45	.62	.52	.73	1.42	.28	.11	2.02	.39	.15	---
15	.11	.45	.56	.57	1.24	1.42	.28	.12	1.90	.24	.04	---
16	.10	.43	.62	.68	.73	1.38	.23	.10	1.99	.09	---	---
17	.13	.43	.65	.65	.68	1.33	.19	.08	1.81	---	---	---
18	.14	.44	.54	.68	.62	1.41	.13	.16	2.29	---	---	---
19	.16	.42	.48	.71	.72	1.19	.14	.15	2.51	---	---	---
20	.14	.45	.49	.81	.87	1.10	.14	.16	2.20	---	---	---
21	.12	.45	.48	.81	.72	1.26	.14	.14	2.12	---	---	.03
22	.13	.43	.49	.81	.97	1.17	.14	.15	2.07	---	---	.31
23	.16	.46	.43	.81	1.70	1.02	.14	.07	1.84	.41	---	1.13
24	.17	.41	.43	.83	2.29	.97	.11	.06	1.61	1.66	---	1.19
25	.17	.46	---	.96	2.81	.97	.04	.01	1.56	1.66	---	.95
26	.19	.51	.44	.71	2.98	.92	.07	.15	1.39	1.12	---	.83
27	.19	.53	.44	.83	3.28	1.08	.04	1.47	1.64	.58	---	.71
28	.20	.54	.43	.77	3.28	.97	.01	25.50	1.93	.32	---	.51
29	.17	.59	.43	.71	---	.92	.01	19.30	1.78	.07	---	.37
30	.20	.56	.45	.74	---	.77	.03	4.67	1.59	---	---	.19
31	.20	---	.45	.79	---	.72	---	4.14	---	---	---	---

ARKANSAS RIVER BASIN

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07157960 BUFFALO CREEK NEAR LOVEDALE, 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	2420	2630	3010	3040	3070	2530	3030	3300	1600	3000	4620	---
2	2430	2630	3020	3230	3120	2520	3730	3240	1670	3360	1940	---
3	2440	2870	3020	3290	3070	2520	3460	3020	1750	3180	1510	---
4	2370	2860	3020	3230	2960	2510	2990	3050	1850	3290	1500	---
5	2510	2940	3010	3130	2860	2430	2930	3050	1840	3490	1510	---
6	2550	2900	2980	3100	2910	2410	3040	2870	1970	3480	1850	---
7	---	2900	3020	3070	2920	2460	3290	2770	2060	3310	1820	---
8	---	2900	3020	3110	2900	2440	3130	2720	2060	3300	1840	---
9	---	2890	3080	3210	2890	2500	3090	2750	2080	3430	1960	---
10	---	2920	3220	3300	2850	2530	2810	2900	2200	3420	1970	---
11	---	2930	2970	3400	2820	2540	3010	2920	2240	3460	2120	---
12	---	2940	3040	3400	2830	2590	2870	2880	2310	3450	2250	---
13	2640	2970	2890	3290	2830	2660	2880	3040	2370	3600	2320	---
14	2660	2960	2910	3180	2850	2700	2930	3010	2410	3700	2380	---
15	2660	2980	2930	3150	3830	2720	2970	3080	2490	3590	2520	---
16	2660	2950	2960	3150	2780	2700	3010	3170	2560	3780	---	---
17	2690	2970	3000	3280	2820	2710	3050	3140	2580	---	---	---
18	2720	2920	3000	3400	2870	2740	3050	3060	2570	---	---	---
19	2720	2940	2950	3470	2910	2720	3130	3090	2520	---	---	---
20	2730	2980	2980	3560	2860	2690	3190	3080	2530	---	---	---
21	2740	3000	3010	3630	2860	2750	3210	3080	2600	---	---	3560
22	2740	2990	3060	3600	2850	2820	3150	2690	---	---	---	3600
23	2740	3000	3040	3370	2750	2820	3220	3170	2680	4020	---	3140
24	2750	3010	2960	3200	2680	2850	3250	3220	2720	3980	---	3230
25	2770	3010	---	3180	2570	2890	3260	3260	2780	3990	---	3220
26	2770	3000	3050	3260	2530	2860	3310	3070	2940	3740	---	3290
27	2790	2990	3090	3300	2530	2930	3290	2720	2940	3380	---	3250
28	2810	3020	3140	3300	2520	2990	3380	2040	3140	3680	---	3300
29	2790	3010	3070	3200	---	2980	3340	1470	3270	3900	---	3600
30	2810	2950	3010	3130	---	2960	3320	1120	3150	---	---	3550
31	2830	---	2990	3090	---	2960	---	1400	---	---	---	---

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	1.57	3.12	9.75	6.89	11.60	45.8	10.60	1.69	73.4	25.10	187.00	---
2	1.84	3.69	9.78	5.84	12.60	41.5	12.10	1.75	63.1	28.10	48.20	---
3	1.65	4.49	9.78	6.31	13.30	38.1	11.20	6.20	56.7	23.20	13.90	---
4	1.54	5.64	9.78	6.28	14.40	33.2	9.69	8.23	64.9	21.30	11.30	---
5	1.63	6.83	9.75	11.00	15.40	32.8	7.91	9.88	99.4	20.70	11.00	---
6	1.86	6.97	9.66	7.03	14.10	32.5	6.89	11.60	101.0	15.00	13.00	---
7	---	5.87	9.78	7.63	13.40	32.5	6.04	15.70	100.0	21.40	11.30	---
8	---	7.44	9.78	7.73	13.30	29.6	5.07	13.20	117.0	24.90	10.90	---
9	---	7.80	9.15	6.59	11.70	31.7	7.01	9.65	89.9	21.30	10.60	---
10	---	7.73	9.56	6.77	10.80	32.1	16.70	7.52	65.3	17.50	9.57	---
11	---	7.20	8.82	6.24	11.40	27.4	14.60	5.68	51.4	16.80	8.59	---
12	---	7.22	9.85	7.10	13.00	25.2	9.30	3.73	43.7	12.10	6.68	---
13	1.14	7.14	9.36	7.46	13.00	24.4	6.53	2.46	35.8	8.07	4.51	---
14	1.65	6.95	9.43	7.90	11.50	22.6	4.27	1.63	32.5	5.49	2.51	---
15	1.80	6.68	8.70	8.50	17.60	22.8	4.33	1.63	31.6	3.49	.61	---
16	1.58	6.61	9.59	10.20	11.30	21.9	3.41	1.54	31.8	1.33	---	---
17	2.03	6.66	9.72	9.74	10.70	21.2	2.96	1.19	29.3	---	---	---
18	2.28	6.70	8.10	10.10	9.30	21.5	1.98	2.40	36.8	---	---	---
19	2.50	6.43	7.41	10.30	11.00	19.1	2.03	2.25	39.5	---	---	---
20	2.21	6.68	7.32	11.50	13.10	17.4	2.07	2.49	34.8	---	---	---
21	1.78	6.80	7.23	11.80	10.80	19.3	2.08	2.16	34.4	---	---	3.38
22	2.00	6.46	7.52	11.70	15.40	18.3	2.09	2.30	32.7	---	---	4.47
23	2.44	6.88	6.57	11.80	26.00	16.0	2.09	1.11	28.9	5.64	---	17.00
24	2.67	6.10	6.63	12.10	36.20	15.4	1.58	.87	25.7	23.60	---	17.40
25	2.54	6.99	---	14.60	45.10	14.8	.53	.09	24.0	23.70	---	13.90
26	2.92	7.69	6.67	10.60	47.10	13.9	1.07	2.24	21.4	16.20	---	12.40
27	3.01	7.91	6.51	12.50	51.90	16.6	.53	23.50	25.4	8.49	---	10.50
28	3.19	8.15	6.36	11.60	51.70	14.5	.18	474.00	28.8	4.57	---	7.66
29	2.71	8.94	6.55	10.40	---	13.7	.18	437.00	26.5	.95	---	9.35
30	3.11	8.76	6.75	11.00	---	12.0	.45	145.00	23.8	---	---	2.68
31	3.21	---	6.70	11.70	---	11.2	---	98.30	---	---	---	---

ARKANSAS RIVER BASIN

07157980 CIMARRON RIVER AT FREEDOM, OK

LOCATION.--Lat 36°45'18", long 99°06'58", in SE¼SE¼ sec.3, T.26 N., R.18 W., Woodward County, Hydrologic Unit 11050001, on old bridge of State Highway 50, 1.0 mi (1.6 km) south of Freedom, 1.1 mi (1.8 km) upstream from unnamed tributary and at mile 272.4 (438.3 km).

DRAINAGE AREA.--12,706 mi² (32,909 km²), of which 4,813 mi² (12,466 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to current year. Published as "near Freedom" prior to October 1975.

GAGE.--Nonrecording gage. Datum of gage is 1,503.99 ft (458.416 m) Oklahoma State Highway Department datum.

REMARKS.--Records poor. Extensive diversions for irrigation above station.

AVERAGE DISCHARGE.--190 ft³/s (5.381 m³/s), 137,700 acre-ft/yr (170 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft³/s (411 m³/s) May 26, 1978, gage height, 9.02 ft (2.749 m); maximum gage height, 9.25 ft (2.819 m), Oct. 10, 1973; from graph based on gage readings; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,500 ft³/s (411 m³/s) May 26, gage height, 9.02 ft (2.749 m); maximum gage height 9.10 ft (2.774 m) May 28; 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	14	13	55	25	45	210	57	91	370	25	.00	.00
2	13	24	48	20	76	105	83	832	306	20	1.1	.00
3	13	21	35	50	64	31	57	1060	274	13	7.7	.00
4	13	21	42	55	59	40	43	672	940	12	50	.00
5	12	21	73	48	42	218	38	560	783	9.6	38	.00
6	12	25	43	38	45	354	29	545	1540	7.4	20	.00
7	12	23	23	52	50	370	20	560	1380	414	14	.00
8	11	38	35	40	48	226	25	515	4250	2190	11	.00
9	11	71	48	19	66	174	31	338	3560	1070	9.1	.00
10	11	30	35	30	95	123	79	298	1170	354	8.0	.00
11	11	28	22	30	62	118	105	180	2400	186	7.4	.00
12	7.7	26	50	59	95	89	32	150	1250	132	5.1	.00
13	7.4	26	52	55	110	114	28	114	690	99	3.1	.00
14	7.7	32	76	45	118	92	26	92	450	64	.00	.00
15	7.4	36	128	36	132	89	26	76	306	43	.00	.00
16	7.4	32	86	31	118	89	28	73	210	24	.00	.00
17	8.6	33	102	25	66	105	30	79	150	20	.00	.00
18	7.4	28	71	24	55	128	30	185	525	15	.00	.00
19	6.6	33	76	22	71	123	23	1170	322	12	.00	.00
20	7.2	29	66	52	89	114	20	930	234	7.4	.00	6.6
21	6.9	26	33	99	102	105	19	560	218	4.9	.00	71
22	7.2	26	26	86	123	83	18	428	210	4.0	.00	32
23	8.6	26	43	62	118	76	17	306	186	3.7	.00	21
24	12	26	47	45	141	136	17	204	132	4.6	.00	18
25	13	31	83	36	218	95	16	174	92	8.0	.00	12
26	12	34	52	29	242	86	16	5590	59	7.4	.00	20
27	11	38	42	25	258	118	16	5740	47	6.3	.00	16
28	10	38	31	22	234	132	17	5470	42	1.8	2.2	8.0
29	12	42	47	23	---	105	16	1800	38	.00	7.4	4.4
30	13	52	43	38	---	110	20	974	31	.00	4.0	2.5
31	13	---	76	47	---	66	---	545	---	.00	.00	---
TOTAL	319.1	933	1689	1268	2942	4024	982	30311	22165	4758.10	188.10	211.50
MEAN	10.3	31.1	54.5	40.9	105	130	32.7	978	739	153	6.07	7.05
MAX	14	71	128	99	258	370	105	5740	4250	2190	50	71
MIN	6.6	13	22	19	42	31	16	73	31	.00	.00	.00
AC-FT	633	1850	3350	2520	5840	7980	1950	60120	43960	9440	373	420
CAL YR 1977	TOTAL	38376.95	MEAN	105	MAX	2400	MIN	.00	AC-FT	76120		
WTR YR 1978	TOTAL	69790.80	MEAN	191	MAX	5740	MIN	.00	AC-FT	138400		

ARKANSAS RIVER BASIN

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07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953, 1974 to current year.

PERIOD OF DAILY RECORDS.--

SPECIFIC CONDUCTANCE: October 1973 to current year.

WATER TEMPERATURE: October 1973 to current year.

INSTRUMENTATION.--Water quality monitor since October 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. 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 these parameters were calculated from specific conductance values.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 176,000 micromhos Aug. 15, 1976, Oct. 26, 1977; minimum, 3,620 micromhos July 10, 1978.

WATER TEMPERATURE: Maximum, 37.0°C June 14, 1974; minimum, -1.0°C on Jan. 3, 18, 24, 1978.

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)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS 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
UCT											
03...	1810	13	82500	7.9	18.0	2100	2000	510	210	24000	96
13...	1805	7.4	104000	8.0	20.5	2700	2600	620	270	35000	97
21...	1810	6.9	137000	7.8	20.5	3500	3400	770	390	45000	96
NOV											
02...	1825	24	144000	7.1	12.0	3400	3300	780	350	56000	97
10...	1728	30	66500	7.8	11.0	1800	1700	430	180	19000	96
20...	1650	38	41100	8.1	9.5	1200	1200	270	130	9900	95
DEC											
10...	1210	35	69700	7.9	2.5	2100	1900	470	220	19000	95
15...	1225	128	22100	7.8	7.0	700	520	150	79	4900	94
29...	1120	47	46900	8.0	3.0	1300	1100	300	130	12000	95
JAN											
01...	1535	25	41400	7.9	.5	1200	1000	280	130	10000	95
19...	1500	22	93200	7.7	.0	2500	2300	560	270	28000	96
27...	1710	25	68500	7.9	3.5	1800	1600	410	190	22000	96
FEB											
03...	1615	64	48400	7.9	7.5	950	750	150	140	13000	97
13...	1623	110	77400	7.7	.0	1400	1200	220	200	24000	97
28...	1530	234	10800	8.0	3.0	690	530	160	71	4400	93
MAR											
07...	1215	370	11600	7.7	1.0	560	360	150	44	2300	90
16...	1850	89	34000	8.0	10.0	1100	920	260	110	7900	94
27...	1900	118	22800	8.2	--	480	310	190	.4	5300	96
APR											
01...	1854	57	29900	7.8	--	960	810	220	100	7300	94
09...	1330	31	58400	8.2	22.0	1500	1400	330	170	16000	96
28...	1730	17	89600	8.0	26.0	2200	2100	440	270	28000	96
MAY											
02...	1700	832	75900	7.6	10.0	1500	1400	340	160	21000	97
14...	1750	92	20500	8.0	28.0	820	630	190	85	4600	92
31...	1835	545	7730	8.0	29.5	450	260	110	42	1600	88
JUN											
12...	1845	1250	4560	7.4	26.0	430	240	110	38	840	80
22...	1205	210	16700	7.9	25.0	770	580	190	71	3600	91
30...	1855	31	28500	7.3	30.0	1000	850	220	110	6700	93
JUL											
03...	1310	13	33900	7.3	33.0	1000	860	240	100	7400	94
09...	1620	1070	5250	7.6	31.0	280	140	74	22	940	88
24...	1800	4.6	65600	7.5	34.0	1500	1400	350	160	18000	96
AUG											
05...	1830	38	27200	7.6	30.0	660	550	160	64	6300	95
11...	1920	7.4	79800	7.9	28.0	1800	1700	370	210	24000	97
29...	1615	--	116000	--	--	--	--	--	--	--	--
29...	1850	7.4	130000	7.5	27.0	2700	2600	500	350	47000	97
SEP											
20...	1800	6.6	66400	7.5	18.0	1300	1200	290	140	19000	97
24...	1815	18	116000	7.1	25.0	1500	1400	610	2.1	39000	98
30...	1820	2.5	143000	7.4	26.0	3800	3700	870	400	54000	97

ARKANSAS RIVER BASIN

07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, SOLVED (MG/L AS K)	BICARB- ONATE (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)
UCT											
03...	226	34	120	0	98	2.4	1600	37000	65200	88.7	2290
13...	295	37	130	0	110	2.1	1900	53000	88600	121	1770
21...	330	52	110	0	90	2.8	2500	69000	120000	163	2240
NOV											
02...	419	46	95	0	78	12	1900	87000	145000	197	9400
10...	194	23	180	0	150	4.6	910	29000	47400	64.5	3640
26...	124	15	0	0	0	0	750	16000	27300	37.1	2800
DEC											
10...	181	38	200	0	160	4.0	1200	30000	50500	68.7	4770
15...	81	11	220	0	180	5.6	510	7800	13600	18.5	4700
29...	146	19	240	0	200	3.8	1600	18000	31200	42.4	3960
JAN											
01...	124	19	290	0	240	5.8	700	16000	26400	35.9	1780
19...	243	34	200	0	160	6.4	1700	43000	72100	98.1	4280
27...	225	27	250	0	210	5.0	1400	33000	48600	66.1	3280
FEB											
03...	183	18	250	0	210	5.0	760	20000	33500	45.6	5790
13...	282	27	190	0	160	6.1	1300	36000	58300	79.3	17300
28...	73	9.6	200	0	160	3.2	440	6700	11500	15.6	7270
MAR											
07...	42	10	240	0	200	7.7	310	3700	6810	9.26	6800
16...	104	15	220	0	180	3.5	600	13000	21900	29.8	5260
27...	106	13	200	0	160	2.0	480	8100	14200	19.3	4520
APR											
01...	102	38	190	0	160	4.8	620	11000	19300	26.2	2970
09...	178	43	190	0	160	1.9	1000	25000	42200	57.4	3530
28...	259	50	150	0	120	2.4	1500	42000	72700	98.9	3340
MAY											
02...	235	22	140	0	110	5.6	1100	34000	57900	78.7	130000
14...	70	16	240	0	200	3.8	490	7300	12300	16.7	3060
31...	33	12	230	0	190	3.7	260	2500	4370	5.94	6430
JUN											
12...	18	11	230	0	190	15	200	1300	2680	3.64	9050
22...	57	14	230	0	190	4.6	460	5300	9820	13.4	5570
30...	92	21	190	0	160	15	640	10000	17400	23.7	1460
JUL											
03...	101	21	190	0	160	15	740	13000	22500	30.6	790
09...	25	11	170	0	140	6.8	130	1500	2850	3.88	8230
24...	200	30	140	0	110	7.1	1300	28000	48500	66.0	602
AUG											
05...	106	14	140	0	110	5.6	430	9800	17200	23.4	1770
11...	247	34	98	0	80	2.0	1100	37000	63700	86.6	1270
29...	--	--	--	--	--	--	--	--	--	--	--
29...	394	52	110	0	90	5.6	1800	74000	118000	160	2360
SEP											
20...	229	26	72	0	59	3.6	890	29000	49100	66.8	875
24...	434	42	110	0	90	14	2600	60000	105000	143	5100
30...	380	71	96	0	79	6.1	2400	87000	140000	190	945

ARKANSAS RIVER BASIN

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07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95100	108000	53200	41400	63300	15000	29900	63000	8800	26200	---	---
2	---	144000	44300	55900	54700	23500	51500	75900	12600	27700	---	---
3	82500	107000	43800	56900	48400	30600	44300	26800	---	33900	54000	---
4	---	103000	41400	58600	39900	---	44200	19600	26000	37100	72200	---
5	94600	79100	57200	51100	31500	28800	51000	14600	21600	39200	27200	---
6	---	78200	44000	48700	---	19200	53500	28800	11800	46500	31700	---
7	---	75000	59100	48400	45700	11600	51000	28900	7000	107000	40800	---
8	---	107000	51700	53800	68300	14400	54900	18400	7080	8210	51200	---
9	---	86600	51400	59900	55600	19200	58400	15500	4960	5250	62200	---
10	---	66500	69700	78900	55600	19200	49000	14000	5170	6930	75200	---
11	110000	55200	68600	68300	---	21200	56400	18100	7000	12300	79800	---
12	94800	---	54400	56100	71400	19600	46200	18700	4560	13900	84500	---
13	104000	53500	47300	56500	77400	22400	43100	16300	5980	13900	89700	---
14	112000	54000	25300	60600	56400	21000	50700	20500	7960	19300	---	---
15	120000	55200	22100	60700	56200	33800	52500	23000	9420	21900	---	---
16	122000	54300	---	91800	---	34000	57200	23600	9940	24600	---	---
17	123000	47200	58400	90200	52600	---	65100	26000	10600	26800	---	---
18	126000	52800	38600	89600	53800	17900	58300	58500	23000	26900	---	---
19	126000	57000	34800	93200	54900	19700	57500	12400	22700	---	---	---
20	126000	55000	32600	84300	---	22600	55900	8750	11200	50000	---	66400
21	128000	44000	42700	68800	54000	22400	70400	12400	13400	48500	---	66400
22	127000	50100	55400	63600	59400	24600	70500	13500	16700	48600	---	81900
23	122000	55500	52600	72700	59100	24800	67100	14700	23200	52000	---	101000
24	102000	48200	39900	75800	35200	28100	75700	15000	16600	65600	---	116000
25	112000	51100	28000	82000	35300	30400	72700	---	14200	51700	---	121000
26	112000	41100	29700	70600	26900	22700	77800	22000	14400	57500	---	136000
27	108000	48400	33700	68500	19300	22800	82100	11300	15900	56400	---	143000
28	95400	41400	49700	56500	18800	24400	89600	11800	19500	---	---	139000
29	90200	52400	46900	53900	---	25000	88800	7680	22400	---	130000	142000
30	92000	47600	56500	49700	---	26300	86600	6390	28500	---	128000	143000
31	111000	---	39200	46400	---	---	---	7730	---	---	---	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	8.0	7.5	.5	1.5	2.0	---	14.0	22.0	25.0	---	---
2	---	12.0	5.0	.0	2.5	3.0	21.0	10.0	20.5	36.0	---	---
3	18.0	19.0	9.0	-0.5	7.5	---	20.0	9.0	---	33.0	24.5	---
4	---	17.5	9.5	5.5	9.0	---	20.0	19.0	27.0	27.0	28.0	---
5	19.0	16.0	3.0	5.0	5.0	10.0	18.5	14.0	26.0	27.0	30.0	---
6	---	18.0	2.5	3.0	---	8.5	29.0	18.5	27.0	28.0	27.0	---
7	---	16.0	4.5	5.0	.0	1.0	22.5	21.0	27.5	35.0	24.0	---
8	---	14.0	.5	.0	.0	.5	21.5	24.0	28.0	30.0	29.0	---
9	---	7.0	.0	2.0	.0	.0	22.0	24.0	28.0	31.0	29.5	---
10	---	11.0	.0	5.0	.0	4.0	16.0	22.0	25.5	32.0	26.0	---
11	13.5	14.0	3.0	5.0	---	13.5	20.0	28.5	30.5	30.0	28.0	---
12	19.0	---	10.5	5.0	.0	7.0	18.0	18.0	26.0	31.0	29.5	---
13	20.5	16.5	8.0	---	.0	11.0	19.0	25.0	28.0	29.0	31.5	---
14	23.0	14.5	8.5	---	.0	11.0	24.5	28.0	28.5	34.0	---	---
15	17.0	13.0	7.0	---	2.5	9.5	23.5	27.0	28.0	36.0	---	---
16	18.0	9.5	---	---	---	10.0	15.5	25.0	29.5	30.0	---	---
17	19.0	11.0	6.0	---	.0	---	14.0	24.0	32.0	28.0	---	---
18	21.5	12.5	8.5	-1.0	.0	15.0	11.5	25.0	26.5	29.0	---	---
19	17.0	12.5	4.5	.0	3.0	17.0	17.0	25.5	29.5	---	---	---
20	20.0	7.0	2.0	.0	---	15.5	18.0	21.0	26.0	31.0	---	18.0
21	20.5	7.0	1.5	.0	4.0	17.0	14.0	19.5	23.0	30.0	---	20.0
22	15.5	8.5	4.0	.0	3.0	---	17.0	28.0	25.0	25.0	---	19.0
23	19.0	11.0	6.0	.0	10.0	---	29.0	27.5	35.0	31.0	---	26.0
24	23.0	9.0	9.0	-1.0	7.5	---	19.0	28.5	27.0	34.0	---	25.0
25	---	11.0	1.5	.0	6.5	---	24.0	---	31.0	29.0	---	20.0
26	21.0	9.5	4.0	1.0	7.0	---	18.0	26.0	30.0	29.5	---	28.0
27	19.0	11.0	1.0	3.5	5.0	---	17.5	---	31.0	28.0	---	29.0
28	25.5	7.0	-0.5	.0	3.0	---	26.0	26.0	30.0	---	---	31.0
29	22.5	10.0	3.0	2.0	---	---	27.0	27.0	27.5	---	27.0	33.0
30	21.0	6.5	4.0	4.0	---	---	19.0	28.0	30.0	---	27.0	26.0
31	17.5	---	5.5	.0	---	---	---	29.5	---	---	---	---

ARKANSAS RIVER BASIN

07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

SPECIFIC CONDUCTANCE (MICROMH/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	103000	---	---	40400	---	---	20700	---	9090	26300	53700	---
2	---	---	---	50900	---	---	44700	---	12300	27800	52700	---
3	---	119000	---	53700	---	---	47600	---	11200	33900	52800	---
4	---	106000	---	56800	---	---	44900	---	17100	37200	72800	---
5	---	127000	---	51500	---	---	49700	---	19500	39200	26800	---
6	---	---	---	48900	---	---	53400	---	10600	29800	38700	---
7	---	---	---	46900	---	---	51200	---	7400	117000	44000	---
8	---	---	---	56300	---	---	56500	---	6820	9710	50800	---
9	---	---	---	58900	---	---	56700	---	4920	5200	61700	---
10	---	---	---	79300	---	---	64800	---	4820	3620	76300	---
11	---	---	---	65600	---	---	---	---	7180	9440	---	---
12	---	---	---	74100	---	---	---	---	4280	---	---	---
13	---	---	---	51800	---	---	---	---	5360	---	---	---
14	---	---	---	53000	---	---	---	---	7250	---	---	---
15	---	---	---	57100	---	---	---	---	8420	---	---	---
16	---	---	---	90400	---	---	---	---	9140	---	---	---
17	---	---	---	93300	---	---	---	---	9990	---	---	---
18	---	---	---	85600	---	---	---	---	17800	---	---	---
19	---	---	---	92300	---	---	---	---	24400	---	---	---
20	---	---	---	84800	---	---	---	---	11200	---	---	47600
21	---	---	---	71600	---	---	---	---	13400	---	---	65100
22	---	---	---	62200	---	---	---	---	16200	---	---	---
23	---	---	---	73400	---	24900	---	---	23000	---	---	---
24	---	---	---	71600	---	28900	---	---	16700	---	---	---
25	---	---	---	75800	---	30900	---	---	14400	---	---	---
26	---	---	---	63800	---	26900	---	---	14300	56600	---	---
27	---	---	---	60300	---	21800	---	---	59100	55900	---	---
28	---	---	---	---	---	22700	---	---	19300	56500	---	---
29	---	---	43000	---	---	23800	---	---	23900	---	---	---
30	---	---	67400	---	---	24400	---	---	28500	---	---	---
31	---	---	48800	---	---	28600	---	7010	---	---	---	---

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	17.0	---	---	---	---	---	17.5	---	21.0	25.5	---	---
2	---	---	---	---	---	---	18.5	---	19.0	26.5	23.5	---
3	---	10.5	---	-1.0	---	---	17.5	---	21.0	25.5	20.0	---
4	---	10.5	---	.0	---	---	17.0	---	22.0	25.5	22.5	---
5	15.0	---	---	1.0	---	---	17.0	---	23.0	25.0	24.0	---
6	13.0	---	---	1.0	---	---	16.0	---	23.5	---	23.0	---
7	---	---	---	1.5	---	---	---	---	24.0	29.0	24.5	---
8	---	---	---	---	---	---	---	---	23.5	27.0	25.0	---
9	---	---	---	---	---	---	---	---	24.5	27.5	26.5	---
10	---	---	---	---	---	---	---	---	23.0	26.5	25.0	---
11	---	---	---	---	---	---	---	---	24.5	25.5	23.0	---
12	---	---	---	---	---	---	---	---	23.0	26.0	29.5	---
13	---	---	---	---	---	---	---	---	23.5	---	31.0	---
14	---	---	---	---	---	---	---	---	25.0	---	---	---
15	---	---	---	---	---	---	---	---	24.5	---	---	---
16	---	---	---	---	---	---	---	---	25.0	---	---	---
17	---	---	---	---	---	---	---	---	26.0	---	---	---
18	---	---	---	---	---	---	---	---	22.5	---	---	---
19	---	---	---	---	---	---	---	---	25.0	---	---	---
20	---	---	---	---	---	---	---	---	23.5	---	---	---
21	---	---	---	---	---	---	---	---	20.5	---	---	18.5
22	---	---	---	---	---	---	---	---	25.0	---	---	---
23	---	---	---	---	---	8.0	---	---	26.0	---	---	---
24	---	---	---	---	---	7.5	---	---	26.0	---	---	---
25	---	---	---	---	---	8.0	---	---	25.0	---	---	---
26	---	---	---	---	---	10.5	---	---	25.5	26.5	---	---
27	---	---	---	---	---	14.0	---	---	26.5	---	---	---
28	---	---	---	---	---	15.5	---	---	26.0	---	---	---
29	---	---	2.5	---	---	17.0	---	---	26.0	---	---	---
30	---	---	2.0	---	---	16.5	---	---	25.5	---	---	---
31	---	---	---	---	---	17.5	---	24.5	---	---	---	---

ARKANSAS RIVER BASIN

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07157980 CIMARRON RIVER AT FREEDOM, 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	---	---	770	---	---	470	---	290	560	980	---
2	---	---	---	930	---	---	840	---	340	580	960	---
3	---	2000	---	980	---	---	880	---	320	670	960	---
4	---	1800	---	1000	---	---	840	---	410	720	1300	---
5	---	2100	---	940	---	---	920	---	450	750	560	---
6	---	---	---	900	---	---	970	---	310	610	750	---
7	---	---	---	870	---	---	940	---	270	2000	830	---
8	---	---	---	1000	---	---	1000	---	260	300	930	---
9	---	---	---	1100	---	---	1000	---	230	230	1100	---
10	---	---	---	1400	---	---	1100	---	230	210	1300	---
11	---	---	---	1200	---	---	---	---	260	300	---	---
12	---	---	---	1300	---	---	---	---	220	---	---	---
13	---	---	---	950	---	---	---	---	230	---	---	---
14	---	---	---	970	---	---	---	---	260	---	---	---
15	---	---	---	1000	---	---	---	---	280	---	---	---
16	---	---	---	1500	---	---	---	---	290	---	---	---
17	---	---	---	1600	---	---	---	---	300	---	---	---
18	---	---	---	1500	---	---	---	---	430	---	---	---
19	---	---	---	1600	---	---	---	---	530	---	---	---
20	---	---	---	1500	---	---	---	---	320	---	---	880
21	---	---	---	1300	---	---	---	---	360	---	---	1200
22	---	---	---	1100	---	---	---	---	400	---	---	---
23	---	---	---	1300	---	530	---	---	510	---	---	---
24	---	---	---	1300	---	600	---	---	410	---	---	---
25	---	---	---	1300	---	630	---	---	370	---	---	---
26	---	---	---	1100	---	570	---	---	370	1000	---	---
27	---	---	---	1100	---	490	---	---	1100	1000	---	---
28	---	---	---	---	---	500	---	---	450	1000	---	---
29	---	---	810	---	---	520	---	---	520	---	---	---
30	---	---	1200	---	---	530	---	---	590	---	---	---
31	---	---	900	---	---	590	---	260	---	---	---	---

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	64.3	---	---	52.0	---	---	72.3	---	290.0	37.80	.00	---
2	---	---	---	50.2	---	---	188.0	---	281.0	31.30	2.85	---
3	---	113.0	---	132.0	---	---	135.0	---	237.0	23.50	20.00	---
4	---	102.0	---	148.0	---	---	97.5	---	1040.0	23.30	175.00	---
5	---	119.0	---	122.0	---	---	94.4	---	951.0	19.40	57.50	---
6	---	---	---	92.3	---	---	76.0	---	1290.0	12.20	40.50	---
7	---	---	---	122.0	---	---	50.8	---	1010.0	2240.00	31.40	---
8	---	---	---	108.0	---	---	67.5	---	2980.0	1770.00	27.60	---
9	---	---	---	56.4	---	---	83.7	---	2210.0	664.00	27.00	---
10	---	---	---	113.0	---	---	235.0	---	727.0	201.00	28.10	---
11	---	---	---	97.2	---	---	---	---	1680.0	151.00	---	---
12	---	---	---	207.0	---	---	---	---	742.0	---	---	---
13	---	---	---	141.0	---	---	---	---	428.0	---	---	---
14	---	---	---	118.0	---	---	---	---	318.0	---	---	---
15	---	---	---	97.2	---	---	---	---	231.0	---	---	---
16	---	---	---	126.0	---	---	---	---	164.0	---	---	---
17	---	---	---	108.0	---	---	---	---	121.0	---	---	---
18	---	---	---	97.2	---	---	---	---	610.0	---	---	---
19	---	---	---	95.0	---	---	---	---	461.0	---	---	---
20	---	---	---	211.0	---	---	---	---	202.0	---	---	15.7
21	---	---	---	347.0	---	---	---	---	212.0	---	---	230.0
22	---	---	---	255.0	---	---	---	---	227.0	---	---	---
23	---	---	---	218.0	---	109.0	---	---	256.0	---	---	---
24	---	---	---	158.0	---	220.0	---	---	146.0	---	---	---
25	---	---	---	126.0	---	162.0	---	---	91.9	---	---	---
26	---	---	---	86.1	---	132.0	---	---	58.9	20.00	---	---
27	---	---	---	74.2	---	156.0	---	---	140.0	17.00	---	---
28	---	---	---	---	---	178.0	---	---	51.0	4.86	---	---
29	---	---	103.0	---	---	147.0	---	---	53.4	---	---	---
30	---	---	139.0	---	---	157.0	---	---	49.4	---	---	---
31	---	---	185.0	---	---	105.0	---	383.0	---	---	---	---

ARKANSAS RIVER BASIN

07157980 CIMARRON RIVER AT FREEDOM, 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	53000	---	---	16000	---	---	7500	---	2500	9900	22000	---
2	---	---	---	20000	---	---	18000	---	3900	11000	21000	---
3	---	65000	---	22000	---	---	19000	---	3400	13000	21000	---
4	---	55000	---	23000	---	---	18000	---	5900	15000	32000	---
5	---	70000	---	21000	---	---	20000	---	7000	15000	10000	---
6	---	---	---	20000	---	---	21000	---	3200	11000	15000	---
7	---	---	---	19000	---	---	21000	---	1800	63000	17000	---
8	---	---	---	23000	---	---	23000	---	1500	2800	20000	---
9	---	---	---	24000	---	---	23000	---	730	850	25000	---
10	---	---	---	37000	---	---	27000	---	690	180	35000	---
11	---	---	---	27000	---	---	---	---	1700	2700	---	---
12	---	---	---	33000	---	---	---	---	460	---	---	---
13	---	---	---	21000	---	---	---	---	920	---	---	---
14	---	---	---	21000	---	---	---	---	1700	---	---	---
15	---	---	---	23000	---	---	---	---	2200	---	---	---
16	---	---	---	45000	---	---	---	---	2500	---	---	---
17	---	---	---	47000	---	---	---	---	2900	---	---	---
18	---	---	---	41000	---	---	---	---	6200	---	---	---
19	---	---	---	46000	---	---	---	---	9100	---	---	---
20	---	---	---	41000	---	---	---	---	3400	---	---	19000
21	---	---	---	31000	---	---	---	---	4400	---	---	27000
22	---	---	---	25000	---	---	---	---	5600	---	---	---
23	---	---	---	33000	---	9300	---	---	8500	---	---	---
24	---	---	---	31000	---	11000	---	---	5800	---	---	---
25	---	---	---	34000	---	12000	---	---	4800	---	---	---
26	---	---	---	26000	---	10000	---	---	4700	23000	---	---
27	---	---	---	24000	---	7900	---	---	24000	23000	---	---
28	---	---	---	---	---	6300	---	---	6900	23000	---	---
29	---	---	17000	---	---	8800	---	---	8600	---	---	---
30	---	---	28000	---	---	9100	---	---	11000	---	---	---
31	---	---	19000	---	---	11000	---	1600	---	---	---	---

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	2000.0	---	---	1080.0	---	---	1150.0	---	2500.0	668.0	1.00	---
2	---	---	---	1080.0	---	---	4030.0	---	3220.0	594.0	62.40	---
3	---	3690.0	---	2970.0	---	---	2920.0	---	2520.0	456.0	437.00	---
4	---	3120.0	---	3420.0	---	---	2090.0	---	15000.0	486.0	4320.00	---
5	---	3970.0	---	2720.0	---	---	2050.0	---	14800.0	389.0	1030.00	---
6	---	---	---	2050.0	---	---	1640.0	---	13300.0	220.0	810.00	---
7	---	---	---	2670.0	---	---	1130.0	---	6710.0	70400.0	643.00	---
8	---	---	---	2480.0	---	---	1550.0	---	17200.0	16800.0	594.00	---
9	---	---	---	1230.0	---	---	1930.0	---	7020.0	2460.0	614.00	---
10	---	---	---	3000.0	---	---	5760.0	---	2180.0	172.0	756.00	---
11	---	---	---	2190.0	---	---	---	---	11000.0	1360.0	---	---
12	---	---	---	5260.0	---	---	---	---	1550.0	---	---	---
13	---	---	---	3120.0	---	---	---	---	1710.0	---	---	---
14	---	---	---	2550.0	---	---	---	---	2070.0	---	---	---
15	---	---	---	2240.0	---	---	---	---	1820.0	---	---	---
16	---	---	---	3770.0	---	---	---	---	1420.0	---	---	---
17	---	---	---	3170.0	---	---	---	---	1170.0	---	---	---
18	---	---	---	2660.0	---	---	---	---	8790.0	---	---	---
19	---	---	---	2730.0	---	---	---	---	7910.0	---	---	---
20	---	---	---	5760.0	---	---	---	---	2150.0	---	---	339.0
21	---	---	---	8290.0	---	---	---	---	2590.0	---	---	5180.0
22	---	---	---	5800.0	---	---	---	---	3180.0	---	---	---
23	---	---	---	5520.0	---	1910.0	---	---	4270.0	---	---	---
24	---	---	---	3770.0	---	4040.0	---	---	2070.0	---	---	---
25	---	---	---	3300.0	---	3080.0	---	---	1190.0	---	---	---
26	---	---	---	2040.0	---	2320.0	---	---	749.0	460.0	---	---
27	---	---	---	1620.0	---	2520.0	---	---	3050.0	391.0	---	---
28	---	---	---	---	---	2960.0	---	---	782.0	112.0	---	---
29	---	---	2160.0	---	---	2490.0	---	---	903.0	---	---	---
30	---	---	3250.0	---	---	2700.0	---	---	921.0	---	---	---
31	---	---	3900.0	---	---	1960.0	---	2350.0	---	---	---	---

ARKANSAS RIVER BASIN

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07157980 CIMARRON RIVER AT FREEDOM, 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	89200	---	---	27000	---	---	13000	---	4720	17000	36500	---
2	---	---	---	34500	---	---	30100	---	7010	18100	35800	---
3	---	108000	---	36500	---	---	32200	---	6220	22400	35900	---
4	---	92600	---	38700	---	---	30200	---	10400	24800	54000	---
5	---	117000	---	35000	---	---	33700	---	12100	26200	17300	---
6	---	---	---	33100	---	---	36300	---	5790	19500	25800	---
7	---	---	---	31700	---	---	34700	---	3510	105000	29600	---
8	---	---	---	38400	---	---	38500	---	3100	5160	34500	---
9	---	---	---	40200	---	---	38700	---	1740	1940	42200	---
10	---	---	---	61600	---	---	44700	---	1670	818	58100	---
11	---	---	---	45700	---	---	---	---	3360	4970	---	---
12	---	---	---	55600	---	---	---	---	1290	---	---	---
13	---	---	---	35200	---	---	---	---	2060	---	---	---
14	---	---	---	36000	---	---	---	---	3410	---	---	---
15	---	---	---	38900	---	---	---	---	4240	---	---	---
16	---	---	---	74500	---	---	---	---	4750	---	---	---
17	---	---	---	77900	---	---	---	---	5360	---	---	---
18	---	---	---	68900	---	---	---	---	10900	---	---	---
19	---	---	---	76700	---	---	---	---	15600	---	---	---
20	---	---	---	68000	---	---	---	---	6220	---	---	32200
21	---	---	---	52600	---	---	---	---	7790	---	---	45100
22	---	---	---	42600	---	---	---	---	9790	---	---	---
23	---	---	---	54700	---	16000	---	---	14600	---	---	---
24	---	---	---	52600	---	18800	---	---	10100	---	---	---
25	---	---	---	57500	---	20300	---	---	8500	---	---	---
26	---	---	---	43700	---	17400	---	---	8430	38600	---	---
27	---	---	---	41200	---	13800	---	---	40400	38100	---	---
28	---	---	---	---	---	14400	---	---	12000	38500	---	---
29	---	---	28900	---	---	15200	---	---	15300	---	---	---
30	---	---	47800	---	---	15600	---	---	18600	---	---	---
31	---	---	33000	---	---	18600	---	3230	---	---	---	---

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	3370.0	---	---	1820.0	---	---	2000.0	---	4720.0	1150.0	1.00	---
2	---	---	---	1860.0	---	---	6750.0	---	5790.0	977.0	106.00	---
3	---	6120.0	---	4930.0	---	---	4960.0	---	4600.0	786.0	746.00	---
4	---	5250.0	---	5750.0	---	---	3510.0	---	26400.0	804.0	7290.00	---
5	---	6630.0	---	4540.0	---	---	3460.0	---	25600.0	679.0	1770.00	---
6	---	---	---	3400.0	---	---	2840.0	---	24100.0	390.0	1390.00	---
7	---	---	---	4450.0	---	---	1870.0	---	13100.0	117000.0	1120.00	---
8	---	---	---	4150.0	---	---	2600.0	---	35600.0	30500.0	1020.00	---
9	---	---	---	2060.0	---	---	3240.0	---	16700.0	5600.0	1040.00	---
10	---	---	---	4990.0	---	---	9530.0	---	5280.0	782.0	1250.00	---
11	---	---	---	3700.0	---	---	---	---	21800.0	2500.0	---	---
12	---	---	---	8860.0	---	---	---	---	4350.0	---	---	---
13	---	---	---	5230.0	---	---	---	---	3840.0	---	---	---
14	---	---	---	4370.0	---	---	---	---	4140.0	---	---	---
15	---	---	---	3780.0	---	---	---	---	3500.0	---	---	---
16	---	---	---	6240.0	---	---	---	---	2690.0	---	---	---
17	---	---	---	5260.0	---	---	---	---	2170.0	---	---	---
18	---	---	---	4460.0	---	---	---	---	15900.0	---	---	---
19	---	---	---	4560.0	---	---	---	---	13600.0	---	---	---
20	---	---	---	9550.0	---	---	---	---	3930.0	---	---	574.0
21	---	---	---	14100.0	---	---	---	---	4590.0	---	---	8650.0
22	---	---	---	9890.0	---	---	---	---	5550.0	---	---	---
23	---	---	---	9160.0	---	3280.0	---	---	7330.0	---	---	---
24	---	---	---	6390.0	---	6900.0	---	---	3600.0	---	---	---
25	---	---	---	5590.0	---	5210.0	---	---	2110.0	---	---	---
26	---	---	---	3420.0	---	4040.0	---	---	1340.0	771.0	---	---
27	---	---	---	2780.0	---	4400.0	---	---	5130.0	648.0	---	---
28	---	---	---	---	---	5130.0	---	---	1360.0	187.0	---	---
29	---	---	3670.0	---	---	4310.0	---	---	1570.0	---	---	---
30	---	---	5550.0	---	---	4630.0	---	---	1560.0	---	---	---
31	---	---	6770.0	---	---	3310.0	---	4750.0	---	---	---	---

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, OK

LOCATION.--Lat 36°31'02", long 98°52'45", near center of sec.35, T.24 N., R.16 W., Woods County, Hydrologic Unit 11050001, near left bank on downstream side of bridge on U.S. Highway 281, 0.8 mi (1.4 km) downstream from Main Creek, 5 mi (8 km) south of Waynoka, and at mile 247.0 (397.4 km).

DRAINAGE AREA.--13,334 mi² (34,535 km²), of which 4,830 mi² (12,510 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 897: 1939. WSP 1341: Drainage area. WSP 1731: 1950(M). WSP 1921: 1960.

GAGE.--Water-stage recorder. Datum of gage is 1,367.50 ft (416.814 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). September 1903 to December 1905, nonrecording gage at The Atchison, Topeka and Santa Fe Railway Co. bridge 5 mi (8 km) upstream at different datum. Feb. 4, to Mar. 3, 1938, nonrecording gage and Mar. 4, 1938, to Oct. 24, 1956, water-stage recorder, on former highway bridge 50 ft (15.2 m) downstream at present datum.

REMARKS.--Records good. Extensive diversions for irrigation above station.

AVERAGE DISCHARGE.--41 years (water years 1938-78), 342 ft³/s (9.685 m³/s), 247,800 acre-ft/yr (306 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,500 ft³/s (2,680 m³/s) May 16, 1957, gage height, 15.10 ft (4.602 m), from rating curve extended above 45,000 ft³/s (1,270 m³/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of about 14 ft (4.3 m) occurred probably in 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,000 ft³/s (396 m³/s) at 0715 May 27, gage height, 8.75 ft (2.667 m), no other peaks above base of 10,000 ft³/s (283 m³/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	18	16	49	38	43	227	93	56	456	29	.00	.00
2	17	26	51	37	35	229	106	100	405	26	13	.00
3	15	34	51	44	54	158	105	730	326	23	61	.00
4	15	26	52	54	70	99	96	704	318	18	24	.00
5	14	21	57	56	66	117	86	567	1140	13	11	.00
6	15	23	59	47	69	151	79	475	1300	8.9	12	.00
7	17	25	52	44	76	161	73	492	1330	10	22	.00
8	16	39	44	41	51	224	65	402	1320	164	12	.00
9	13	71	25	30	65	158	64	314	5260	611	6.7	.00
10	8.9	80	29	24	113	135	97	241	1950	259	4.1	.00
11	6.4	51	32	23	127	123	164	207	774	145	1.5	.00
12	6.3	43	43	34	134	115	103	155	1230	81	.00	.00
13	6.6	40	44	50	144	111	81	115	572	53	.00	.00
14	6.2	37	48	51	105	107	72	95	313	39	.00	.00
15	5.4	36	66	46	95	108	65	70	230	32	.00	.00
16	5.0	36	82	44	91	111	62	55	169	25	.00	.00
17	4.8	35	73	24	96	114	62	56	130	19	.00	.00
18	4.5	34	70	41	85	118	58	60	156	13	.00	.00
19	4.4	35	59	39	88	119	55	127	378	9.1	.00	.00
20	4.0	31	53	44	99	118	51	425	161	5.9	.00	36
21	3.8	27	43	40	91	115	48	376	148	4.6	.00	277
22	4.6	26	39	39	94	110	47	335	136	3.6	.00	90
23	5.6	30	33	44	115	102	46	276	105	3.4	.00	37
24	6.7	31	35	55	148	100	44	213	81	2.3	.00	26
25	9.5	33	42	48	185	100	42	180	69	3.9	.00	19
26	12	35	49	43	175	99	42	402	53	3.2	.00	15
27	7.8	39	54	37	178	99	40	7880	45	.82	.00	12
28	6.6	43	49	38	217	105	39	6930	39	.27	.00	18
29	8.3	46	41	40	---	105	40	5130	34	.00	.00	4.3
30	14	49	41	45	---	102	43	1670	29	.00	.00	1.1
31	16	---	50	46	---	97	---	753	---	.00	.00	---
TOTAL	297.4	1098	1515	1286	2909	3937	2068	29591	18657	1605.99	167.30	535.40
MEAN	9.59	36.6	48.9	41.5	104	127	68.9	955	622	51.8	5.40	17.8
MAX	18	80	82	56	217	229	164	7880	5260	611	61	277
MIN	3.8	16	25	23	35	97	39	55	29	.00	.00	.00
AC-FT	590	2180	3010	2550	5770	7810	4100	58690	37010	3190	332	1060
CAL YR 1977	TOTAL	49735.78	MEAN	136	MAX	7620	MIN	.00	AC-FT	98650		
WTR YR 1978	TOTAL	63667.09	MEAN	174	MAX	7880	MIN	.00	AC-FT	126300		

ARKANSAS RIVER BASIN

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07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-63, 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 March 1969.

REMARKS.--In addition to water quality monitor, samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples 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 calculated from specific conductance values.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 102,000 micromhos Oct. 10, 1970; minimum, 1,260 micromhos May 11, 1973.

WATER TEMPERATURE: Maximum daily, 36.0°C July 7, 1978; minimum daily, -1.0°C Nov. 26, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 82,500 micromhos Jan. 11; minimum daily, 5,070 micromhos June 13.

WATER TEMPERATURE: Maximum daily, 36.0°C July 7; minimum daily, 0.0°C on many days during winter months.

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)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS 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
OCT											
05...	1730	15	44900	7.9	18.0	1700	1600	430	150	12000	94
15...	1815	5.1	45600	7.8	16.0	1800	1700	460	160	12000	93
25...	1750	13	46200	7.9	20.0	2000	1800	460	200	12000	93
NOV											
05...	0850	21	62600	7.6	12.0	2000	1800	490	190	18000	95
15...	1635	37	40100	8.0	15.5	1700	1500	400	160	13000	94
25...	0910	33	40700	7.9	5.5	1500	1400	370	150	12000	94
DEC											
06...	2115	62	42100	7.9	.0	1300	1100	310	130	10000	94
15...	1325	75	42600	7.9	12.0	1300	1100	320	130	10000	94
26...	1525	57	39500	8.2	6.5	1300	1100	310	120	9000	94
JAN											
05...	1800	50	43500	7.8	6.5	1300	1100	320	130	11000	95
16...	1405	45	41400	7.9	-1.0	1300	1100	310	130	11000	95
25...	2230	45	53600	7.6	-1.0	1600	1400	390	160	14000	95
FEB											
06...	1235	71	38800	7.8	-1.0	870	660	150	170	9500	96
15...	0835	26	60200	7.5	-1.0	1100	960	190	160	18000	97
25...	2125	204	49900	7.3	6.0	1100	910	170	160	13000	96
MAR											
05...	1755	156	33600	7.6	9.0	1200	1000	290	110	7800	93
15...	1745	110	23300	8.1	10.0	870	670	230	72	5400	93
25...	1725	101	25200	8.1	15.0	840	660	250	52	5800	94
APR											
05...	1740	84	37100	8.1	21.0	1300	1100	310	130	8900	93
15...	1630	66	42300	8.1	27.5	1500	1300	350	150	11000	94
25...	0755	43	49300	8.0	10.0	1600	1500	380	170	13000	94
MAY											
05...	0800	594	19900	7.5	12.0	280	130	15	59	4400	97
15...	0800	79	20000	7.8	17.0	900	700	210	90	4400	91
26...	0800	364	11100	7.5	19.0	450	300	110	42	2400	92
JUN											
05...	0800	1020	16000	7.5	21.0	670	520	180	53	3300	91
15...	0800	282	8160	7.4	22.0	590	320	160	47	1600	85
25...	2020	60	18700	7.6	26.0	910	740	230	82	4000	90
JUL											
05...	1730	12	31500	7.6	30.0	1400	1300	350	120	7500	92
15...	1453	32	18300	8.1	34.5	780	590	190	73	3900	91
25...	1747	4.6	40200	7.8	32.5	1500	1300	350	140	9200	93
AUG											
04...	2055	8.2	40700	7.7	24.0	1200	1100	310	100	10000	95
07...	0800	24	48300	7.6	21.0	1400	1200	330	130	12000	95
11...	1610	1.5	46900	7.6	27.0	1500	1400	360	140	11000	94
SEP											
21...	1830	210	45900	7.5	18.0	940	860	230	88	12000	96
25...	1730	17	48400	8.2	21.0	1200	1000	280	110	12000	96
29...	0800	6.1	61100	7.8	17.0	1500	1400	350	150	17000	96

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SODIUM AD- SODIUM RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DTS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DTS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS AC-FT)	SOLIDS, DTS- SOLVED (TONS DAY)
OCT											
05...	127	21	160	0	130	3.2	1300	18000	30700	41.8	1240
15...	123	21	140	0	110	3.6	1500	19000	31900	43.4	439
25...	118	20	160	0	130	3.2	1500	19000	32200	43.8	1130
NOV											
05...	175	26	200	0	160	8.0	1300	27000	42600	57.9	2430
15...	139	21	190	0	160	3.0	1100	20000	33700	45.8	3370
25...	133	18	200	0	160	4.0	1100	18000	30100	40.9	2680
DEC											
06...	120	17	230	0	190	4.6	880	16000	28000	38.1	4700
15...	119	19	240	0	200	4.8	880	16000	27800	37.8	5630
26...	110	18	250	0	210	2.5	780	14000	25400	34.5	3910
JAN											
05...	131	19	230	0	190	5.8	830	17000	29400	40.0	3970
16...	132	18	250	0	210	5.0	1100	17000	29200	39.7	3550
25...	151	22	240	0	200	9.6	--	23000	35500	48.3	4310
FEB											
06...	140	15	260	0	210	6.6	780	15000	25700	35.0	4930
15...	233	21	210	0	170	11	1100	27000	40800	55.5	9470
25...	172	19	210	0	170	17	900	20000	34700	47.2	19200
MAR											
05...	99	16	220	0	180	8.8	730	13000	20400	27.7	8590
15...	80	14	240	0	200	3.1	560	8300	14600	19.9	4340
25...	87	14	220	0	180	2.8	670	9100	15800	21.5	4310
APR											
05...	107	41	220	0	180	2.8	880	14000	24800	33.7	5630
15...	124	41	190	0	160	2.4	1100	17000	29600	40.3	5290
25...	139	2.1	210	0	170	3.4	1100	20000	33100	45.0	3880
MAY											
05...	114	14	180	0	150	9.1	350	6400	12200	16.6	19600
15...	64	15	240	0	200	6.1	540	7000	12400	16.9	2660
26...	49	9.6	180	0	150	9.1	270	3600	6280	8.54	6180
JUN											
05...	56	12	180	0	150	9.1	410	5300	9040	12.3	24900
15...	29	13	330	0	270	21	330	2200	4670	6.35	3560
25...	58	17	210	0	170	8.4	650	6200	11500	15.6	1880
JUL											
05...	88	21	130	0	110	5.2	--	--	21000	28.6	680
15...	61	19	230	0	190	2.9	490	6300	10900	14.8	942
25...	105	26	150	0	120	3.8	1000	15000	27600	37.5	343
AUG											
04...	126	18	130	0	110	4.2	800	15000	27500	37.4	609
07...	142	26	150	0	120	6.0	--	18000	33600	45.7	2200
11...	125	28	130	0	110	5.2	940	18000	32900	44.7	133
SEP											
21...	171	18	90	0	74	4.6	--	19000	31100	42.3	17600
25...	154	22	140	0	110	1.4	590	19000	33500	45.6	1540
29...	192	27	150	0	120	3.8	1000	27000	44800	60.9	738

ARKANSAS RIVER BASIN

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07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

SPECIFIC CONDUCTANCE (MICROMH/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	45000	52000	47000	44300	41000	19100	---	40300	8660	26100	---	---
2	48100	48800	44400	46000	44600	16400	29600	60900	8770	24200	---	---
3	47000	67300	46400	57000	42900	26000	29600	24200	10900	27400	---	---
4	45200	67000	42300	62900	41900	26300	39200	22700	12000	31400	40700	---
5	44900	62600	40200	71800	---	33600	37100	19900	16000	31500	42400	---
6	44000	57800	42100	43800	38800	27600	38800	14100	16100	33100	48100	---
7	43400	57400	50800	---	32300	20400	38600	30400	8960	33300	48300	---
8	46000	54500	43100	45100	32000	13500	41600	26500	8570	---	39600	---
9	49800	57400	49900	79400	32400	15900	40400	21500	9040	7280	42200	---
10	46400	65600	49100	80900	44500	19200	37700	16600	5760	7050	45000	---
11	38800	65000	46000	82500	46500	21400	61400	15900	5870	7580	46900	---
12	37900	60500	44000	75400	36900	22800	48200	17500	6850	11800	---	---
13	45400	55800	49600	---	45200	22200	47100	20400	5070	15700	---	---
14	45400	---	43900	73300	62100	22200	45000	19200	6210	18200	---	---
15	45000	49100	42600	77300	60200	23300	42300	20000	8160	18300	---	---
16	42500	---	26000	75400	49200	23400	42900	25800	9820	22200	---	---
17	43200	50100	29100	79600	47300	28900	46200	25500	11000	25500	---	---
18	41300	48700	34500	71100	45600	26700	49800	25700	11300	28500	---	---
19	40400	47000	48100	68800	47100	20500	51700	26100	21200	30300	---	---
20	40000	46700	41400	71200	47900	22200	50500	---	16400	32200	---	---
21	38800	49400	36900	65700	48000	21200	47900	---	14700	34300	---	45900
22	38800	50800	---	71800	45800	24200	47000	11900	14200	32700	---	46900
23	41100	47300	35600	68500	43600	---	46900	14100	18200	---	---	49300
24	41900	42200	40800	59300	51800	25500	49900	16100	22200	33300	---	49900
25	46200	44700	47800	44500	49600	25200	49300	16600	18700	40200	---	48400
26	52100	---	39500	52500	33500	32000	49000	11100	20400	41500	---	48600
27	50200	46800	31500	46800	31400	31300	48300	6510	19000	39500	---	49400
28	48100	40600	---	47600	19900	24800	49400	9410	20200	36700	---	64000
29	49900	43800	32900	48400	---	26300	48600	9030	21400	---	---	61100
30	52200	41400	35400	50800	---	26900	48500	6420	22500	---	---	---
31	54400	---	45300	51800	---	27600	---	7030	---	---	---	---

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	17.5	9.0	7.0	.5	.0	2.0	---	12.5	20.5	32.0	---	---
2	22.0	---	3.0	.0	.0	3.0	20.0	9.0	20.5	30.0	---	---
3	21.5	16.0	1.5	.5	.0	1.0	20.0	8.5	21.0	33.5	---	---
4	21.0	8.0	9.5	.5	7.0	3.0	17.5	7.5	19.0	32.5	24.0	---
5	16.0	12.0	6.0	.0	---	9.0	21.0	12.0	21.0	30.0	23.0	---
6	17.0	14.0	.0	5.0	.0	7.0	14.0	11.0	26.0	30.0	30.0	---
7	18.0	18.0	.0	---	.0	2.5	17.5	18.5	20.0	36.0	21.0	---
8	9.5	13.0	1.0	.0	.0	8.0	26.0	13.0	22.0	---	30.0	---
9	17.0	7.0	2.0	3.5	.0	10.0	21.0	14.0	24.0	27.0	27.5	---
10	12.0	11.0	1.5	3.0	.0	14.0	10.5	15.0	20.0	29.0	26.5	---
11	14.5	15.0	4.0	3.5	.0	5.5	7.0	25.0	20.0	32.5	27.0	---
12	15.0	7.0	9.0	2.0	.0	4.0	13.0	15.0	21.5	29.5	---	---
13	21.0	18.0	11.0	---	.0	9.0	17.0	24.0	21.0	32.5	---	---
14	19.0	---	3.0	.0	.0	14.0	25.0	24.0	22.0	34.0	---	---
15	16.0	15.5	12.0	.0	.0	10.0	27.5	17.0	22.0	34.5	---	---
16	9.0	---	7.5	.0	2.0	14.0	16.0	26.0	22.0	26.0	---	---
17	20.0	16.0	8.0	.0	.0	18.0	20.0	20.0	20.0	29.0	---	---
18	23.0	6.5	1.5	.0	.0	20.0	14.0	24.0	21.5	28.0	---	---
19	21.0	14.0	2.5	.0	1.5	12.0	21.0	19.5	20.0	30.0	---	---
20	22.0	10.5	1.5	1.0	3.0	20.0	21.0	---	20.0	31.0	---	---
21	14.0	7.5	3.0	---	2.0	15.0	8.0	---	21.0	30.5	---	18.0
22	14.5	9.0	---	.5	.0	11.5	9.0	27.0	29.0	27.0	---	21.0
23	20.0	10.5	9.0	2.0	8.0	---	24.0	30.0	27.0	---	---	26.0
24	22.0	10.0	6.0	2.5	7.0	10.5	20.5	21.0	26.0	31.5	---	23.5
25	20.0	5.5	1.5	.5	6.0	15.0	10.0	21.0	26.0	32.5	---	21.0
26	23.0	---	6.5	1.0	7.0	18.5	12.0	19.0	29.0	34.0	---	25.0
27	19.0	11.5	1.0	2.0	8.0	24.5	11.5	18.0	22.0	28.0	---	17.0
28	14.5	7.0	---	2.0	5.0	11.5	---	22.0	29.5	26.0	---	29.0
29	21.5	9.0	7.5	1.5	---	18.0	20.5	19.0	29.0	---	---	17.0
30	19.0	7.5	6.0	2.0	---	20.0	18.0	26.0	22.0	---	---	---
31	13.0	---	5.5	1.5	---	20.0	---	---	---	---	---	---

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

SPECIFIC CONDUCTANCE (MICROMH/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	---	50700			---	---	27800	---	8770	27100	---	---
2	---	55200			---	---	29100	---	9180	23000	---	---
3	---	68000			---	---	30400	24200	11000	27100	39100	---
4	---	68600			---	---	39100	20300	9960	30900	39800	---
5	44800	61900			---	---	36700	20100	16600	32500	43000	---
6	44500	55200			---	---	38500	12400	16500	34200	45800	---
7	43100	55000			---	---	39200	24500	9240	31400	49200	---
8	46000	55300			---	---	41100	26100	8790	28700	40000	---
9	48500	56900			---	---	40400	21300	8970	11100	41900	---
10	44200	65800			---	---	38100	16500	5840	6440	44800	---
11	38300	63200			---	---	33200	14600	5870	7240	47800	---
12	37400	60700			---	---	31900	16000	6820	11500	---	---
13	44400	56100			---	---	48100	18900	---	15600	---	---
14	44700	52700			---	---	44400	19100	---	18300	---	---
15	45300	49500			---	---	43000	20000	---	18300	---	---
16	44000	---			---	---	42400	25700	---	22300	---	---
17	42600	---			---	---	44300	26100	---	25500	---	---
18	40700	---			---	---	47700	32500	---	28400	---	---
19	40000	---			---	---	51600	25700	21200	30600	---	---
20	39600	---			---	---	50100	8930	16400	32300	---	46500
21	38700	---			---	---	46800	10000	14700	34300	---	45700
22	38900	---			---	---	47100	11600	14200	32800	---	46400
23	41000	---			---	26300	46800	13900	18200	32800	---	49100
24	41700	---			52300	27000	49700	14500	22200	33100	---	48300
25	45800	---			50200	25600	49300	16200	18700	41000	---	48300
26	51400	---			32100	31100	48400	13700	20300	37800	---	48400
27	50000	---			---	30100	48200	8410	19000	38200	---	49300
28	47900	---			---	25000	49300	---	17600	37100	---	63900
29	49400	---			---	25900	48500	---	21300	---	---	61000
30	53100	---			---	26500	48600	6220	22100	---	---	61100
31	54500	---			---	27300	---	6920	---	---	---	---

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	---	11.0			---	---	18.5	---	22.5	26.5	28.5	28.0
2	---	8.5			---	---	19.5	---	20.0	31.5	28.5	28.5
3	---	7.0			---	---	18.0	---	22.5	30.0	24.5	28.0
4	---	5.5			---	---	17.5	12.5	23.5	29.5	24.0	29.0
5	---	7.0			---	---	18.0	13.0	23.5	28.5	27.5	28.5
6	16.0	6.0			---	---	18.5	17.5	---	27.0	27.5	28.5
7	19.0	7.5			---	---	21.5	17.0	---	30.5	27.0	26.0
8	16.5	7.5			---	---	21.0	21.0	26.0	30.5	27.5	25.5
9	14.5	7.0			---	---	18.5	20.0	26.5	28.0	27.0	27.5
10	13.5	7.0			---	---	11.5	23.5	24.0	28.0	27.5	29.0
11	12.0	5.5			---	---	16.0	17.5	26.5	28.5	27.0	29.0
12	12.5	5.5			---	---	16.0	20.0	25.0	28.0	26.0	30.5
13	14.5	6.0			---	---	16.5	24.5	27.0	28.5	26.5	26.5
14	15.5	8.0			---	---	20.5	22.5	25.5	28.5	27.0	29.0
15	13.5	7.0			---	---	21.5	21.5	25.0	28.5	23.5	31.0
16	12.0	---			---	---	17.0	19.0	24.5	28.0	28.0	32.0
17	14.5	---			---	---	18.0	24.0	24.0	27.0	30.5	30.0
18	15.0	---			---	---	12.0	24.0	24.0	27.0	27.5	31.5
19	16.0	---			---	---	13.0	21.0	25.5	27.5	22.0	21.0
20	16.5	---			---	---	15.0	21.0	25.0	27.0	27.5	16.5
21	18.0	---			---	---	14.0	26.0	23.5	26.5	29.5	19.0
22	16.0	---			---	---	15.0	27.0	24.5	25.5	29.5	20.0
23	15.5	---			---	---	16.0	26.5	25.5	25.0	30.0	21.5
24	17.0	---			---	8.0	17.0	24.0	25.5	25.5	30.5	22.0
25	16.5	---			5.0	9.0	16.5	---	25.0	---	31.5	21.5
26	17.5	---			4.0	12.0	16.5	---	25.0	29.5	31.0	22.0
27	17.0	---			---	15.0	16.5	---	26.0	27.5	28.5	23.0
28	20.0	---			---	16.5	17.5	---	28.5	27.0	24.5	22.0
29	19.0	---			---	18.0	18.5	---	28.0	25.5	23.0	21.5
30	18.5	---			---	17.5	17.5	---	27.5	26.0	23.5	21.0
31	16.5	---			---	18.0	---	26.0	---	26.5	25.5	---

ARKANSAS RIVER BASIN

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07158000 CIMARRON RIVER NEAR WAYNOKA, 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	---	1100			---	---	680	---	340	670	---	---
2	---	1200			---	---	700	---	350	590	---	---
3	---	1400			---	---	730	610	380	670	880	---
4	---	1400			---	---	880	550	360	730	890	---
5	980	1300			---	---	840	540	480	760	950	---
6	980	1200			---	---	870	400	480	790	1000	---
7	950	1200			---	---	880	620	350	740	1100	---
8	1000	1200			---	---	920	650	340	700	900	---
9	1000	1200			---	---	900	560	340	380	930	---
10	970	1400			---	---	860	480	290	300	980	---
11	870	1300			---	---	780	440	290	310	1000	---
12	850	1300			---	---	750	470	300	390	---	---
13	980	1200			---	---	1000	520	---	460	---	---
14	980	1100			---	---	980	520	---	510	---	---
15	990	1100			---	---	950	540	---	510	---	---
16	970	---			---	---	940	640	---	580	---	---
17	940	---			---	---	970	650	---	640	---	---
18	910	---			---	---	1000	760	---	690	---	---
19	900	---			---	---	1100	640	560	730	---	---
20	890	---			---	---	1100	340	480	760	---	1000
21	870	---			---	---	1000	360	450	790	---	1000
22	880	---			---	---	1000	390	440	770	---	1000
23	910	---			---	690	1000	430	510	770	---	1100
24	930	---			1100	660	1100	440	580	770	---	1000
25	1000	---			1100	640	1100	470	520	910	---	1000
26	1100	---			760	740	1000	430	550	860	---	1000
27	1100	---			---	720	1000	330	520	860	---	1100
28	1000	---			---	630	1100	---	500	840	---	1300
29	1100	---			---	650	1000	---	560	---	---	1300
30	1100	---			---	660	1100	290	580	---	---	1300
31	1200	---			---	670	---	310	---	---	---	---

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	---	47.5			---	---	171.0	---	419.0	52.50	---	---
2	---	84.2			---	---	200.0	---	383.0	41.40	---	---
3	---	129.0			---	---	207.0	1200.0	334.0	41.60	145.00	---
4	---	98.3			---	---	228.0	1050.0	309.0	35.50	57.70	---
5	37.00	73.7			---	---	195.0	827.0	1480.0	26.70	28.20	---
6	39.70	74.5			---	---	186.0	513.0	1680.0	19.00	32.40	---
7	43.60	81.0			---	---	173.0	824.0	1260.0	20.00	65.30	---
8	43.20	126.0			---	---	161.0	706.0	1210.0	310.00	29.20	---
9	35.10	230.0			---	---	156.0	475.0	4830.0	627.00	16.80	---
10	23.30	302.0			---	---	225.0	312.0	1530.0	210.00	10.80	---
11	15.00	179.0			---	---	345.0	246.0	606.0	121.00	4.05	---
12	14.50	151.0			---	---	209.0	197.0	996.0	85.30	---	---
13	17.50	130.0			---	---	219.0	161.0	---	65.80	---	---
14	16.40	110.0			---	---	191.0	133.0	---	53.70	---	---
15	14.40	107.0			---	---	167.0	102.0	---	44.10	---	---
16	13.10	---			---	---	157.0	95.0	---	39.10	---	---
17	12.20	---			---	---	162.0	98.3	---	32.80	---	---
18	11.10	---			---	---	157.0	123.0	---	24.20	---	---
19	10.70	---			---	---	163.0	219.0	572.0	17.90	---	---
20	9.61	---			---	---	151.0	390.0	209.0	12.10	---	97.20
21	8.93	---			---	---	130.0	365.0	180.0	9.81	---	748.00
22	10.90	---			---	---	127.0	353.0	162.0	7.48	---	243.00
23	13.80	---			---	190.0	124.0	320.0	145.0	7.07	---	110.00
24	16.80	---			440.0	178.0	131.0	253.0	127.0	4.78	---	70.20
25	25.60	---			549.0	173.0	125.0	228.0	96.9	9.58	---	51.30
26	35.60	---			359.0	198.0	113.0	467.0	78.7	7.43	---	40.50
27	23.20	---			---	192.0	108.0	7020.0	63.2	1.90	---	35.60
28	17.80	---			---	179.0	116.0	---	52.6	.61	---	63.20
29	24.70	---			---	184.0	108.0	---	51.4	---	---	15.10
30	41.60	---			---	182.0	128.0	1310.0	45.4	---	---	3.86
31	51.80	---			---	175.0	---	630.0	---	---	---	---

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, 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	---	21000			---	---	10000	---	1600	9900	---	---
2	---	23000			---	---	11000	---	1800	8100	---	---
3	---	29000			---	---	11000	8600	2600	9900	15000	---
4	---	29000			---	---	15000	6800	2100	12000	16000	---
5	18000	26000			---	---	14000	6700	5100	12000	17000	---
6	18000	23000			---	---	15000	3200	5100	13000	18000	---
7	17000	23000			---	---	15000	8800	1800	12000	20000	---
8	19000	23000			---	---	16000	9500	1600	11000	16000	---
9	20000	24000			---	---	16000	7300	1700	2600	17000	---
10	18000	26000			---	---	15000	5100	240	510	18000	---
11	15000	26000			---	---	13000	4200	250	880	19000	---
12	15000	25000			---	---	12000	4900	680	2800	---	---
13	18000	23000			---	---	20000	6200	---	4700	---	---
14	18000	22000			---	---	18000	6300	---	5900	---	---
15	18000	20000			---	---	17000	6700	---	5900	---	---
16	18000	---			---	---	17000	9300	---	7800	---	---
17	17000	---			---	---	18000	9500	---	9200	---	---
18	16000	---			---	---	19000	12000	---	11000	---	---
19	16000	---			---	---	21000	9300	7300	12000	---	---
20	16000	---			---	---	20000	1600	5100	12000	---	19000
21	15000	---			---	---	19000	2100	4300	13000	---	18000
22	15000	---			---	---	19000	2900	4100	13000	---	19000
23	16000	---			---	10000	19000	5900	5900	13000	---	20000
24	17000	---			21000	4900	20000	4200	7700	13000	---	20000
25	18000	---			20000	9300	20000	5000	6100	16000	---	20000
26	21000	---			12000	12000	20000	3800	6800	15000	---	20000
27	20000	---			---	11000	20000	1400	6200	15000	---	20000
28	19000	---			---	9000	20000	---	5700	15000	---	27000
29	20000	---			---	9400	20000	---	7300	---	---	25000
30	22000	---			---	9700	20000	410	7700	---	---	25000
31	22000	---			---	10000	---	730	---	---	---	---

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	---	907.0			---	---	2510.0	---	1970.0	775.0	---	---
2	---	1610.0			---	---	3150.0	---	1970.0	569.0	---	---
3	---	2660.0			---	---	3120.0	17000.0	2290.0	615.0	2470.0	---
4	---	2040.0			---	---	3890.0	12900.0	1800.0	583.0	1040.0	---
5	680.0	1470.0			---	---	3250.0	10300.0	15700.0	421.0	505.0	---
6	729.0	1430.0			---	---	3200.0	4100.0	17900.0	312.0	583.0	---
7	780.0	1550.0			---	---	2960.0	11700.0	6460.0	324.0	1190.0	---
8	821.0	2420.0			---	---	2810.0	10300.0	5700.0	4870.0	518.0	---
9	702.0	4600.0			---	---	2760.0	6190.0	24100.0	4290.0	308.0	---
10	433.0	6050.0			---	---	3930.0	3320.0	1260.0	357.0	199.0	---
11	259.0	3580.0			---	---	5760.0	2350.0	522.0	345.0	76.9	---
12	255.0	2900.0			---	---	3340.0	2050.0	2240.0	612.0	---	---
13	321.0	2480.0			---	---	4370.0	1930.0	---	673.0	---	---
14	301.0	2200.0			---	---	3500.0	1620.0	---	621.0	---	---
15	262.0	1940.0			---	---	2980.0	1270.0	---	510.0	---	---
16	243.0	---			---	---	2850.0	1380.0	---	526.0	---	---
17	220.0	---			---	---	3010.0	1440.0	---	472.0	---	---
18	194.0	---			---	---	2980.0	1940.0	---	386.0	---	---
19	190.0	---			---	---	3120.0	3190.0	7450.0	295.0	---	---
20	173.0	---			---	---	2750.0	1840.0	2220.0	191.0	---	1850.0
21	154.0	---			---	---	2460.0	2130.0	1720.0	161.0	---	13500.0
22	186.0	---			---	---	2410.0	2620.0	1510.0	126.0	---	4620.0
23	242.0	---			---	2750.0	2360.0	2910.0	1670.0	119.0	---	2000.0
24	308.0	---			8390.0	2670.0	2380.0	2420.0	1680.0	80.7	---	1400.0
25	462.0	---			9990.0	2510.0	2270.0	2430.0	1140.0	166.0	---	1030.0
26	680.0	---			5670.0	3210.0	2270.0	4120.0	973.0	130.0	---	810.0
27	421.0	---			---	2940.0	2160.0	29800.0	753.0	33.2	---	648.0
28	339.0	---			---	2550.0	2110.0	---	600.0	10.9	---	1310.0
29	448.0	---			---	2660.0	2160.0	---	670.0	---	---	290.0
30	832.0	---			---	2670.0	2320.0	1850.0	603.0	---	---	74.2
31	950.0	---			---	2620.0	---	1480.0	---	---	---	---

ARKANSAS RIVER BASIN

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07158000 CIMARRON RIVER NEAR WAYNOKA, 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	---	34800			---	---	18100	---	4140	17500	---	---
2	---	38100			---	---	19000	---	4440	14500	---	---
3	---	47500			---	---	20000	15400	5770	17500	26300	---
4	---	47900			---	---	26300	12600	5010	20300	26800	---
5	30500	43000			---	---	24600	12400	9870	21500	29200	---
6	30300	36100			---	---	25900	6790	9790	22700	31200	---
7	29200	36000			---	---	26400	15600	4480	20700	33700	---
8	31400	38200			---	---	27800	16800	4150	18700	27000	---
9	33200	39300			---	---	27300	13300	4280	5840	28400	---
10	30100	45900			---	---	25000	9790	1990	2430	30500	---
11	25700	44000			---	---	22000	8400	2020	3020	32700	---
12	25100	42100			---	---	21100	9430	2710	6130	---	---
13	50200	56800			---	---	32900	11500	---	9130	---	---
14	30400	56300			---	---	30200	11700	---	11100	---	---
15	30900	33900			---	---	29200	12400	---	11100	---	---
16	29900	---			---	---	28700	16500	---	14000	---	---
17	28900	---			---	---	30100	16800	---	16400	---	---
18	27500	---			---	---	32600	21500	---	18500	---	---
19	27000	---			---	---	35500	16500	13200	20100	---	---
20	26700	---			---	---	34400	4250	9720	21300	---	31700
21	26000	---			---	---	32000	5040	8480	22800	---	31100
22	26200	---			---	---	32200	6210	8110	21700	---	31700
23	27700	---			---	16400	32000	7890	11000	21700	---	33600
24	29200	---			36000	17500	34100	8350	14000	21900	---	33100
25	31200	---			34400	16400	33600	9570	11400	27700	---	33100
26	35300	---			21200	20500	33100	7740	12600	25400	---	33100
27	34300	---			---	19700	33000	3870	11600	25700	---	33800
28	32800	---			---	16000	33800	---	10700	24900	---	44500
29	33900	---			---	16700	33200	---	13300	---	---	42300
30	36600	---			---	17100	33300	2270	13900	---	---	42400
31	37600	---			---	17700	---	2780	---	---	---	---

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	---	1500.0			---	---	4540.0	---	5100.0	1370.0	---	---
2	---	2670.0			---	---	5440.0	---	4860.0	1020.0	---	---
3	---	4360.0			---	---	5670.0	30400.0	5080.0	1090.0	4330.0	---
4	---	3360.0			---	---	6820.0	24000.0	4300.0	987.0	1740.0	---
5	1150.0	2440.0			---	---	5710.0	19000.0	30400.0	755.0	867.0	---
6	1230.0	2370.0			---	---	5520.0	8710.0	34400.0	545.0	1010.0	---
7	1340.0	2570.0			---	---	5200.0	20700.0	16100.0	559.0	2000.0	---
8	1360.0	4020.0			---	---	4880.0	18200.0	14800.0	8280.0	875.0	---
9	1170.0	7530.0			---	---	4720.0	11300.0	60800.0	9630.0	514.0	---
10	723.0	9910.0			---	---	6700.0	6370.0	10500.0	1700.0	338.0	---
11	444.0	6060.0			---	---	9740.0	4690.0	4220.0	1180.0	132.0	---
12	427.0	4890.0			---	---	5870.0	3950.0	9000.0	1340.0	---	---
13	538.0	4190.0			---	---	7200.0	3570.0	---	1310.0	---	---
14	509.0	3630.0			---	---	5870.0	3000.0	---	1170.0	---	---
15	451.0	3300.0			---	---	5120.0	2340.0	---	959.0	---	---
16	404.0	---			---	---	4800.0	2450.0	---	945.0	---	---
17	375.0	---			---	---	5040.0	2540.0	---	841.0	---	---
18	334.0	---			---	---	5110.0	3480.0	---	649.0	---	---
19	321.0	---			---	---	5270.0	5660.0	13500.0	499.0	---	---
20	288.0	---			---	---	4740.0	4880.0	4230.0	339.0	---	3080.0
21	267.0	---			---	---	4150.0	5120.0	3390.0	283.0	---	23300.0
22	325.0	---			---	---	4090.0	5620.0	2980.0	211.0	---	7700.0
23	419.0	---			---	5070.0	3970.0	5880.0	3120.0	199.0	---	3360.0
24	510.0	---			14400.0	4720.0	4050.0	4790.0	3060.0	136.0	---	2320.0
25	800.0	---			17200.0	4430.0	3830.0	4650.0	2120.0	292.0	---	1700.0
26	1140.0	---			10000.0	5480.0	3750.0	8400.0	1800.0	219.0	---	1340.0
27	722.0	---			---	5270.0	3560.0	82300.0	1410.0	56.9	---	1100.0
28	584.0	---			---	4540.0	3560.0	---	1130.0	18.2	---	2160.0
29	760.0	---			---	4730.0	3590.0	---	1220.0	---	---	491.0
30	1380.0	---			---	4710.0	3870.0	10200.0	1090.0	---	---	126.0
31	1620.0	---			---	4640.0	---	5650.0	---	---	---	---

ARKANSAS RIVER BASIN

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07158400 SALT CREEK NEAR OKEENE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to current year.
WATER TEMPERATURE: October 1973 to current year.

INSTRUMENTATION.--Water quality monitor since October 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. 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 51,600 micromhos Sept. 9, 1976; minimum daily, 373 micromhos Nov. 3, 1974.
WATER TEMPERATURE: Maximum, 38.0°C Aug. 31, 1977; minimum, -1.0°C Jan 19, 20, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 48,000 micromhos May 22; minimum daily, 1,440 micromhos May 28.
WATER TEMPERATURE: Maximum 35.5°C July 26; minimum daily, -1.0°C on Jan. 19, 20.

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 SATUR- ATION (%)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CaCO3)
OCT											
03...	1900	4.5	10600	8.3	21.5	--	--	--	--	850	710
20...	1830	4.8	12500	8.3	20.5	2	14.4	166	45	--	--
24...	1840	6.8	14600	8.2	21.0	--	--	--	--	1100	990
27...	1915	5.9	21600	7.9	19.0	--	--	--	--	1000	890
NOV											
04...	1745	9.3	20200	7.7	19.0	--	--	--	--	1200	1100
10...	2005	7.1	35500	7.7	10.5	--	--	--	--	1900	1800
22...	1500	7.4	12400	8.2	9.5	10	14.9	135	14	--	--
25...	1700	7.4	11800	7.9	11.5	--	--	--	--	1100	1000
DEC											
02...	1750	7.4	20200	8.1	10.0	--	--	--	--	1400	1300
08...	2030	5.7	26200	7.9	4.0	--	--	--	--	1600	1400
10...	1715	6.5	19000	8.1	.0	1	16.4	115	18	--	--
19...	1545	5.9	16900	--	8.0	--	18.8	163	--	--	--
25...	1750	5.6	14600	8.0	5.0	--	--	--	--	1300	1100
JAN											
09...	1740	4.4	18500	8.0	1.0	--	--	--	--	1500	1300
18...	1730	5.0	44500	7.8	-1.0	--	--	--	--	2300	2100
23...	1805	8.0	30600	7.9	.0	--	--	--	--	1800	1600
31...	0915	6.0	19700	8.2	.0	1	16.6	118	6	--	--
FEB											
15...	1245	10	24100	8.1	1.5	17	16.0	118	131	--	--
MAR											
05...	1700	9.3	28000	8.1	9.0	--	--	--	--	1700	1500
16...	1100	9.4	22600	8.2	8.5	0	19.6	169	21	--	--
23...	1830	8.7	11900	7.7	10.0	--	--	--	--	1200	1100
29...	1730	10	19300	7.4	25.0	--	--	--	--	1400	1300
APR											
06...	2210	17	6440	7.7	20.0	--	--	--	--	610	480
11...	1815	11	33600	7.9	25.0	--	--	--	--	1600	1400
13...	1415	8.0	15500	8.0	23.0	14	14.9	177	24	--	--
20...	1940	7.4	20900	7.7	21.0	--	--	--	--	1500	1400
MAY											
01...	1830	9.3	23000	7.9	22.0	--	--	--	--	1500	1400
10...	1200	12	13600	8.1	19.0	2	10.9	121	--	--	--
22...	1800	13	48000	7.7	30.5	--	--	--	--	2600	2500
28...	1350	2400	1440	7.3	19.5	--	--	--	--	220	140
JUN											
06...	1855	25	5750	7.3	26.5	--	--	--	--	650	530
12...	1445	8.1	11000	8.3	28.0	45	11.6	151	43	--	--

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, 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, DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)
JUN										
22...	1800	17	16900	7.1	29.0	--	--	--	1100	1000
28...	2015	4.0	11400	7.5	--	--	--	--	990	850
JUL										
01...	2000	3.3	10600	7.7	--	--	--	--	1000	860
17...	1330	1.5	14100	8.1	32.0	9	8.7	122	23	--
17...	1845	1.8	12000	7.6	--	--	--	--	1100	940
28...	1920	.80	14400	7.9	--	--	--	--	1100	970
AUG										
01...	1200	1.2	13000	7.9	29.0	17	8.4	112	32	--
01...	1845	1.2	12700	7.6	--	--	--	--	1200	990
06...	1915	5.9	25200	7.7	--	--	--	--	1500	1400
17...	2100	2.2	18700	7.4	--	--	--	--	1200	1100
SEP										
09...	1900	3.8	12600	7.7	28.0	--	--	--	830	690
16...	2130	11	31800	7.6	30.5	--	--	--	1500	1400
21...	1030	71	20900	7.6	14.5	>1000	8.3	82	757	--
25...	2050	11	20300	7.9	24.0	--	--	--	1300	1200

ARKANSAS RIVER BASIN

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07158400 SALT CREEK NEAR OKEENE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM TOTAL RECOV= ERABLE (MG/L AS CA)	CALCIUM DIS= SOLVED (MG/L AS CA)	CALCIUM DIS= SOLVED (MG/L AS CACO3)	MAGNE= SIUM, TOTAL RECOV= ERABLE (MG/L AS MG)	MAGNE= SIUM, DIS= SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV= ERABLE (MG/L AS NA)	SODIUM, DIS= SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD= SORP= TION RATIO	POTAS= SIUM, TOTAL RECOV= ERABLE (MG/L AS K)
UCT										
03...	--	240	--	--	62	--	2100	84	31	--
20...	--	--	--	--	--	--	--	--	--	--
24...	--	320	--	--	83	--	3100	85	40	--
27...	--	230	--	--	110	--	4800	91	65	--
NOV										
04...	--	360	--	--	84	--	4200	88	52	--
10...	--	520	--	--	150	--	8600	91	86	--
22...	314	--	785	70	--	--	--	--	--	--
25...	--	330	--	--	76	--	2300	81	30	--
DEC										
02...	--	400	--	--	100	--	4200	87	49	--
08...	--	440	--	--	120	--	5600	88	61	--
10...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
25...	--	370	--	--	88	--	3000	83	36	--
JAN										
09...	--	400	--	--	110	--	3900	85	45	--
18...	--	650	--	--	170	--	11000	91	99	--
23...	--	510	--	--	130	--	7000	89	72	--
31...	128	--	320	30	--	3100	--	--	--	5.4
FEB										
15...	--	--	--	--	--	--	--	--	--	--
MAR										
05...	--	470	--	--	130	--	5500	87	58	--
16...	392	--	980	59	--	--	--	--	--	--
23...	--	340	--	--	90	--	2300	80	29	--
29...	--	380	--	--	120	--	4500	87	52	--
APR										
06...	--	180	--	--	40	--	1200	81	21	--
11...	--	580	--	--	29	--	7700	91	85	--
13...	--	--	--	--	--	--	--	--	--	--
20...	--	420	--	--	110	--	4600	87	52	--
MAY										
01...	--	400	--	--	120	--	5100	88	57	--
10...	430	--	1075	78	--	--	--	--	--	--
22...	--	710	--	--	200	--	12000	91	102	--
28...	--	66	--	--	11	--	200	66	5.9	--
JUN										
06...	--	200	--	--	36	--	1000	77	17	--
12...	--	--	--	--	--	--	--	--	--	--
22...	--	340	--	--	68	--	3700	88	48	--
28...	--	280	--	--	70	--	2200	83	30	--
JUL										
01...	--	290	--	--	68	--	2000	81	27	--
17...	384	--	960	84	--	2150	--	--	--	9.8
17...	--	320	--	--	77	--	2300	82	30	--
28...	--	320	--	--	84	--	2900	85	37	--
AUG										
01...	--	--	--	--	--	--	--	--	--	--
01...	--	330	--	--	81	--	2600	83	33	--
06...	--	430	--	--	99	--	5500	89	62	--
17...	--	330	--	--	90	--	3900	88	49	--
SEP										
09...	--	230	--	--	63	--	2700	87	41	--
16...	--	470	--	--	88	--	6600	90	73	--
21...	--	--	--	--	--	--	--	--	--	--
25...	--	390	--	--	87	--	4400	88	52	--

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG, C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG, C, DIS- SOLVED (MG/L)
OCT										
03...	6.6	180	0	150	1.4	920	3200	--	6610	--
20...	--	--	--	--	--	--	--	.4	--	7854
24...	7.6	180	0	150	1.8	1000	4900	--	9190	--
27...	8.7	170	0	140	3.4	1100	7300	--	13900	--
NOV										
04...	9.4	130	0	110	4.2	1100	6600	--	12600	--
10...	15	170	0	140	5.4	1100	14000	--	23500	--
22...	--	--	--	--	--	--	--	.5	--	--
25...	6.5	130	0	110	2.6	1100	3300	--	7280	--
DEC										
02...	8.8	160	0	130	2.0	1300	6500	--	12800	--
08...	10	220	0	180	4.4	1300	9200	--	16900	--
10...	--	--	--	--	--	--	--	.3	--	--
19...	--	--	--	--	--	--	--	--	--	--
25...	7.4	170	0	140	2.7	1300	4500	--	9040	--
JAN										
09...	7.0	220	0	180	3.5	1200	6100	--	11200	--
18...	15	230	0	190	5.8	1600	17000	--	31100	--
23...	11	230	0	190	4.6	1300	11000	--	20000	--
31...	--	--	--	--	--	--	--	.3	--	--
FEB										
15...	--	--	--	--	--	--	--	.2	--	--
MAR										
05...	11	210	0	170	2.7	1300	9000	--	18500	--
16...	--	--	--	--	--	--	--	.3	--	--
23...	9.0	200	0	140	6.4	1200	3400	--	7510	--
29...	14	120	0	98	7.6	1200	6600	--	12000	--
APR										
06...	9.9	160	0	130	5.1	500	1800	--	3780	--
11...	40	220	0	180	4.4	1200	12000	--	21500	--
13...	--	--	--	--	--	--	--	.9	--	--
20...	14	170	0	140	5.4	1200	7000	--	13500	--
MAY										
01...	9.8	170	0	140	3.4	1300	8100	--	14900	--
10...	--	--	--	--	--	--	--	.6	--	--
22...	8.7	170	0	140	5.4	1400	20000	--	34800	--
28...	5.6	88	0	72	7.1	170	300	--	1000	--
JUN										
06...	8.3	140	0	110	11	580	1500	--	3370	--
12...	--	--	--	--	--	--	--	.2	--	--
22...	13	130	0	110	17	690	5800	--	10700	--
28...	10	170	0	140	8.6	930	3400	--	7330	--
JUL										
01...	9.9	180	0	150	5.7	1100	2800	--	6190	--
17...	--	--	--	--	--	--	--	.3	--	--
17...	10	210	0	170	8.4	1200	3500	--	7320	--
28...	10	210	0	170	4.2	1100	4500	--	9140	--
AUG										
01...	--	--	--	--	--	--	--	.3	--	--
01...	8.4	210	0	170	8.4	1000	3900	--	7660	--
06...	16	100	0	82	3.2	1000	8700	--	15900	--
17...	9.9	170	0	140	11	940	6300	--	11400	--
SEP										
09...	7.9	170	0	140	5.4	870	3900	--	7420	--
16...	17	130	0	110	5.2	1200	11000	--	19800	--
21...	--	--	--	--	--	668	9983	.6	--	--
25...	11	120	0	98	2.4	1300	6600	--	12700	--

ARKANSAS RIVER BASIN

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07158400 SALT CREEK NEAR OKEENE, 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- PENDEO (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										
03...	8.99	80	--	--	--	--	--	--	--	--
20...	--	--	--	.10	--	--	1.7	1.8	8.4	.07
24...	12.5	169	--	--	--	--	--	--	--	--
27...	18.9	221	--	--	--	--	--	--	--	--
NOV										
04...	17.1	316	--	--	--	--	--	--	--	--
10...	32.0	450	--	--	--	--	--	--	--	--
22...	--	--	27	.40	--	1.2	--	1.6	--	.06
25...	9.90	145	--	--	--	--	--	--	--	--
DEC										
02...	17.4	256	--	--	--	--	--	--	--	--
08...	23.0	260	--	--	--	--	--	--	--	--
10...	--	--	12	1.3	--	--	1.4	2.7	12	--
19...	--	--	--	--	--	--	--	--	--	--
25...	12.3	137	--	--	--	--	--	--	--	--
JAN										
09...	15.2	133	--	--	--	--	--	--	--	--
18...	42.3	420	--	--	--	--	--	--	--	--
23...	27.2	432	--	--	--	--	--	--	--	--
31...	--	--	9	2.6	--	--	1.5	4.1	18	6.8
FEB										
15...	--	--	39	.20	--	--	1.5	1.7	7.9	.15
MAR										
05...	25.2	465	--	--	--	--	--	--	--	--
16...	--	--	16	.10	--	--	1.4	1.5	6.8	.12
23...	10.2	176	--	--	--	--	--	--	--	--
29...	16.3	324	--	--	--	--	--	--	--	--
APR										
06...	5.14	174	--	--	--	--	--	--	--	--
11...	29.2	639	--	--	--	--	--	--	--	--
13...	--	--	57	.50	--	--	1.4	1.9	8.8	.20
20...	18.4	270	--	--	--	--	--	--	--	--
MAY										
01...	20.3	374	--	--	.10	--	--	--	--	.00
10...	--	--	120	.50	--	--	2.3	2.8	12	.16
22...	47.3	1220	--	--	--	--	--	--	--	--
28...	1.36	6480	--	--	--	--	--	--	--	--
JUN										
06...	4.58	227	--	--	--	--	--	--	--	--
12...	--	--	30	.10	--	--	1.9	2.0	8.9	.20
22...	14.6	491	--	--	--	--	--	--	--	--
28...	9.97	79	--	--	--	--	--	--	--	--
JUL										
01...	8.42	55	--	--	--	--	--	--	--	--
17...	--	--	76	<.10	--	--	1.3	1.3	--	.10
17...	9.96	27	--	--	--	--	--	--	--	--
28...	12.4	19	--	--	--	--	--	--	--	--
AUG										
01...	--	--	60	<.10	--	--	1.8	1.8	--	.55
01...	10.4	24	--	--	--	--	--	--	--	--
06...	21.6	253	--	--	--	--	--	--	--	--
17...	15.5	67	--	--	--	--	--	--	--	--
SEP										
09...	10.1	76	--	--	--	--	--	--	--	--
16...	26.9	588	--	--	--	--	--	--	--	--
21...	--	--	11570	.40	--	--	9.6	10	44	6.2
25...	17.3	377	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	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)	CUPPER, 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...	1830	--	--	--	--	--	--	--
NOV								
22...	1500	--	--	--	--	--	240	--
DEC								
10...	1715	.09	--	--	--	--	--	--
JAN								
31...	0915	--	2	4	<5	18	480	45
FEB								
15...	1245	--	--	--	--	--	--	--
MAR								
16...	1100	--	--	--	--	--	410	--
APR								
13...	1415	--	--	--	--	--	--	--
MAY								
10...	1200	--	--	--	--	--	500	--
JUN								
12...	1445	--	--	--	--	--	--	--
JUL								
17...	1330	--	--	3	14	15	3800	33
AUG								
01...	1200	--	--	--	--	--	--	--
SEP								
21...	1030	--	--	--	--	--	--	--

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 RECOV- ERABLE (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...	--	--	--	--	--	--	4.0
NOV							
22...	50	--	--	--	--	--	--
DEC							
10...	--	--	--	--	--	--	7.0
JAN							
31...	90	<.5	170	5	20	16	8.0
FEB							
15...	--	--	--	--	--	--	25
MAR							
16...	170	--	--	--	--	--	4.0
APR							
13...	--	--	--	--	--	--	12
MAY							
10...	180	--	--	--	--	--	5.0
JUN							
12...	--	--	--	--	--	--	6.0
JUL							
17...	250	<.5	26	2	10	20	5.0
AUG							
01...	--	--	--	--	--	--	<5.0
SEP							
21...	--	--	--	--	--	--	12

ARKANSAS RIVER BASIN

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07158400 SALT CREEK NEAR OKEENE, 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	11800	21100	16100	20900	18300	14800	15400	23000	7820	10600	12700	15200
2	11300	32400	20200	22000	17500	20400	15600	---	9200	10600	13400	14300
3	10600	27000	17400	19900	21700	18600	13300	34000	10400	10700	12000	14300
4	11500	20200	21400	24200	26600	21400	7970	18800	10800	10600	16400	13800
5	13600	20500	17700	19400	21600	28000	---	33600	7080	10700	30000	13800
6	14800	25100	18400	18900	19300	---	6440	28600	5750	11000	25200	13600
7	13900	20000	22500	14100	19000	15800	11400	7650	16100	10600	24400	13500
8	12600	22700	26200	20300	19900	15700	11200	8630	---	10800	21500	12700
9	12000	30200	23600	18500	18900	16700	12900	13400	12700	10700	21500	12600
10	12700	35500	18300	18800	27100	16900	23500	13800	10800	10600	20800	13200
11	14000	34300	16600	18600	---	17800	33600	12500	10900	10700	20800	---
12	14300	29200	20200	20100	23100	15000	19300	11700	10900	10600	20200	---
13	15100	18700	15400	17900	21900	14600	16700	12000	10400	10600	20100	---
14	14300	16600	16600	17200	21900	16100	14400	11000	10200	10700	18200	---
15	13300	15400	19800	20000	---	13800	11900	10700	10200	11700	18200	---
16	14200	14600	22500	18600	20700	---	---	10400	10200	11800	18700	29600
17	12800	12600	18000	28000	23200	17200	11600	10000	10300	12000	18700	29600
18	11900	13700	19000	44500	23500	27500	18300	---	9680	11600	16700	27100
19	12700	15400	17900	39100	23700	24500	19000	18500	9970	11400	16800	24200
20	12500	14900	19700	37400	31400	17200	20900	9100	9910	11300	16700	18100
21	11800	12400	22700	36400	26500	16200	14300	28300	5980	11700	16200	21700
22	11400	12000	17000	32200	23000	14500	12200	48000	16900	11500	16200	21600
23	13200	17400	17300	30600	17600	11900	11300	29800	12200	12500	15000	23700
24	14600	15600	14800	26200	19700	15400	14300	29800	12900	14200	15300	23800
25	---	11800	15800	26000	19200	---	15300	19400	13000	14400	15400	20300
26	18900	13300	17000	27200	22100	27300	---	---	12300	14100	15000	20200
27	21600	16300	17900	29700	17300	25100	15400	5540	---	14300	14700	18000
28	21400	15800	16900	29600	14000	21200	15400	1440	11400	14400	15300	---
29	20500	16000	18400	22800	---	19300	17300	5320	10900	14300	15400	16500
30	20400	17000	18700	19900	---	14700	17200	6230	10700	13000	15400	---
31	20600	---	---	20900	---	15300	---	7380	---	13500	15400	---

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	24.0	13.0	9.0	1.0	2.0	3.0	22.0	22.0	25.0	---	---	29.5
2	23.5	9.0	10.0	1.0	.0	4.0	21.0	---	21.5	---	---	31.0
3	21.5	18.0	11.0	3.0	3.0	.0	20.0	24.0	21.0	---	---	33.0
4	17.5	19.0	10.0	8.0	3.0	2.0	23.0	---	24.0	---	---	---
5	22.0	27.0	5.0	7.0	5.0	9.0	---	23.0	23.0	---	---	31.5
6	19.0	18.0	3.0	8.0	1.0	---	20.0	23.0	26.5	---	---	32.0
7	19.5	18.0	5.0	8.5	.0	2.5	23.5	23.0	28.0	---	---	29.0
8	21.5	14.5	4.0	.5	.0	9.0	23.0	23.0	---	---	---	29.5
9	18.0	11.0	1.0	1.0	.0	8.0	23.0	---	30.0	---	---	28.0
10	19.0	12.0	.0	.0	2.0	15.0	24.0	---	29.5	---	---	31.0
11	17.0	10.5	2.0	3.0	---	9.0	25.0	---	31.0	---	---	---
12	16.0	14.5	12.0	1.0	1.0	15.0	28.0	---	28.0	---	---	---
13	19.0	15.0	11.0	4.0	1.0	16.0	22.0	---	26.0	---	---	---
14	19.0	17.0	9.0	1.0	1.5	13.0	24.0	---	31.0	---	---	---
15	17.0	17.0	10.0	1.0	---	9.0	22.0	---	25.0	---	---	---
16	16.5	16.0	10.5	1.0	.5	---	---	---	30.5	---	---	30.5
17	19.0	14.0	9.0	.0	.0	16.0	21.5	---	32.5	---	---	31.0
18	20.0	14.0	9.0	1.0	.0	18.0	22.0	---	26.0	---	---	28.0
19	21.0	19.0	4.0	-1.0	1.0	21.0	20.0	---	30.0	---	---	29.0
20	21.5	14.0	7.0	-1.0	1.0	18.0	21.0	26.0	30.0	---	---	26.5
21	24.0	8.0	5.0	1.0	1.5	22.0	19.5	23.0	28.0	---	---	23.5
22	19.0	10.5	5.0	-0.5	6.0	22.0	22.0	30.5	29.0	---	31.0	24.0
23	17.0	11.0	7.0	.0	9.5	10.0	21.0	31.0	32.0	---	---	23.0
24	21.0	11.0	5.0	1.0	12.5	8.0	21.0	32.5	27.5	---	31.0	22.5
25	---	11.5	3.0	1.0	10.5	---	21.0	32.0	29.0	---	30.5	24.0
26	21.0	12.0	4.0	.0	9.0	17.0	---	---	30.0	---	31.0	25.0
27	19.0	12.0	5.0	3.0	9.0	18.0	23.5	25.0	---	---	32.0	26.0
28	21.0	8.0	7.0	2.0	5.0	25.0	24.0	19.5	---	---	31.0	---
29	21.5	10.0	6.0	.0	---	25.0	24.0	21.0	---	---	30.0	26.5
30	20.5	9.0	7.0	2.0	---	24.0	24.5	28.0	---	---	30.0	---
31	21.0	---	---	.0	---	22.0	---	28.0	---	---	31.0	---

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK--Continued

SPECIFIC CONDUCTANCE (MICROMH/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	---	21600	18800	21400	19500	14700	15400	23400	7710	11300	12100	15100
2	---	32800	20300	22100	18000	14700	15700	27900	9180	10700	13300	14400
3	---	24500	17400	19800	21100	18900	13100	30000	9180	11400	11800	14300
4	---	19200	21300	23500	26900	23400	3970	19900	8830	12000	11300	13800
5	---	20500	17800	21200	24900	26800	9540	30200	6770	12000	29100	13800
6	---	25000	14900	18800	20900	23200	11000	29600	4860	12200	25000	13600
7	13800	20200	21900	18800	19500	16300	12000	13200	13600	10900	24400	13500
8	12600	22500	25800	20400	20200	16000	11300	8590	11200	11300	21300	12700
9	11800	27400	23300	19300	21500	16400	12900	13400	9590	12000	10200	12600
10	12300	37000	16200	19300	28700	15400	23400	13500	8640	11800	10000	13200
11	13600	34200	16600	18600	32600	17700	33400	12400	8900	12100	9740	14400
12	13600	27300	19900	20700	29100	15600	17900	11600	9940	12000	9080	15200
13	14400	18900	15600	18300	24700	15200	18400	11900	9130	11800	8360	16300
14	13600	17700	17300	18000	22700	16100	14800	11100	7870	12300	8020	17200
15	12900	16000	19200	18100	23400	13900	12200	10800	8000	13300	7720	18200
16	13500	14600	22400	18800	21800	15300	7000	10300	9100	13900	8130	21800
17	12000	13700	14700	23500	20600	16800	7700	10000	9500	14000	18700	29500
18	11500	16100	19600	42100	26000	28100	21300	14400	10500	13000	16600	27300
19	12000	15600	18500	40700	27400	24500	18700	18700	7590	12600	17100	24300
20	11800	14200	20000	36300	29600	17200	20100	9340	9370	13100	16400	18500
21	11000	14900	23000	37100	28400	16500	15800	27300	6930	13200	16200	21700
22	11200	12700	16700	33400	22300	15000	12800	46900	17500	12900	16100	21800
23	13000	17800	17400	30400	19400	13600	11500	30000	13400	13200	14800	23700
24	13400	15700	16600	27300	18800	14600	13700	31400	12400	15400	15300	23900
25	16200	11800	14600	26700	22600	14600	15000	19200	12900	15800	15700	20400
26	18300	13500	16000	26700	20300	25400	16300	17000	11900	15800	15100	20300
27	21300	16200	17300	29700	18000	26800	15600	10800	11900	14100	14800	17900
28	20800	16200	18000	28700	15000	21800	13900	2000	11500	14200	15500	17400
29	20200	16000	17000	25600	---	18800	17900	4820	10300	14200	15400	16600
30	20300	17200	14400	20400	---	15500	16200	5950	11600	12800	15100	16400
31	20200	---	18500	20100	---	15500	---	7340	---	13500	15200	---

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	---	16.0	8.0	4.0	2.0	4.0	20.0	19.0	24.5	30.5	29.5	26.5
2	---	11.0	8.5	2.0	.5	5.0	21.0	13.5	25.0	30.5	28.5	27.5
3	---	13.5	9.0	2.0	2.0	1.0	19.5	11.0	26.0	30.5	26.5	28.0
4	---	16.0	10.0	4.0	2.5	2.0	18.0	14.0	28.0	30.0	22.5	28.5
5	---	16.5	8.5	5.0	3.5	4.5	19.5	15.5	30.5	30.0	24.5	29.0
6	19.5	17.0	4.0	4.5	2.0	8.5	19.5	16.0	---	30.0	26.0	28.5
7	20.0	17.5	3.5	6.0	1.0	5.5	22.5	18.0	---	29.5	27.0	28.5
8	19.0	16.5	5.5	1.5	1.0	5.5	22.5	19.5	33.0	29.5	27.5	27.0
9	17.5	13.5	2.0	.5	.5	7.0	20.5	20.0	29.0	29.5	27.0	26.0
10	18.0	10.5	2.0	.5	2.0	9.0	16.5	21.0	28.0	29.5	26.0	27.5
11	15.5	12.5	2.0	.5	2.5	10.0	15.5	22.5	26.0	29.5	28.0	27.5
12	15.0	13.5	6.5	.5	2.5	9.5	18.0	24.0	25.5	29.5	28.5	27.0
13	16.0	14.5	11.0	1.0	1.5	11.0	20.0	21.0	25.5	29.5	29.5	28.5
14	17.0	14.5	8.0	.5	1.0	11.0	21.0	22.5	25.0	29.0	29.0	28.5
15	15.5	15.5	9.0	1.5	2.5	11.0	23.0	25.5	24.5	29.0	28.5	29.0
16	14.5	15.0	10.0	1.0	1.0	11.0	20.0	24.0	24.5	29.5	28.5	27.0
17	16.0	14.0	8.5	.0	.5	11.0	21.5	22.0	24.0	31.5	28.0	28.0
18	16.5	13.0	7.0	-0.5	.5	14.0	17.0	22.0	23.5	31.5	28.5	27.0
19	17.0	15.5	7.5	-0.5	1.0	15.0	16.0	25.5	23.5	31.0	25.0	27.0
20	18.0	17.0	5.5	.0	2.0	16.0	17.0	25.0	24.0	31.0	25.5	25.0
21	19.5	11.5	3.5	.0	1.5	16.0	16.5	23.0	24.0	30.5	29.0	18.0
22	19.0	9.5	3.0	.0	4.0	17.5	19.0	24.0	27.5	31.0	28.5	19.0
23	17.0	11.0	6.0	.0	6.0	16.0	19.5	27.0	29.5	31.0	28.5	21.5
24	17.5	9.5	8.0	.5	8.5	9.5	20.5	28.0	29.5	32.5	28.5	24.0
25	18.0	9.5	5.5	1.0	7.5	11.0	19.0	27.5	29.5	35.0	28.5	24.0
26	18.0	8.5	4.0	.0	6.5	14.0	19.0	26.0	29.5	35.5	28.0	22.5
27	18.0	10.0	3.5	.5	6.5	15.5	19.5	24.5	30.0	28.5	28.5	23.0
28	20.0	9.0	3.5	1.5	6.5	17.5	19.5	19.5	32.0	28.5	27.5	25.0
29	20.0	8.5	5.5	1.0	---	19.0	20.5	22.5	31.0	28.5	28.0	24.5
30	19.0	7.5	8.0	2.0	---	18.5	21.0	25.0	30.5	29.0	25.5	23.5
31	19.5	---	8.0	1.0	---	19.5	---	26.0	---	29.5	26.0	---

ARKANSAS RIVER BASIN

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07158400 SALT CREEK NEAR OKEENE, 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	---	1100	1100	1100	1100	980	990	1100	850	910	930	980
2	---	1300	1100	1100	1000	1100	990	1200	870	900	950	970
3	---	1200	1000	1100	1100	1100	950	1300	870	920	920	970
4	---	1100	1100	1100	1200	1100	780	1100	870	930	910	960
5	---	1100	1000	1100	1200	1200	880	1300	830	930	1200	960
6	---	1200	1100	1100	1100	1100	910	1200	800	930	1200	960
7	960	1100	1100	1100	1100	1000	930	950	960	910	1200	950
8	940	1100	1200	1100	1100	1000	910	860	910	910	1100	940
9	920	1200	1100	1100	1100	1000	940	950	880	930	890	940
10	930	1400	1000	1100	1200	990	1100	950	870	920	890	950
11	960	1300	1000	1000	1300	1000	1300	930	870	930	890	970
12	960	1200	1100	1100	1200	990	1000	920	890	930	870	980
13	970	1100	990	1000	1200	980	1000	920	870	920	860	1000
14	960	1000	1000	1000	1100	1000	980	910	850	930	850	1000
15	940	1000	1100	1000	1100	960	930	900	850	950	850	1000
16	950	970	1100	1100	1100	990	840	900	870	960	860	1100
17	930	960	1000	1100	1100	1000	850	890	880	960	1000	1200
18	920	1000	1100	1500	1200	1100	970	900	900	940	1000	1200
19	930	990	1000	1400	1200	1200	1000	1000	850	940	1000	1200
20	920	970	1100	1400	1200	1000	1100	880	880	950	1000	1000
21	910	980	1100	1400	1200	1000	1000	1200	830	950	1000	1100
22	910	940	1000	1300	1100	980	940	1600	1000	940	1000	1100
23	940	1000	1000	1300	1100	960	920	1300	950	950	980	1100
24	960	990	1000	1200	1100	970	960	1300	930	1000	990	1100
25	1000	920	980	1200	1100	1000	980	1100	940	1000	990	1100
26	1000	950	1000	1200	1100	1200	1000	1000	920	1000	980	1100
27	1100	1000	1000	1200	1000	1200	990	900	920	960	980	1000
28	1100	1000	1000	1200	980	1100	960	740	920	970	990	1000
29	1100	1000	1000	1200	---	1100	1000	800	900	970	990	1000
30	1100	1000	1000	1100	---	990	1000	820	920	940	980	1000
31	1100	---	1000	1100	---	990	---	840	---	950	980	---

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	---	21.1	19.3	14.9	20.2	19.6	25.7	27.6	41.30	8.60	3.01	7.67
2	---	119.0	22.0	11.9	16.2	23.2	25.7	31.8	37.60	8.02	3.08	7.07
3	---	58.3	18.4	13.4	19.6	22.3	48.7	144.0	35.20	8.20	24.80	7.07
4	---	27.6	20.2	16.0	23.7	24.7	200.0	50.5	30.50	7.78	214.00	7.26
5	---	22.0	16.7	19.9	24.0	26.6	45.1	38.6	134.00	7.28	42.10	7.52
6	---	22.0	21.1	19.3	21.4	23.2	81.1	35.6	97.20	7.28	22.40	7.52
7	13.0	19.3	20.2	17.2	21.1	20.0	30.1	287.0	41.50	6.39	16.50	7.44
8	12.7	44.5	20.1	13.4	26.1	20.0	24.6	65.0	29.50	6.63	12.50	7.36
9	12.4	28.5	18.4	13.1	35.6	20.2	23.9	35.9	23.80	6.28	9.61	8.38
10	12.3	24.6	17.5	14.0	28.5	19.2	29.7	28.2	21.60	5.96	9.37	9.75
11	12.4	27.4	17.5	15.1	32.3	17.5	34.0	27.6	20.00	6.03	8.89	9.43
12	12.4	23.0	18.4	20.6	100.0	18.4	24.3	24.6	18.30	6.03	7.99	9.53
13	13.1	19.3	15.0	21.6	77.0	18.8	21.6	23.3	16.70	5.46	7.20	9.45
14	13.7	35.1	15.1	21.1	24.1	21.1	23.8	23.1	16.30	5.52	6.20	8.91
15	12.7	19.2	16.6	20.8	24.7	20.0	22.6	23.6	15.10	6.16	6.20	9.18
16	12.3	16.2	17.5	20.8	20.8	24.9	20.2	23.6	14.10	6.48	5.80	95.00
17	12.1	16.8	16.7	11.9	19.0	23.2	18.4	23.5	13.30	4.92	6.21	11.70
18	11.9	16.7	17.5	20.2	18.1	25.6	22.9	25.9	14.10	4.06	5.40	10.70
19	12.1	17.4	15.9	20.4	22.0	23.7	20.0	27.0	13.50	3.81	5.13	9.40
20	11.9	15.5	17.5	18.9	23.7	17.5	22.0	26.1	13.10	3.85	5.94	37.80
21	11.8	15.6	17.5	22.7	25.6	18.9	20.8	35.6	164.00	3.59	7.02	131.00
22	12.3	15.0	15.9	20.4	27.9	19.6	18.8	69.1	194.00	3.81	7.29	14.30
23	14.7	16.7	17.5	28.1	35.6	21.3	16.1	32.6	43.60	4.10	6.61	9.21
24	17.1	16.6	16.7	29.8	27.0	24.4	18.4	33.0	18.60	4.32	5.88	5.64
25	17.8	14.7	14.8	27.5	27.0	27.0	17.2	27.3	14.50	4.05	5.88	7.13
26	17.0	15.1	15.1	26.2	23.8	29.5	17.5	24.8	11.90	4.05	5.82	7.13
27	17.5	16.7	15.1	19.1	20.0	30.5	18.2	885.0	10.40	3.89	5.82	5.94
28	17.5	16.7	15.1	14.9	18.8	27.3	18.9	3740.0	9.94	3.40	6.68	5.94
29	16.6	16.7	15.9	17.5	---	27.0	20.5	266.0	9.48	3.14	7.75	5.94
30	18.4	17.5	14.3	17.5	---	24.1	23.5	77.5	9.19	3.05	10.10	5.40
31	20.2	---	14.3	19.0	---	24.3	---	54.4	---	3.08	8.20	---

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, 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	---	7500	6300	7400	6600	4500	4800	8200	2200	3400	3600	4700
2	---	12000	6900	7700	5900	6600	4900	10000	2700	3200	4000	4400
3	---	8700	5700	6700	7200	6300	4000	11000	2700	3400	3500	4400
4	---	6400	7300	8300	9700	8200	950	6700	2600	3600	3400	4200
5	---	7000	5800	7300	8900	9700	2800	11000	1900	3600	11000	4200
6	---	8900	6300	6300	7200	8200	3300	11000	1200	3700	8900	4100
7	4200	6900	7600	6300	6600	5200	3600	4000	4100	3200	8700	4100
8	3800	7900	9300	6900	6900	5100	3400	2500	3300	3400	7300	3800
9	3500	10000	8200	6500	7400	5200	3900	4100	2800	3600	3000	3800
10	3700	14000	6000	6500	11000	4800	8200	4100	2600	3500	2900	4000
11	4100	13000	5300	6200	12000	5800	13000	3700	2600	3600	2900	4400
12	4100	9800	6700	7100	11000	4900	5900	3500	2900	3600	2600	4700
13	4400	6300	4900	6000	8800	4700	6100	3600	2700	3500	2400	5200
14	4100	5800	5600	5900	7900	5100	4500	3300	2200	3700	2300	5600
15	3900	5100	6400	6000	8200	4200	3700	3200	2300	4000	2200	6000
16	4100	4500	7800	6300	7500	4800	2000	3000	2600	4200	2300	7500
17	3600	4200	6200	8300	7000	5400	2200	2900	2800	4300	6200	11000
18	3400	5100	6600	16000	9400	10000	7300	4400	3100	3900	5300	9900
19	3600	4900	6100	16000	10000	8700	6200	6200	2100	3800	5500	8600
20	3500	4300	6800	14000	11000	5600	6800	2700	2700	4000	5200	6100
21	3300	4600	8100	14000	10000	5300	5000	9900	1900	4000	5100	7500
22	3300	3800	5400	13000	7800	4600	3900	18000	5700	3900	5100	7500
23	3900	5800	5700	11000	6500	4200	3400	11000	4100	4000	4500	8400
24	4200	4900	5300	9900	6300	4500	4200	12000	3700	5000	4800	8500
25	5100	3500	4500	9700	7900	6200	4600	6400	3900	5000	4900	6900
26	6000	4100	5100	9700	6900	9100	5200	5500	3600	5000	4700	6900
27	7300	5100	5600	11000	5900	9600	4900	3200	3600	4300	4500	5900
28	7100	5100	5900	11000	4600	7500	4200	300	3400	4300	4800	5700
29	6900	5100	5500	9200	---	6300	5900	1200	3000	4300	4800	5300
30	6900	5600	6100	6900	---	4800	5100	1600	3500	3900	4700	5200
31	6900	---	6100	6800	---	4800	---	2100	---	4100	4700	---

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	---	144.0	111.0	99.9	121.0	89.9	124.0	206.0	107.0	32.1	11.7	36.8
2	---	1100.0	138.0	83.2	95.6	139.0	127.0	265.0	117.0	28.5	13.0	32.1
3	---	423.0	105.0	81.4	128.0	128.0	205.0	1220.0	109.0	30.3	94.5	32.1
4	---	161.0	134.0	121.0	191.0	184.0	244.0	308.0	91.3	30.1	799.0	31.8
5	---	140.0	97.1	132.0	176.0	215.0	144.0	327.0	308.0	28.2	386.0	32.9
6	---	163.0	121.0	111.0	140.0	173.0	294.0	327.0	146.0	29.0	166.0	32.1
7	56.7	121.0	140.0	98.7	127.0	104.0	117.0	1210.0	177.0	22.5	120.0	32.1
8	51.3	320.0	156.0	83.8	164.0	102.0	91.8	189.0	107.0	24.8	82.8	29.8
9	47.2	236.0	137.0	77.2	240.0	105.0	99.0	155.0	75.6	24.3	32.4	33.9
10	49.0	246.0	105.0	82.5	261.0	93.3	221.0	122.0	64.6	22.7	30.5	41.0
11	53.1	274.0	93.0	93.7	298.0	102.0	340.0	110.0	59.7	23.3	29.0	42.8
12	53.1	188.0	112.0	134.0	921.0	91.3	143.0	93.6	59.5	23.3	23.9	45.7
13	59.4	111.0	74.1	130.0	570.0	90.1	132.0	91.4	51.8	20.8	20.1	49.1
14	58.7	204.0	84.7	124.0	173.0	107.0	109.0	83.8	42.2	22.0	16.8	49.9
15	52.6	97.8	96.8	125.0	184.0	87.3	89.9	83.8	41.0	25.9	16.0	55.1
16	53.1	75.3	124.0	119.0	142.0	121.0	48.1	78.6	42.1	28.3	15.5	648.0
17	46.7	73.7	104.0	89.6	121.0	125.0	47.5	76.7	42.3	22.1	38.5	107.0
18	44.1	85.4	105.0	216.0	142.0	213.0	152.0	118.0	48.5	16.8	28.6	88.2
19	46.7	86.0	97.2	233.0	184.0	171.0	124.0	167.0	33.5	15.4	28.2	67.3
20	45.4	68.5	108.0	189.0	217.0	98.3	136.0	80.2	40.1	16.2	30.9	231.0
21	42.8	73.3	129.0	227.0	213.0	100.0	104.0	294.0	374.0	15.1	35.8	891.0
22	44.5	60.5	86.0	204.0	198.0	91.9	77.9	778.0	1110.0	15.8	37.2	97.2
23	61.1	97.1	100.0	238.0	211.0	93.0	59.7	276.0	188.0	17.3	30.4	70.3
24	74.8	82.0	88.7	246.0	155.0	113.0	80.5	305.0	73.9	21.6	28.5	43.6
25	90.9	55.8	68.0	223.0	194.0	167.0	80.7	159.0	60.0	20.2	29.1	44.7
26	102.0	65.3	77.1	212.0	149.0	224.0	91.3	137.0	46.7	20.2	27.9	44.7
27	116.0	85.4	84.7	175.0	118.0	244.0	90.0	3140.0	40.8	17.4	26.7	35.0
28	113.0	85.4	89.2	137.0	88.2	186.0	82.8	1510.0	36.7	15.1	32.4	33.9
29	104.0	85.4	87.6	134.0	---	159.0	121.0	399.0	31.6	13.9	37.6	31.5
30	116.0	98.3	87.3	110.0	---	117.0	120.0	151.0	35.0	12.6	48.2	28.1
31	127.0	---	87.3	118.0	---	118.0	---	136.0	---	13.3	39.3	---

ARKANSAS RIVER BASIN

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07158400 SALT CREEK NEAR OKEENE, 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	---	14000	12000	13900	12500	9140	9630	15300	4220	6750	7310	9420
2	---	21900	13100	14300	11500	12700	9850	18400	5260	6330	8160	8930
3	---	16000	11000	12700	13600	12100	8020	19900	5260	6820	7100	8860
4	---	12300	13800	15300	17700	15300	1590	12800	5010	7240	6750	8510
5	---	13200	11300	13700	16300	17700	5510	20000	3560	7240	19300	8510
6	---	16400	12100	12000	13500	15100	6540	19600	2220	7380	16400	8370
7	8510	13000	14200	12000	12500	10300	7240	8090	8370	6470	16000	8300
8	7670	14600	17000	13200	13000	10100	6750	4840	6680	6750	13800	7740
9	7100	18100	15200	12400	13900	10300	7880	8230	5550	7240	5980	7670
10	7450	24800	11600	12400	19000	4630	15300	8300	5020	7100	5840	8090
11	8370	22900	10500	11900	21700	11300	22300	7520	5060	7310	5650	8930
12	8370	17800	12800	13400	19300	4780	11400	6960	5790	7240	5190	9490
13	8930	12100	9780	11700	16200	9490	11700	7170	5220	7100	4680	10300
14	8370	11300	11000	11500	14800	10100	9210	6610	4340	7450	4440	10900
15	7880	10100	12300	11500	15300	8580	7380	6400	4430	6160	4230	11600
16	8300	9070	14600	12000	14100	9560	3730	6050	5200	8580	4520	14100
17	7240	8440	12000	15300	13300	10600	4220	5840	5480	8650	12000	19600
18	6890	10100	12600	28400	17100	18600	13800	8930	6190	7950	10500	18000
19	7240	9780	11800	27400	18100	16000	12000	12000	4140	7670	10800	15900
20	7100	8790	12900	24300	19600	10900	12900	5370	5390	8020	10300	11800
21	6540	9280	15000	24900	18800	10400	9920	18000	3680	8090	10200	14100
22	6680	7740	10500	22300	14500	4350	7810	31800	11100	7880	10100	14100
23	7950	11300	11000	20200	12400	8510	6890	19900	8230	8090	9210	15500
24	8510	9850	10500	18000	12000	9070	8440	20900	7520	9920	9560	15600
25	10200	7100	9210	17600	14700	11900	9350	12300	7880	9920	9850	13200
26	11700	8300	10100	17600	13100	16700	10300	10800	7170	9920	9420	13100
27	13800	10200	11000	19700	11500	17500	9780	6400	7170	8720	9210	11400
28	13400	10200	11500	19000	9350	14000	8580	208	6890	8790	9710	11000
29	13000	10100	10800	16800	---	12000	11400	2190	6050	8790	9630	10900
30	13100	10900	11700	13200	---	9710	10200	2990	6960	7810	9420	10300
31	13000	---	11800	12900	---	9710	---	5960	---	8300	9490	---

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	---	268.0	211.0	188.0	229.0	163.0	250.0	384.0	205.0	63.8	23.7	73.8
2	---	2010.0	262.0	154.0	186.0	267.0	245.0	487.0	227.0	56.4	25.0	65.1
3	---	778.0	202.0	154.0	242.0	245.0	411.0	2200.0	213.0	60.8	192.0	64.6
4	---	309.0	253.0	223.0	349.0	343.0	408.0	588.0	176.0	60.6	1590.0	64.3
5	---	264.0	189.0	248.0	326.0	392.0	283.0	594.0	577.0	56.7	677.0	66.6
6	---	301.0	232.0	211.0	262.0	318.0	583.0	582.0	270.0	57.8	306.0	65.5
7	115.0	228.0	261.0	188.0	240.0	206.0	235.0	2450.0	362.0	45.4	220.0	65.0
8	104.0	591.0	285.0	160.0	309.0	202.0	182.0	366.0	216.0	49.2	156.0	60.6
9	95.8	430.0	254.0	147.0	450.0	209.0	200.0	311.0	150.0	48.9	64.6	68.3
10	98.6	435.0	204.0	157.0	451.0	167.0	413.0	247.0	125.0	46.0	61.5	83.0
11	108.0	482.0	184.0	180.0	539.0	198.0	584.0	223.0	116.0	47.4	56.4	86.8
12	108.0	341.0	214.0	253.0	1620.0	182.0	277.0	186.0	119.0	46.9	47.6	92.2
13	121.0	212.0	148.0	253.0	1050.0	182.0	253.0	182.0	100.0	42.2	39.2	97.3
14	120.0	397.0	166.0	242.0	324.0	213.0	224.0	168.0	83.2	44.3	32.4	97.1
15	106.0	194.0	186.0	239.0	343.0	178.0	179.0	168.0	78.9	52.9	30.8	106.0
16	108.0	152.0	233.0	227.0	266.0	240.0	89.6	158.0	84.2	57.9	30.5	1220.0
17	93.8	146.0	201.0	165.0	230.0	246.0	91.2	155.0	82.9	44.4	74.5	191.0
18	89.3	169.0	201.0	383.0	259.0	397.0	287.0	239.0	96.9	34.3	56.7	169.0
19	93.8	172.0	188.0	399.0	332.0	315.0	240.0	324.0	66.0	31.1	55.4	124.0
20	92.0	140.0	205.0	328.0	386.0	191.0	258.0	159.0	80.0	32.5	61.2	446.0
21	84.8	148.0	239.0	403.0	401.0	197.0	206.0	535.0	725.0	30.6	71.6	1680.0
22	90.2	123.0	167.0	349.0	368.0	187.0	156.0	1370.0	2160.0	31.9	73.6	183.0
23	124.0	189.0	193.0	436.0	402.0	188.0	121.0	500.0	378.0	34.9	62.2	130.0
24	152.0	165.0	176.0	447.0	295.0	228.0	162.0	530.0	150.0	42.9	56.8	80.0
25	182.0	113.0	139.0	404.0	361.0	321.0	164.0	306.0	121.0	40.2	58.5	85.5
26	199.0	132.0	153.0	385.0	283.0	410.0	181.0	268.0	92.9	40.2	56.0	84.9
27	220.0	171.0	166.0	314.0	230.0	444.0	180.0	6290.0	81.3	35.3	54.7	67.7
28	213.0	171.0	174.0	236.0	179.0	348.0	169.0	1050.0	74.4	30.9	65.5	65.3
29	197.0	169.0	172.0	245.0	---	295.0	234.0	727.0	63.7	28.5	75.4	62.4
30	219.0	191.0	167.0	210.0	---	236.0	240.0	283.0	69.5	25.3	96.6	55.6
31	239.0	---	169.0	223.0	---	239.0	---	257.0	---	26.9	79.4	---

ARKANSAS RIVER BASIN

07159100 CIMARRON RIVER NEAR DOVER, OK

LOCATION.--Lat 35°57'06", long 97°54'51", in SW1/4 sec.14, T.17 N., R.7 W., Kingfisher County, Hydrologic Unit 11050002, near right bank on downstream bridge on U.S. Highway 81, 1.0 mi (1.6 km) downstream from Turkey Creek, 2.0 mi (3.2 km) south of Dover, 2.5 mi (4.0 km) upstream from Kingfisher Creek, and at mile 160.6 (258.4 km).

DRAINAGE AREA.--15,713 mi² (40,697 km²), of which 4,926 mi² (12,758 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 999.10 ft (304.526 m) National Geodetic Vertical Datum of 1929.

REMARKS. -- Records poor.

AVERAGE DISCHARGE.--5 years, 755 ft³/s (21.38 m³/s), 547,000 acre-ft/yr (674 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,000 ft³/s (1,760 m³/s) Oct. 11, 1973, gage height, 21.81 ft (6.648 m) from high-water mark; minimum daily, 24 ft³/s (0.68 m³/s) July 28, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 12,000 ft³/s (340 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
May 28	2000	*29,700 841	18.31 5.581	June 6	2200	12,100 343	16.13 4.916

Minimum daily discharge, 31 ft³/s (0.88 m³/s) Sept. 5-9.

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	75	100	127	110	120	361	140	86	3160	204	54	38
2	49	136	116	80	90	422	157	96	2340	193	52	36
3	62	136	116	90	100	491	154	195	2650	186	65	34
4	61	119	117	120	120	360	271	330	2520	181	100	32
5	60	103	129	133	140	401	471	810	2290	174	150	31
6	58	113	143	162	120	381	368	1200	7240	166	138	31
7	59	119	156	141	130	289	349	1050	7130	158	115	31
8	58	145	158	90	120	252	255	1020	4050	148	91	31
9	56	119	100	70	110	265	226	915	2600	134	78	31
10	55	179	110	90	105	342	211	763	2310	123	72	32
11	53	157	120	110	150	312	202	446	3340	204	68	36
12	51	148	131	122	245	261	189	498	2220	452	64	39
13	51	142	145	128	505	236	179	374	1470	278	56	34
14	51	157	131	101	577	226	249	278	1320	217	51	32
15	51	130	118	115	458	226	220	236	1050	188	48	38
16	50	119	112	80	368	230	185	190	833	160	45	167
17	50	113	103	51	250	230	163	167	646	136	43	67
18	50	111	105	56	130	226	139	161	570	119	40	49
19	50	105	134	60	140	220	116	149	526	104	36	41
20	50	100	147	55	150	217	108	280	458	93	39	44
21	50	96	139	58	160	208	103	249	945	85	39	58
22	53	96	134	60	214	208	88	245	1790	86	38	115
23	65	96	124	62	342	199	103	514	870	92	36	446
24	150	98	122	64	570	202	94	422	512	89	34	358
25	124	100	120	71	607	192	86	390	422	78	32	206
26	96	98	108	66	478	189	80	381	374	73	32	159
27	84	96	103	70	458	185	78	1100	289	68	32	127
28	80	98	101	80	415	182	76	20000	251	65	47	112
29	84	98	107	90	---	172	76	16900	233	61	42	92
30	85	103	127	100	---	166	76	10600	218	57	39	80
31	86	---	143	110	---	163	---	4700	---	54	39	---
TOTAL	2077	3530	3846	2795	7372	8014	5232	64965	54867	4426	1815	2627
MEAN	67.0	118	124	90.2	263	259	174	2096	1829	143	58.5	87.6
MAX	150	179	158	162	607	491	471	20000	7240	452	150	446
MIN	50	96	100	51	90	163	76	86	218	54	32	31
AC=FT	4120	7000	7630	5540	14620	15900	10380	128900	108800	8780	3600	5210
CAL YR 1977	TOTAL	156870	MEAN 430	MAX	20700	MIN 31	AC=FT	311200				
WTR YR 1978	TOTAL	161566	MEAN 443	MAX	20000	MIN 31	AC=FT	320500				

ARKANSAS RIVER BASIN

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07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years, 1951, 1953, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to current year.

WATER TEMPERATURE: October 1973 to current year.

INSTRUMENTATION.--Water quality monitor since October 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. 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 33,100 micromhos Sept. 21, 1976; minimum daily, 1,160 micromhos Nov. 4, 1974.

WATER TEMPERATURE: Maximum daily, 35.0°C July 10, 1978; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 30,700 micromhos March 1; minimum daily, 3,460 micromhos May 29.

WATER TEMPERATURE: Maximum daily, 35.0°C July 10, Aug. 2; 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, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	OXYGEN DEMAND, CHEM- ICAL (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)
OCT											
03...	1700	80	17600	7.9	22.5	--	--	--	--	950	810
20...	1500	49	15700	7.9	22.0	--	--	--	--	870	720
21...	0930	49	9000	8.4	17.0	56	10.2	108	38	--	--
25...	1830	72	6450	7.7	21.0	--	--	--	--	420	300
NOV											
02...	1700	88	14100	7.9	11.0	--	--	--	--	850	690
15...	1300	122	25800	8.1	17.0	--	--	--	--	1100	1100
22...	1345	111	22000	8.4	9.5	10	11.6	105	20	--	--
27...	1700	255	19800	8.0	10.0	--	--	--	--	1000	930
DEC											
07...	1630	163	23300	8.3	5.0	--	--	--	--	1100	930
10...	1415	1730	22000	8.3	0	95	13.8	96	30	--	--
20...	1230	151	31000	--	4.5	--	15.4	121	--	--	--
26...	1700	148	26600	8.1	4.5	--	--	--	--	1200	1000
29...	1700	111	19800	8.3	7.0	--	--	--	--	1100	890
JAN											
01...	1230	110	23200	8.0	0	--	--	--	--	1100	910
05...	1600	145	19800	7.9	8.0	--	--	--	--	1100	860
08...	1030	90	23700	8.0	0	--	--	--	--	1200	960
31...	1230	252	23000	8.2	9.5	13	16.0	112	6	--	--
FEB											
15...	0945	458	16800	8.1	11.0	82	11.6	82	31	--	--
18...	1700	368	20400	8.0	0	--	--	--	--	860	680
25...	1130	585	14300	7.5	5.0	--	--	--	--	640	470
28...	1630	451	26200	7.5	5.0	--	--	--	--	1000	830
MAR											
01...	1700	368	30700	7.6	5.0	--	--	--	--	1100	950
13...	1600	233	14800	8.1	16.0	--	--	--	--	840	620
16...	0915	230	17700	8.4	5.0	1	12.8	102	20	--	--
27...	1700	189	18800	8.1	20.0	--	--	--	--	990	810
APR											
07...	0900	368	8510	7.5	19.0	--	--	--	--	550	380
13...	1230	169	15600	7.9	19.0	33	10.0	111	112	--	--
16...	1430	176	28000	7.9	22.0	--	--	--	--	1000	850
30...	1300	76	20500	7.9	20.0	--	--	--	--	1100	890
MAY											
06...	0900	1200	29800	7.3	13.0	--	--	--	--	1100	820
10...	1030	776	15000	8.1	18.5	2	8.7	96	--	--	--
21...	1300	249	17000	7.6	21.0	--	--	--	--	830	680
29...	1100	16900	3460	7.5	21.0	--	--	--	--	280	190

ARKANSAS RIVER BASIN

07159100 CIMARRON RIVER NEAR DOVER, 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- MH/S)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DEMAND, CHEM- ICAL (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)
JUN										
06...	1600	7240	4360	7.5	24.5	--	--	--	330	210
12...	1140	1660	7500	8.0	24.0	3600	7.0	621	--	--
23...	1900	870	10300	7.5	29.0	--	--	--	610	460
30...	1600	214	15600	7.6	31.5	--	--	--	890	730
JUL										
08...	0910	151	15000	8.0	25.0	--	--	--	890	730
14...	2030	205	9800	7.8	22.5	--	--	--	460	310
17...	1145	139	14500	8.3	26.5	115	8.3	105	37	--
24...	1230	103	18400	7.4	27.0	--	--	--	890	740
AUG										
01...	1030	54	18000	8.1	24.0	17	7.8	45	--	--
05...	0930	145	6130	7.4	20.0	--	--	--	490	380
16...	1900	45	20400	7.5	29.5	--	--	--	880	730
27...	1230	32	17300	7.4	25.0	--	--	--	890	740
SEP										
04...	1130	31	16200	7.5	24.0	--	--	--	870	720
16...	1730	124	3650	7.2	31.0	--	--	--	300	190
21...	1200	56	13200	8.1	16.0	44	9.6	101	56	--
22...	1830	116	23300	7.4	23.0	--	--	--	1100	1000

ARKANSAS RIVER BASIN

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07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CaCO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)
OCT										
03...	--	240	--	--	86	--	3800	90	54	--
20...	--	210	--	--	85	--	3500	90	52	--
21...	--	--	--	--	--	--	--	--	--	--
25...	--	110	--	--	35	--	1200	86	26	--
NOV										
02...	--	210	--	--	79	--	2900	88	43	--
15...	--	270	--	--	110	--	5700	92	74	--
22...	284	--	710	96	--	--	--	--	--	--
27...	--	260	--	--	97	--	4400	90	59	--
DEC										
07...	--	280	--	--	100	--	5100	91	67	--
10...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	300	--	--	110	--	6100	92	77	--
29...	--	280	--	--	94	--	4400	90	58	--
JAN										
01...	--	280	--	--	100	--	5100	91	67	--
05...	--	270	--	--	98	--	4200	89	56	--
08...	--	290	--	--	110	--	5400	91	69	--
31...	282	--	705	112	--	2800	--	--	--	7.3
FEB										
15...	--	--	--	--	--	--	--	--	--	--
16...	--	210	--	--	82	--	4900	92	73	--
25...	--	160	--	--	58	--	3200	91	55	--
28...	--	240	--	--	100	--	6100	93	84	--
MAR										
01...	--	280	--	--	100	--	7900	94	103	--
13...	--	210	--	--	76	--	3000	88	45	--
16...	170	--	425	65	--	--	--	--	--	--
27...	--	240	--	--	94	--	4500	91	62	--
APR										
07...	--	140	--	--	48	--	1700	87	32	--
13...	--	--	--	--	--	--	--	--	--	--
16...	--	250	--	--	100	--	7200	94	97	--
30...	--	250	--	--	110	--	4500	90	60	--
MAY										
06...	--	270	--	--	94	--	7000	93	94	--
10...	280	--	700	68	--	--	--	--	--	--
21...	--	200	--	--	80	--	3600	90	54	--
29...	--	86	--	--	17	--	600	82	15	--
JUN										
06...	--	96	--	--	23	--	800	84	19	--
12...	--	--	--	--	--	--	--	--	--	--
23...	--	170	--	--	44	--	2000	88	35	--
30...	--	230	--	--	77	--	3400	89	50	--
JUL										
08...	--	230	--	--	76	--	3000	88	44	--
14...	--	120	--	--	40	--	2200	91	44	--
17...	23	--	59	7.1	--	2270	--	--	--	15
24...	--	220	--	--	82	--	4100	91	60	--
AUG										
01...	--	--	--	--	--	--	--	--	--	--
05...	--	140	--	--	33	--	1100	83	22	--
16...	--	240	--	--	68	--	4400	91	63	--
27...	--	220	--	--	83	--	3600	90	52	--
SEP										
04...	--	220	--	--	78	--	3600	90	53	--
16...	--	84	--	--	22	--	630	81	16	--
21...	218	--	545	66	--	--	--	--	--	--
22...	--	330	--	--	78	--	5500	91	71	--

ARKANSAS RIVER BASIN

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LINEITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CU2)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT										
03...	11	180	0	150	3.6	630	5900	--	10800	--
20...	9.1	190	0	160	3.8	630	5200	--	9530	--
21...	--	--	--	--	--	--	--	.4	--	9549
25...	7.5	150	0	120	4.8	290	1900	--	3630	--
NOV										
02...	7.9	200	0	160	4.0	590	4000	--	8240	--
15...	10	0	0	0	0	760	9300	--	16700	--
22...	--	--	--	--	--	--	--	.6	--	--
27...	8.7	150	0	120	2.4	700	6900	--	12300	--
DEC										
07...	10	220	0	180	1.8	710	7700	--	14700	--
10...	--	--	--	--	--	--	--	.4	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	12	250	0	210	3.2	770	9500	--	17100	--
29...	10	240	0	200	1.9	740	6800	--	12600	--
JAN										
01...	9.4	250	0	210	4.0	690	8100	--	14200	--
05...	8.7	260	0	210	5.2	680	6800	--	11900	--
08...	9.2	260	0	210	4.2	730	8300	--	16300	--
31...	--	--	--	--	--	--	--	.3	--	--
FEB										
15...	--	--	--	--	--	--	--	.3	--	--
16...	10	220	0	180	3.5	560	7300	--	12100	--
25...	9.2	200	0	160	10	410	4800	--	8170	--
28...	12	220	0	180	11	700	9700	--	16600	--
MAR										
01...	15	200	0	160	8.0	740	11000	--	20300	--
13...	10	260	0	210	3.3	520	4700	--	8900	--
16...	--	--	--	--	--	--	--	.5	--	--
27...	11	210	0	170	2.7	660	7500	--	11700	--
APR										
07...	10	200	0	160	10	350	2400	--	4950	--
13...	--	--	--	--	--	--	--	.1	--	--
16...	34	230	0	190	4.6	740	11000	--	17200	--
30...	14	230	0	190	4.6	720	7000	--	12800	--
MAY										
06...	17	300	0	250	24	670	11000	--	19500	--
10...	--	--	--	--	--	--	--	.6	--	--
21...	11	180	0	150	7.2	580	5500	--	9970	--
29...	7.5	120	0	98	6.1	200	890	--	1890	--
JUN										
06...	7.3	150	0	120	7.6	230	1200	--	2320	--
12...	--	--	--	--	--	--	--	.8	--	--
23...	11	180	0	150	9.1	420	3100	--	6070	--
30...	13	200	0	160	8.0	640	5100	--	9670	--
JUL										
08...	12	190	0	160	3.0	660	4800	--	--	--
14...	12	190	0	160	4.8	330	3100	--	5660	--
17...	--	--	--	--	--	--	--	.5	--	--
24...	13	180	0	150	11	670	5400	--	12000	--
AUG										
01...	--	--	--	--	--	--	--	.4	--	--
05...	7.1	130	0	110	8.3	370	1700	--	3520	--
16...	11	180	0	150	9.1	700	6300	--	12700	--
27...	9.4	180	0	150	11	580	6100	--	10800	--
SEP										
04...	8.6	180	0	150	9.1	600	5500	--	9870	--
16...	8.8	130	0	110	13	120	1100	--	2040	--
21...	--	--	--	--	--	--	--	.3	--	--
22...	10	120	0	98	7.6	740	8300	--	14600	--

ARKANSAS RIVER BASIN

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07159100 CIMARRON RIVER NEAR DOVER, 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										
03...	14.7	2330	--	--	--	--	--	--	--	--
20...	13.0	1260	--	--	--	--	--	--	--	--
21...	--	--	--	<.10	--	--	2.0	2.0	--	.14
25...	4.94	706	--	--	--	--	--	--	--	--
NOV										
02...	11.2	1960	--	--	--	--	--	--	--	--
15...	22.7	5500	--	--	--	--	--	--	--	--
22...	--	--	22	.10	--	1.2	--	1.3	--	.06
27...	16.7	8470	--	--	--	--	--	--	--	--
DEC										
07...	20.0	6470	--	--	--	--	--	--	--	--
10...	--	--	214	.30	--	--	1.7	2.0	9.3	.26
20...	--	--	--	--	--	--	--	--	--	--
20...	23.3	6830	--	--	--	--	--	--	--	--
24...	17.1	3760	--	--	--	--	--	--	--	--
JAN										
01...	19.3	4220	--	--	--	--	--	--	--	--
05...	16.2	4660	--	--	--	--	--	--	--	--
08...	22.2	3960	--	--	--	--	--	--	--	--
31...	--	--	9	1.1	--	--	1.3	2.4	11	5.9
FEB										
15...	--	--	157	.60	--	--	2.1	2.7	12	.28
16...	16.5	12000	--	--	--	--	--	--	--	--
25...	11.1	12900	--	--	--	--	--	--	--	--
28...	22.0	20200	--	--	--	--	--	--	--	--
MAR										
01...	27.6	20200	--	--	--	--	--	--	--	--
13...	12.1	5600	--	--	--	--	--	--	--	--
16...	--	--	196	.30	--	--	1.8	2.1	9.6	.20
27...	15.9	5970	--	--	--	--	--	--	--	--
APR										
07...	6.73	4920	--	--	--	--	--	--	--	--
13...	--	--	92	.10	--	--	1.9	2.0	9.0	.21
16...	23.4	8170	--	--	--	--	--	--	--	--
30...	17.4	2630	--	--	--	--	--	--	--	--
MAY										
06...	26.5	63200	--	--	--	--	--	--	--	--
10...	--	--	2167	.70	--	--	5.2	5.9	26	1.6
21...	13.6	6700	--	--	--	--	--	--	--	--
29...	2.57	86200	--	--	--	--	--	--	--	--
JUN										
06...	3.16	45400	--	--	--	--	--	--	--	--
12...	--	--	13280	1.2	--	--	3.1	4.3	19	6.6
23...	8.26	14300	--	--	--	--	--	--	--	--
30...	13.2	5590	--	--	--	--	--	--	--	--
JUL										
08...	--	--	--	--	--	--	--	--	--	--
14...	7.70	3130	--	--	--	--	--	--	--	--
17...	--	--	637	<.10	--	--	1.1	1.2	--	.46
24...	16.3	3340	--	--	--	--	--	--	--	--
AUG										
01...	--	--	41	<.10	--	--	1.8	1.8	--	.55
05...	4.79	1380	--	--	--	--	--	--	--	--
16...	17.3	1540	--	--	--	--	--	--	--	--
27...	14.7	933	--	--	--	--	--	--	--	--
SEP										
04...	13.4	826	--	--	--	--	--	--	--	--
16...	2.77	683	--	--	--	--	--	--	--	--
21...	--	--	80	<.10	--	--	--	--	--	9.5
22...	19.9	4570	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		ARSENIC TOTAL (UG/L AS AS)		CADMIUM TOTAL RECUM- ERABLE (UG/L AS CD)		CHROMIUM, TOTAL RECUM- ERABLE (UG/L AS CR)		COPPER, TOTAL RECUM- ERABLE (UG/L AS CU)		IRON, TOTAL RECUM- ERABLE (UG/L AS FE)		LEAD, TOTAL RECUM- ERABLE (UG/L AS PB)	
DATE	TIME												
UCT													
21...	0930	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
22...	1345	--	--	--	--	--	--	--	--	350	--	--	--
DEC													
10...	1415	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
31...	1230	2	2	30	21	1210	43						
MAR													
16...	0915	--	--	--	--	5300	--						
APR													
13...	1230	--	--	--	--	--	--						
MAY													
10...	1030	--	--	--	--	6600	--						
JUN													
12...	1140	--	--	--	--	--	--						
JUL													
17...	1145	--	3	39	27	24000	40						
AUG													
01...	1030	--	--	--	--	--	--						
SEP													
21...	1200	--	--	--	--	<1990	--						
DATE		MANGANESE, TOTAL RECUM- ERABLE (UG/L AS MN)	MERCURY TOTAL RECUM- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECUM- ERABLE (UG/L AS NI)	SELENIUM, TOTAL RECUM- ERABLE (UG/L AS SE)	SILVER, TOTAL RECUM- ERABLE (UG/L AS AG)	ZINC, TOTAL RECUM- ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)					
UCT													
21...	--	--	--	--	--	--	--	5.0					
NOV													
22...	70	--	--	--	--	--	--	--					
DEC													
10...	--	--	--	--	--	--	--	12					
JAN													
31...	70	<.5	200	3	17	14	9.0						
MAR													
16...	160	--	--	--	--	--	--	2.0					
APR													
13...	--	--	--	--	--	--	--	9.0					
MAY													
10...	1300	--	--	--	--	--	--	31					
JUN													
12...	--	--	--	--	--	--	--	117					
JUL													
17...	530	<.5	39	3	10	32	11						
AUG													
01...	--	--	--	--	--	--	--	<5.0					
SEP													
21...	170	--	--	--	--	--	--	9.0					

ARKANSAS RIVER BASIN

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07159100 CIMARRON RIVER NEAR DOVER, 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	17200	14700	19900	23200	---	30700	21300	19400	6850	15300	18400	17900
2	17400	14100	20900	---	---	27100	20400	17500	6330	15700	18200	17100
3	17600	13000	21200	---	---	22800	19800	13100	5640	15600	11500	16500
4	17400	22800	21500	21000	---	---	14000	14800	7290	16100	13800	16200
5	17500	16400	21500	19800	---	17700	16100	26400	6210	16000	6130	16200
6	17200	16100	21700	22000	---	16800	---	29800	4360	---	12000	16300
7	16800	17500	23300	22200	---	---	8510	22200	4820	16700	10100	16300
8	16400	16000	---	23700	---	18500	14900	17300	7800	15000	16600	16300
9	16700	16600	---	---	---	21200	14600	14600	10300	16800	20000	16000
10	16400	18800	---	---	---	24800	16000	14400	8660	17000	19100	16000
11	16700	17200	---	---	---	19600	16300	---	8460	17400	19000	16100
12	16800	19000	20900	---	18300	15400	17200	23600	7450	---	20000	18500
13	16600	21300	20900	---	---	14600	19500	---	6640	10900	19300	16700
14	16400	24200	21400	---	---	16900	24300	---	6570	9800	19400	15600
15	16200	25800	21200	---	---	16600	26700	17400	6670	---	20000	15400
16	16300	24500	21500	---	20400	17200	28000	17900	---	11700	20400	3650
17	16200	22000	22000	---	---	17500	24000	18200	6800	13400	20100	14800
18	16000	22000	23000	---	---	17200	24000	19500	7720	15300	---	13200
19	15900	20900	25800	---	---	17600	24000	---	8860	16400	19000	14900
20	15700	20900	26600	---	---	18500	23400	11300	9880	---	18000	16900
21	15400	20700	---	---	---	19200	22900	17000	6510	---	17500	15200
22	14600	20600	21200	---	25900	21500	25000	18500	5590	16800	18100	23300
23	---	20500	21600	---	15800	---	22100	29700	10300	16500	18600	8770
24	14800	20400	22000	---	15900	17900	22300	12400	11700	18400	19000	21400
25	6450	20200	24900	---	14300	17700	22200	12400	12100	16300	18600	21000
26	9320	20200	22700	---	16900	17900	21800	12600	12800	17100	18000	21900
27	13300	19800	21600	---	21400	18800	21600	11200	12800	17500	17300	20400
28	14300	20300	---	---	26200	19200	21300	9210	14400	17300	15600	19600
29	14200	20300	19800	---	---	19600	20800	3460	15300	17700	15400	19300
30	14800	---	21000	---	---	19900	20500	7170	15800	17800	18400	---
31	14600	---	22800	---	---	21200	---	7710	---	16200	18800	---

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	21.0	15.0	9.5	.0	---	3.0	16.0	20.0	26.0	25.0	31.0	28.0
2	18.0	11.0	10.0	---	---	4.5	18.0	12.5	22.0	27.0	30.0	24.0
3	22.5	15.0	5.0	---	---	.0	20.5	11.0	20.0	33.0	23.5	25.5
4	16.0	18.0	8.5	7.5	---	---	24.0	17.5	22.0	31.0	22.0	24.0
5	21.0	12.0	5.0	8.0	---	.5	20.0	15.5	25.0	29.5	20.0	30.0
6	20.0	16.0	2.5	10.0	---	9.0	---	13.0	24.5	---	25.0	31.5
7	22.0	17.5	5.0	4.0	---	---	19.0	20.5	27.0	32.0	31.0	25.0
8	15.0	14.5	---	.0	---	7.5	18.5	20.0	26.0	25.0	28.5	26.0
9	15.0	10.0	---	---	---	10.5	20.5	23.5	25.5	31.0	29.0	22.0
10	22.0	11.5	---	---	---	13.5	15.0	19.0	22.0	35.0	30.5	24.0
11	17.0	13.0	---	---	---	7.0	20.0	---	26.0	33.5	25.0	28.0
12	19.0	7.0	8.5	---	1.0	11.0	23.0	21.0	23.0	---	31.0	29.0
13	20.0	11.0	10.5	---	---	16.0	22.0	---	22.5	28.0	28.5	30.0
14	20.5	12.0	11.0	---	---	13.0	24.0	---	23.0	22.5	25.0	30.0
15	12.0	17.0	12.5	---	---	10.0	17.0	27.0	27.0	---	29.0	26.0
16	18.0	11.0	12.0	---	.0	12.0	22.0	25.0	---	31.0	29.5	31.0
17	21.0	15.0	5.0	---	---	16.0	23.5	22.0	24.0	30.0	28.0	28.0
18	15.0	14.0	9.0	---	---	8.5	17.0	26.0	23.0	29.0	---	27.0
19	22.0	15.0	7.0	---	---	13.0	18.0	---	29.5	33.0	20.0	25.0
20	22.0	14.5	4.5	---	---	19.0	21.0	21.0	28.0	---	25.0	20.0
21	24.0	9.0	---	---	---	19.0	19.0	21.0	23.0	---	28.0	21.5
22	18.0	11.0	4.5	---	7.0	21.0	13.0	28.0	27.0	24.0	30.0	23.0
23	---	13.0	9.0	---	7.0	---	23.0	29.0	29.0	24.5	31.0	18.0
24	20.0	10.0	5.0	---	9.0	8.0	22.0	21.5	24.0	27.0	30.0	25.0
25	21.0	9.5	1.0	---	5.0	5.0	21.5	29.0	24.0	33.0	29.0	23.0
26	23.5	4.0	3.0	---	5.0	16.5	19.5	28.0	27.0	32.0	25.0	24.0
27	21.0	10.0	4.0	---	6.0	20.0	22.0	21.0	31.0	31.0	25.0	29.0
28	23.0	11.0	---	---	5.0	22.0	22.0	20.0	32.0	27.5	30.0	30.0
29	16.0	10.0	7.0	---	---	21.0	16.5	21.0	32.0	23.0	29.0	27.0
30	18.0	---	7.0	---	---	22.5	20.0	26.0	31.5	28.0	26.0	---
31	22.0	---	6.0	---	---	22.0	---	25.0	---	31.0	28.0	---

ARKANSAS RIVER BASIN

07159100 CIMARRON RIVER NEAR DOVER, 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	---	---	19800	23300	---	---	21800	17100	6840	15200	18400	18000
2	---	---	20700	21300	24600	---	20800	17500	6500	16800	18300	17000
3	---	---	21400	19400	23900	---	19900	13500	5520	15400	11600	16800
4	---	---	21500	19200	24400	---	16200	14300	7130	15700	13800	16200
5	---	---	21500	18000	23900	---	14900	26300	6120	16900	6180	16300
6	---	---	21600	20400	23200	---	11400	30200	5010	15300	12000	16300
7	17000	---	23000	---	23000	---	9660	21700	4680	17100	10200	16500
8	16300	---	22500	---	23200	---	15400	17400	7660	15300	16700	16200
9	16500	---	22300	---	24000	---	14200	14300	10400	16800	20000	16000
10	16300	---	21300	---	23400	---	15900	14300	8600	17100	19200	16000
11	16500	---	20600	---	22300	---	15600	18800	8390	17800	19000	16200
12	16700	---	20600	---	18000	---	16900	23500	7480	15000	20100	18500
13	16500	---	20900	---	15500	---	16400	21500	6690	10800	19300	16700
14	16200	---	21200	---	16200	---	23200	19300	6570	10200	19500	15500
15	16300	---	20900	---	18400	---	28400	16900	6720	11200	20000	15300
16	16000	---	21500	---	21000	---	28200	17800	6720	11700	21000	---
17	15900	---	22100	---	22700	---	24000	18200	6730	12800	20100	14400
18	16300	21900	22700	---	23900	18000	18800	7760	16000	19800	13300	---
19	15600	21100	25400	---	24900	17100	23600	16000	8850	16700	19100	15000
20	15400	20900	26400	---	25100	17700	24100	11500	9890	16400	18200	16900
21	15200	20700	23600	---	26800	19200	23500	17200	6770	16600	17700	15200
22	14600	21300	20900	---	25700	23200	25200	18700	5590	16800	18100	23200
23	14300	20300	21300	---	18000	---	23400	28100	10300	16600	18500	9360
24	---	20400	22400	---	---	17300	21400	17400	11600	18600	19200	21000
25	---	20200	24900	---	---	17600	21700	12800	12100	16400	18700	20800
26	---	20300	22800	---	---	17900	21900	12500	12900	17400	18100	22300
27	---	19700	21500	---	---	18500	21000	11500	12200	17500	17300	20600
28	---	20300	20700	---	---	18900	20900	---	14400	23900	15700	19800
29	---	20200	19900	---	---	19300	20900	---	15400	17500	15500	19400
30	---	20000	20900	---	---	19600	20400	---	15800	17900	18600	19000
31	---	---	22700	---	---	20600	---	---	---	18200	18800	---

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	---	---	9.0	1.0	---	1.5	20.5	21.0	27.0	26.5	27.0	25.5
2	---	---	9.0	1.0	---	2.5	21.0	15.5	23.0	26.0	28.0	26.0
3	---	---	10.0	1.0	.5	---	20.0	13.0	22.5	31.0	25.0	26.5
4	---	---	10.5	---	.5	---	21.5	17.0	23.5	29.5	24.5	27.0
5	---	---	7.0	---	1.0	---	20.5	17.5	24.0	27.5	23.5	27.5
6	---	---	2.5	---	.5	---	21.0	18.0	24.5	27.0	25.0	27.5
7	22.0	---	1.5	---	.5	---	23.0	21.5	25.0	27.5	25.5	26.5
8	17.5	---	5.0	---	.0	---	22.5	24.0	25.0	28.5	26.0	25.5
9	17.0	---	1.5	---	.0	---	21.0	24.5	25.5	27.5	26.0	25.5
10	20.5	---	1.5	---	.0	---	15.5	24.0	25.0	29.0	26.0	26.5
11	17.5	---	1.5	---	.5	---	16.5	26.5	24.5	29.5	25.5	25.5
12	17.0	---	6.0	---	1.0	---	18.5	25.0	25.0	27.5	26.0	25.5
13	17.5	---	10.5	---	.5	---	19.5	22.5	24.5	28.0	26.0	26.5
14	18.0	---	9.5	---	.5	---	20.5	26.0	25.0	27.5	26.5	26.0
15	16.0	---	10.0	---	.5	---	22.5	27.5	25.0	28.5	25.5	26.5
16	15.5	---	11.5	---	.5	---	21.5	26.0	25.0	29.0	26.5	25.0
17	17.0	20.0	8.5	---	.0	10.5	21.0	23.5	25.0	27.5	26.0	26.0
18	17.5	15.0	7.5	---	.0	13.5	16.5	26.0	24.5	26.5	25.5	25.5
19	19.0	19.0	7.5	---	.0	15.5	15.0	27.5	24.5	27.0	25.0	25.0
20	20.0	17.0	5.0	---	.5	16.5	16.5	26.5	25.0	26.0	24.0	25.0
21	21.0	9.0	2.5	---	.0	17.0	17.5	25.5	25.0	26.0	26.5	21.5
22	21.5	---	3.0	---	3.0	18.0	20.5	29.0	24.0	24.5	26.5	21.0
23	18.5	20.0	6.5	---	3.5	15.0	22.0	31.0	24.5	25.5	26.5	21.5
24	---	18.5	8.0	---	7.5	8.5	22.5	31.0	25.0	27.0	26.5	22.5
25	---	14.5	4.5	---	3.5	10.0	21.0	30.5	25.5	27.5	26.5	23.5
26	---	11.5	4.0	---	3.0	13.0	22.0	29.5	25.5	27.5	26.5	23.0
27	---	12.0	3.0	---	5.0	15.5	21.0	25.0	26.5	28.0	26.5	23.0
28	---	9.5	4.5	---	3.0	18.0	21.5	24.0	27.5	25.5	26.0	23.5
29	---	9.0	6.5	---	---	19.0	24.5	26.0	28.0	26.5	26.5	24.0
30	---	8.5	8.0	---	---	19.0	24.5	28.0	28.0	26.5	25.5	23.5
31	---	---	7.0	---	---	19.0	---	29.5	---	27.0	25.0	---

ARKANSAS RIVER BASIN

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07159100 CIMARRON RIVER NEAR DOVER, 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	---	---	630	710	---	---	670	570	350	530	600	590
2	---	---	650	660	730	---	650	560	340	560	600	570
3	---	---	660	620	720	---	630	490	320	530	450	560
4	---	---	670	620	730	---	550	510	350	540	500	550
5	---	---	670	590	720	---	520	770	330	570	330	550
6	---	---	670	640	700	---	450	860	310	530	460	550
7	570	---	700	---	700	---	410	670	300	570	420	560
8	550	---	690	---	700	---	530	580	360	530	560	550
9	560	---	680	---	720	---	510	510	420	560	630	550
10	550	---	660	---	710	---	540	510	380	570	620	550
11	560	---	650	---	680	---	540	610	380	590	610	550
12	560	---	650	---	590	---	570	710	360	520	640	600
13	560	---	650	---	540	---	560	670	340	430	620	560
14	550	---	660	---	550	---	700	620	340	420	620	540
15	550	---	650	---	600	---	820	570	340	440	630	530
16	550	---	670	---	660	---	810	590	340	450	660	---
17	540	---	680	---	690	---	720	590	340	480	640	510
18	550	680	690	---	720	590	710	610	370	550	630	490
19	540	660	750	---	740	570	710	550	390	560	610	520
20	530	650	770	---	750	580	720	450	410	560	590	570
21	530	650	710	---	780	620	710	570	340	560	580	530
22	520	660	650	---	760	700	750	610	320	560	590	700
23	510	640	660	---	590	---	710	810	420	560	600	400
24	---	640	690	---	---	580	660	580	450	600	620	660
25	---	640	740	---	---	580	670	480	460	560	610	650
26	---	640	700	---	---	590	680	470	480	580	590	680
27	---	630	670	---	---	600	660	450	460	580	580	650
28	---	640	650	---	---	610	650	---	510	720	540	630
29	---	640	630	---	---	620	650	---	530	580	540	620
30	---	630	650	---	---	630	640	---	540	590	600	610
31	---	---	690	---	---	650	---	---	---	590	610	---

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	---	---	216.0	211.0	---	---	289.0	132.0	2990.0	292.0	87.5	60.5
2	---	---	204.0	143.0	177.0	---	276.0	150.0	2180.0	292.0	84.2	55.4
3	---	---	207.0	151.0	194.0	---	262.0	258.0	2290.0	266.0	79.0	51.4
4	---	---	212.0	201.0	237.0	---	402.0	454.0	2380.0	264.0	135.0	47.5
5	---	---	233.0	212.0	272.0	---	661.0	1680.0	2040.0	268.0	134.0	46.0
6	---	---	259.0	280.0	227.0	---	447.0	2790.0	6060.0	238.0	171.0	46.0
7	90.8	---	295.0	---	246.0	---	386.0	1900.0	5780.0	243.0	130.0	46.9
8	86.1	---	294.0	---	227.0	---	365.0	1600.0	3940.0	212.0	138.0	46.0
9	84.7	---	184.0	---	214.0	---	311.0	1260.0	3180.0	203.0	133.0	46.0
10	81.7	---	196.0	---	201.0	---	308.0	1080.0	2370.0	189.0	121.0	47.5
11	80.1	---	211.0	---	275.0	---	295.0	1060.0	3430.0	325.0	112.0	53.5
12	77.1	---	230.0	---	390.0	---	291.0	955.0	2160.0	635.0	111.0	63.2
13	77.1	---	254.0	---	736.0	---	271.0	677.0	1350.0	323.0	93.7	51.4
14	75.7	---	233.0	---	857.0	---	471.0	465.0	1210.0	246.0	85.4	46.7
15	75.7	---	207.0	---	742.0	---	487.0	363.0	964.0	223.0	81.6	54.4
16	74.2	---	203.0	---	656.0	---	405.0	303.0	765.0	194.0	80.2	---
17	72.9	---	189.0	---	466.0	---	317.0	266.0	593.0	176.0	74.3	92.3
18	74.2	204.0	196.0	---	253.0	360.0	266.0	265.0	569.0	177.0	68.0	64.8
19	72.9	187.0	271.0	---	280.0	339.0	222.0	221.0	554.0	157.0	59.3	57.6
20	71.5	175.0	306.0	---	304.0	340.0	210.0	340.0	507.0	141.0	62.1	67.7
21	71.5	168.0	266.0	---	337.0	348.0	197.0	383.0	868.0	129.0	61.1	83.0
22	74.4	171.0	235.0	---	439.0	393.0	178.0	404.0	1550.0	130.0	60.5	217.0
23	89.5	166.0	221.0	---	545.0	---	197.0	1120.0	987.0	139.0	58.3	482.0
24	---	169.0	227.0	---	---	316.0	168.0	661.0	622.0	144.0	56.9	638.0
25	---	173.0	240.0	---	---	301.0	156.0	505.0	524.0	118.0	52.7	362.0
26	---	169.0	204.0	---	---	301.0	147.0	483.0	485.0	114.0	51.0	292.0
27	---	163.0	186.0	---	---	300.0	139.0	1340.0	359.0	106.0	50.1	223.0
28	---	169.0	177.0	---	---	300.0	133.0	---	346.0	126.0	68.5	191.0
29	---	169.0	182.0	---	---	288.0	133.0	---	333.0	95.5	61.2	154.0
30	---	175.0	223.0	---	---	262.0	131.0	---	318.0	90.8	63.2	132.0
31	---	---	266.0	---	---	286.0	---	---	---	86.0	64.2	---

ARKANSAS RIVER BASIN

07159100 CIMARRON RIVER NEAR DOVER, 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	---	---	6900	8200	---	---	7600	5800	1900	5100	6300	6200
2	---	---	7200	7500	8700	---	7300	6000	1800	5700	6300	5800
3	---	---	7500	6700	8500	---	6900	4500	1400	5200	3700	5700
4	---	---	7500	6700	8600	---	5500	4800	2000	5300	4600	5500
5	---	---	7500	6200	8500	---	5000	9400	1600	5800	1700	5500
6	---	---	7600	7100	8200	---	3700	11000	1200	5200	3900	5500
7	5800	---	8100	---	8100	---	3000	7600	1100	5800	3200	5600
8	5500	---	7900	---	8200	---	5200	6000	2200	5200	5700	5500
9	5600	---	7800	---	8500	---	4700	4800	3300	5700	7000	5400
10	5500	---	7500	---	8300	---	5400	4800	2600	5800	6700	5400
11	5600	---	7200	---	7800	---	5300	6500	2500	6100	6600	5500
12	5700	---	7200	---	6200	---	5800	8300	2200	5000	7000	6400
13	5600	---	7300	---	5200	---	5600	7500	1900	3400	6700	5700
14	5500	---	7400	---	5500	---	8200	6700	1800	3200	6800	5200
15	5500	---	7300	---	6300	---	10000	5800	1900	3600	7000	5200
16	5400	---	7500	---	7300	---	10000	6100	1900	3800	7300	---
17	5400	---	7800	---	8000	---	8500	6300	1900	4200	7000	4800
18	5500	7700	8000	---	8500	6200	8300	6500	2300	5400	6900	4400
19	5300	7400	9000	---	8800	5800	8300	5400	2700	5700	6600	5000
20	5200	7300	9400	---	8900	6100	8500	3700	3100	5600	6300	5800
21	5100	7200	8300	---	9600	6700	8300	5900	1900	5700	6100	5100
22	4900	7500	7300	---	9100	8200	8900	6500	1400	5700	6200	8200
23	4800	7100	7500	---	6200	---	8300	10000	3200	5700	6400	2900
24	---	7100	7900	---	---	5900	7500	6000	3700	6400	6700	7300
25	---	7000	8800	---	---	6000	7600	4200	3900	5600	6500	7300
26	---	7100	8000	---	---	6200	7700	4100	4200	6000	6200	7800
27	---	6800	7500	---	---	6400	7300	3700	4000	6000	5900	7200
28	---	7100	7200	---	---	6500	7300	---	4800	8500	5300	6900
29	---	7000	6900	---	---	6700	7300	---	5200	6000	5200	6700
30	---	7000	7300	---	---	6800	7100	---	5300	6200	6400	6600
31	---	---	8000	---	---	7200	---	---	---	6300	6500	---

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	---	---	2370.0	2440.0	---	---	3280.0	1350.0	16200.0	2810.0	919.0	636.0
2	---	---	2260.0	1620.0	2110.0	---	3090.0	1560.0	11600.0	2970.0	885.0	564.0
3	---	---	2350.0	1630.0	2300.0	---	2870.0	2370.0	10000.0	2610.0	649.0	523.0
4	---	---	2370.0	2170.0	2790.0	---	4020.0	4280.0	13600.0	2590.0	1240.0	475.0
5	---	---	2610.0	2230.0	3210.0	---	6360.0	20600.0	9890.0	2720.0	688.0	460.0
6	---	---	2930.0	3110.0	2660.0	---	3680.0	35600.0	23500.0	2330.0	1450.0	460.0
7	924.0	---	3410.0	---	2840.0	---	2830.0	21500.0	21200.0	2470.0	994.0	469.0
8	861.0	---	3370.0	---	2660.0	---	3580.0	16500.0	24100.0	2080.0	1400.0	460.0
9	847.0	---	2110.0	---	2520.0	---	2870.0	11900.0	24900.0	2060.0	1470.0	452.0
10	817.0	---	2230.0	---	2350.0	---	3080.0	10100.0	16200.0	1930.0	1300.0	467.0
11	801.0	---	2330.0	---	3160.0	---	2890.0	11300.0	22500.0	3360.0	1210.0	535.0
12	785.0	---	2550.0	---	4100.0	---	2960.0	11200.0	13200.0	6100.0	1210.0	674.0
13	771.0	---	2860.0	---	7090.0	---	2710.0	7570.0	7540.0	2550.0	1010.0	523.0
14	757.0	---	2620.0	---	8570.0	---	5510.0	5030.0	6420.0	1870.0	936.0	449.0
15	757.0	---	2330.0	---	7790.0	---	5940.0	3700.0	5390.0	1830.0	907.0	534.0
16	729.0	---	2270.0	---	7250.0	---	4990.0	3130.0	4270.0	1640.0	887.0	---
17	729.0	---	2170.0	---	5400.0	---	3740.0	2840.0	3310.0	1540.0	813.0	868.0
18	742.0	2310.0	2270.0	---	2980.0	3780.0	3110.0	2830.0	3540.0	1740.0	745.0	582.0
19	715.0	2100.0	3260.0	---	3330.0	3450.0	2600.0	2170.0	3830.0	1600.0	642.0	553.0
20	702.0	1970.0	3730.0	---	3600.0	3570.0	2480.0	2800.0	3630.0	1410.0	663.0	689.0
21	688.0	1870.0	3110.0	---	4150.0	3760.0	2310.0	3970.0	4850.0	1310.0	642.0	799.0
22	701.0	1940.0	2640.0	---	5260.0	4610.0	2110.0	4300.0	6770.0	1320.0	636.0	2550.0
23	842.0	1840.0	2510.0	---	5730.0	---	2310.0	13900.0	7520.0	1420.0	622.0	3490.0
24	---	1880.0	2600.0	---	---	3220.0	1900.0	6840.0	5110.0	1540.0	615.0	7060.0
25	---	1890.0	2850.0	---	---	3110.0	1760.0	4420.0	4440.0	1180.0	562.0	4060.0
26	---	1880.0	2330.0	---	---	3160.0	1660.0	4220.0	4240.0	1180.0	536.0	3350.0
27	---	1760.0	2090.0	---	---	3200.0	1540.0	11000.0	3120.0	1100.0	510.0	2470.0
28	---	1880.0	1960.0	---	---	3190.0	1500.0	---	3250.0	1490.0	673.0	2090.0
29	---	1850.0	1990.0	---	---	3110.0	1500.0	---	3270.0	984.0	590.0	1660.0
30	---	1950.0	2500.0	---	---	3050.0	1460.0	---	3120.0	954.0	674.0	1430.0
31	---	---	3090.0	---	---	3170.0	---	---	---	919.0	684.0	---

ARKANSAS RIVER BASIN

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07159100 CIMARRON RIVER NEAR DOVER, 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	---	---	12400	14700	---	---	13700	10600	3780	9340	11500	11200
2	---	---	13000	13400	15600	---	13100	10900	3550	10400	11400	10500
3	---	---	13500	12100	15100	---	12500	8210	2900	9470	6950	10400
4	---	---	13500	12000	15500	---	10000	8740	3970	9670	8410	10000
5	---	---	13500	11200	15100	---	9140	16700	3300	10500	3340	10100
6	---	---	13600	12800	14700	---	6810	19300	2560	9410	7210	10100
7	10500	---	14500	---	14500	---	5650	13700	2340	10600	6010	10200
8	10100	---	14200	---	14700	---	9470	10800	4320	9410	10300	10000
9	10200	---	14100	---	15200	---	8680	8740	6150	10400	12500	9870
10	10100	---	13400	---	14800	---	9810	8740	4950	10600	12000	9870
11	10200	---	12900	---	14100	---	9610	11700	4810	11100	11900	10000
12	10300	---	12900	---	11200	---	10500	14900	4200	9210	12600	11500
13	10200	---	13100	---	9540	---	10100	13500	3680	6410	12100	10300
14	10000	---	13300	---	10000	---	14700	12100	3600	6010	12200	9540
15	10100	---	13100	---	11500	---	18100	10500	3700	6680	12500	9410
16	9870	---	13500	---	13200	---	18000	11100	3700	7010	13200	---
17	9810	---	13900	---	14300	---	15200	11300	3710	7740	12600	8810
18	10100	13800	14300	---	15100	11200	14900	11700	4390	9870	12400	8080
19	9610	13300	16100	---	15800	10600	14900	9870	5120	10300	11900	9210
20	9470	13100	16800	---	15900	11000	15300	6880	5810	10100	11300	10500
21	9340	13000	14900	---	17100	12000	14900	10700	3730	10300	11000	9340
22	8940	13400	13100	---	16300	14700	16000	11700	2950	10400	11300	14700
23	8740	12700	13400	---	11200	---	14800	17900	6080	10300	11500	5460
24	---	12800	14100	---	---	10700	13500	10800	6950	11600	12000	13200
25	---	12700	15800	---	---	10900	13700	7740	7280	10100	11700	13100
26	---	12700	14400	---	---	11100	13800	7540	7810	10800	11300	14100
27	---	12300	13500	---	---	11500	13200	6880	7340	10900	10700	12900
28	---	12700	13000	---	---	11800	13100	---	8810	15100	9670	12400
29	---	12700	12500	---	---	12100	13100	---	9470	10900	9540	12100
30	---	12500	13100	---	---	12300	12800	---	9740	11100	11600	11900
31	---	---	14300	---	---	12900	---	---	---	11300	11700	---

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	---	---	4250.0	4370.0	---	---	5920.0	2460.0	32300.0	5140.0	1680.0	1150.0
2	---	---	4070.0	2890.0	3790.0	---	5550.0	2830.0	22800.0	5420.0	1600.0	1020.0
3	---	---	4230.0	2940.0	4080.0	---	5200.0	4320.0	20700.0	4760.0	1220.0	955.0
4	---	---	4260.0	3890.0	5020.0	---	7320.0	7790.0	27000.0	4730.0	2270.0	864.0
5	---	---	4700.0	4020.0	5710.0	---	11600.0	36500.0	20400.0	4930.0	1350.0	845.0
6	---	---	5250.0	5600.0	4760.0	---	6770.0	62500.0	50000.0	4220.0	2690.0	845.0
7	1670.0	---	6110.0	---	5090.0	---	5320.0	38800.0	45000.0	4520.0	1870.0	454.0
8	1580.0	---	6060.0	---	4760.0	---	6520.0	29700.0	47200.0	3760.0	2530.0	837.0
9	1540.0	---	3810.0	---	4510.0	---	5300.0	21600.0	46500.0	3760.0	2630.0	826.0
10	1500.0	---	3980.0	---	4200.0	---	5590.0	18500.0	30900.0	3520.0	2330.0	853.0
11	1460.0	---	4180.0	---	5710.0	---	5240.0	20400.0	43400.0	6110.0	2180.0	972.0
12	1420.0	---	4560.0	---	7410.0	---	5360.0	20000.0	25200.0	11200.0	2180.0	1210.0
13	1400.0	---	5130.0	---	13000.0	---	4880.0	13600.0	14600.0	4810.0	1830.0	946.0
14	1380.0	---	4700.0	---	15600.0	---	9880.0	9080.0	12800.0	3520.0	1680.0	824.0
15	1390.0	---	4170.0	---	14200.0	---	10800.0	6690.0	10500.0	3390.0	1620.0	965.0
16	1330.0	---	4080.0	---	13100.0	---	8990.0	5690.0	8320.0	3030.0	1600.0	---
17	1320.0	---	3870.0	---	9650.0	---	6690.0	5100.0	6470.0	2840.0	1460.0	1590.0
18	1360.0	4140.0	4050.0	---	5300.0	6830.0	5590.0	5090.0	6760.0	3170.0	1340.0	1070.0
19	1300.0	3770.0	5820.0	---	5970.0	6300.0	4670.0	3970.0	7270.0	2890.0	1160.0	1020.0
20	1280.0	3540.0	6670.0	---	6440.0	6440.0	4460.0	5200.0	7180.0	2540.0	1190.0	1250.0
21	1260.0	3370.0	5590.0	---	7390.0	6740.0	4140.0	7190.0	9520.0	2360.0	1160.0	1460.0
22	1280.0	3470.0	4740.0	---	9420.0	8260.0	3800.0	7740.0	14300.0	2410.0	1160.0	4560.0
23	1530.0	3290.0	4490.0	---	10300.0	---	4120.0	24800.0	14300.0	2560.0	1120.0	6970.0
24	---	3390.0	4640.0	---	---	5840.0	3430.0	12300.0	9610.0	2790.0	1100.0	12800.0
25	---	3430.0	5120.0	---	---	5650.0	3180.0	8150.0	8290.0	2130.0	1010.0	7290.0
26	---	3360.0	4200.0	---	---	5660.0	2980.0	7760.0	7890.0	2130.0	976.0	6050.0
27	---	3190.0	3750.0	---	---	5740.0	2780.0	20400.0	5730.0	2000.0	924.0	4420.0
28	---	3360.0	3550.0	---	---	5800.0	2690.0	---	5970.0	2650.0	1230.0	3750.0
29	---	3360.0	3610.0	---	---	5620.0	2690.0	---	5060.0	1800.0	1080.0	3010.0
30	---	3480.0	4490.0	---	---	5510.0	2630.0	---	5730.0	1710.0	1220.0	2570.0
31	---	---	5520.0	---	---	5680.0	---	---	---	1650.0	1230.0	---

ARKANSAS RIVER BASIN

07159720 COTTONWOOD CREEK NEAR NAVINA, OK

LOCATION.--Lat 35°46'36", long 97°32'45", SW¼NW¼ sec.17, T.15N., R.4 W., Logan County, Hydrologic Unit 11050002, on downstream right bank, 0.5 mi (0.8 km) downstream from Deer Creek, 1.7 mi (2.7 km) southeast of Navina, 10.7 mi (17.2 km) southwest of Guthrie, and at mile 25.0 (40.2 km).

DRAINAGE AREA.--247 mi² (640 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 962.10 ft (293.248 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Low flow sustained by part of sewage effluent from Oklahoma City.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,890 ft³/s (81.8 m³/s) at 0200 May 29, gage height, 20.34 ft (6.200m), no other peaks above base of 2,000 ft³/s (56.6 m³/s); minimum daily, 8.0 ft³/s (0.23 m³/s) Oct. 14,15.

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	12	17	20	12	12	40	19	15	270	28	14	14
2	11	16	20	12	12	36	20	18	177	28	14	14
3	11	21	20	13	12	38	19	51	132	34	14	18
4	12	31	18	14	12	28	19	69	105	26	31	22
5	11	21	18	13	13	32	19	32	103	23	37	31
6	11	17	22	14	13	32	19	24	111	22	19	21
7	12	15	21	13	13	31	21	22	121	21	16	17
8	16	17	20	14	13	35	19	20	82	21	15	15
9	13	69	20	13	13	34	18	18	61	20	14	15
10	11	67	18	13	13	30	19	17	48	20	14	20
11	11	30	16	12	13	26	26	17	42	19	14	17
12	10	18	18	12	217	26	23	17	38	18	14	16
13	9.0	17	21	12	520	24	21	16	32	17	12	15
14	8.0	16	21	13	175	25	19	15	30	17	12	15
15	8.0	15	25	14	72	24	17	14	28	19	12	16
16	9.0	15	26	13	43	23	18	13	26	20	12	16
17	9.0	16	25	13	34	23	17	14	25	18	12	14
18	10	15	17	13	37	24	17	47	26	17	12	13
19	11	17	12	12	37	23	16	37	38	16	11	14
20	12	16	13	12	30	24	15	418	31	14	18	14
21	13	15	11	12	26	23	15	964	384	14	15	15
22	19	15	12	12	24	21	15	1180	1560	13	14	19
23	76	15	14	12	61	20	14	279	409	16	13	17
24	45	14	13	12	209	24	14	128	153	29	11	16
25	20	14	17	12	166	26	14	71	94	19	11	18
26	17	14	17	12	90	19	14	59	69	18	11	16
27	16	14	13	12	53	19	13	348	51	31	14	16
28	16	15	13	12	45	19	13	2320	42	19	17	14
29	16	18	11	12	---	19	13	2240	35	16	19	15
30	16	20	11	12	---	18	14	604	30	14	17	16
31	16	---	12	12	---	19	---	416	---	14	17	---
TOTAL	487.0	620	535	389	1978	805	520	9503	4353	621	476	499
MEAN	15.7	20.7	17.3	12.5	70.6	26.0	17.3	307	145	20.0	15.4	16.6
MAX	76	69	26	14	520	40	26	2320	1560	34	37	31
MIN	8.0	14	11	12	12	18	13	13	25	13	11	13
AC-FT	966	1230	1060	772	3920	1600	1030	18650	8630	1230	944	990
WTR YR 1978	TOTAL	20786.0	MEAN	56.9	MAX	2320	MIN	8.0	AC-FT	41230		

ARKANSAS RIVER BASIN

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07159720 COTTONWOOD CREEK NEAR NAVINA, OK--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1977 to September 1978.

WATER TEMPERATURE: October 1977 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 and dissolved oxygen were determined in the field.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT											
27...	1330	16	998	8.3	18.0	4.2	46	240	84	53	26
NOV											
22...	0800	15	1080	7.7	8.5	4.3	37	280	130	63	30
DEC											
14...	1145	21	1160	7.8	6.5	8.3	69	310	150	68	35
JAN											
11...	1800	12	1335	7.5	.0	6.2	43	340	190	75	38
FEB											
24...	1200	230	767	7.9	2.5	10.8	82	250	120	63	23
MAR											
23...	1330	11	1350	7.6	16.0	3.4	36	380	200	88	39
APR											
20...	1400	16	1570	7.8	15.0	3.9	39	410	220	94	43
MAY											
19...	1300	39	1200	7.5	22.0	2.4	28	360	190	85	35
22...	1330	1340	495	6.8	--	--	--	160	65	39	14
JUN											
12...	1500	38	1207	8.3	25.0	3.0	36	420	180	99	41
JUL											
25...	1630	19	1200	7.5	27.0	2.8	36	--	--	--	--
AUG											
02...	1630	14	1295	8.0	27.0	3.3	42	300	140	67	33
SEP											
27...	1215	21	1370	7.5	21.0	2.5	28	280	160	63	29

DATE	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)	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)
OCT										
27...	110	49	3.1	9.3	190	0	160	1.5	160	120
NOV										
22...	100	43	2.6	9.9	190	0	160	6.1	160	110
DEC										
14...	120	44	2.9	9.9	200	0	160	5.1	200	130
JAN										
11...	150	48	3.5	10	190	0	160	9.6	260	160
FEB										
24...	64	35	1.8	4.5	160	0	130	3.2	170	51
MAR										
23...	130	42	2.9	7.6	220	0	180	8.8	280	130
APR										
20...	140	42	3.0	10	240	0	200	6.1	260	140
MAY										
19...	110	40	2.5	6.8	200	0	160	10	190	170
22...	32	30	1.1	5.1	110	0	90	28	80	35
JUN										
12...	98	33	2.1	6.7	290	0	240	2.3	220	110
JUL										
25...	--	--	--	--	200	0	160	10	170	130
AUG										
02...	140	49	3.5	11	200	0	160	3.2	200	160
SEP										
27...	150	53	3.9	12	140	0	110	7.1	210	170

ARKANSAS RIVER BASIN

07159720 COTTONWOOD CREEK NEAR NAVINA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TUNS PER AC-FT)	SOLIDS, DIS- SOLVED (TUNS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NUS)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NUS)
OCT 27...	.5	11	593	599	.81	25	2.2	9.9	.26	.85
NOV 22...	.6	13	643	580	.87	26	--	--	--	--
DEC 14...	.5	12	687	699	.93	39	3.5	15	.15	.49
JAN 11...	.5	13	833	818	1.13	27	.67	3.0	.03	.10
FEB 24...	.3	9.9	468	477	.64	291	2.6	12	.00	.00
MAR 23...	.5	9.1	799	803	1.09	23	.22	.97	.09	.30
APR 20...	.6	15	871	840	1.18	37	1.3	5.7	.22	.72
MAY 19...	.4	10	691	712	.94	72	.30	1.3	.20	.66
22...	--	--	278	--	.38	1010	--	--	--	--
JUN 12...	.5	17	777	744	1.06	79	.99	4.4	.21	.69
JUL 25...	.6	13	683	--	.93	35	1.4	6.2	.00	.00
AUG 02...	.6	16	809	743	1.10	30	.83	3.7	.27	.89
SEP 27...	.5	11	755	730	1.03	42	.48	2.1	.17	.56
DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS H)	CADMIUM DIS- SOLVED (UG/L AS CD)
OCT 27...	2.5	3.3	4.3	.90	4.2	8.5	--	--	--	--
NOV 22...	--	--	--	--	--	4.6	--	--	--	--
DEC 14...	3.6	6.4	8.2	1.4	--	4.7	0	3	480	2
JAN 11...	.70	12	15	4.0	16	4.0	--	--	--	--
FEB 24...	2.6	.06	.08	.51	.57	.73	20	2	300	1
MAR 23...	.31	7.2	9.3	.80	8.0	3.7	--	--	--	--
APR 20...	1.5	9.3	12	3.7	13	5.4	0	3	630	0
MAY 19...	.50	3.0	3.9	1.8	4.8	.17	0	4	440	2
22...	--	--	--	--	--	--	--	--	--	--
JUN 12...	1.2	2.0	2.6	2.8	4.8	1.9	10	7	500	1
JUL 25...	1.4	3.0	3.9	1.9	4.9	2.5	--	--	--	--
AUG 02...	1.1	8.9	11	2.1	11	5.6	10	4	550	1
SEP 27...	.65	9.8	13	1.2	11	6.4	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07159720 COTTONWOOD CREEK NEAR NAVINA, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1120	1120	1310	---	970	1350	1480	716	1270	1260	1230
2	---	1120	1120	1320	1340	---	1340	1500	830	1300	1310	---
3	---	1100	1130	1330	---	1090	1330	---	920	1270	1260	---
4	---	1140	1140	1350	---	1160	1360	1040	991	1180	1460	---
5	---	1050	1130	1370	1330	---	1370	1100	964	1220	977	1060
6	---	1130	1140	1370	1360	1160	1370	1170	961	1290	1180	964
7	---	1140	1150	1390	1340	---	1380	1180	---	1320	1200	986
8	---	---	1110	1360	1350	---	1370	1260	1010	1340	1230	1100
9	---	1140	1130	1310	---	1170	1380	1290	1060	1320	1280	1150
10	---	730	1160	1330	1370	1180	---	1320	1120	1320	1260	1170
11	---	813	1130	1380	1350	1200	1400	1340	1190	1330	1270	1140
12	---	909	1150	1360	---	---	1280	---	1230	1330	---	1130
13	---	989	1180	1320	---	1230	1260	1320	1240	1340	1300	1220
14	---	1050	1170	1400	---	1280	1310	1320	1280	1350	1320	---
15	---	1080	1190	1370	826	1270	1320	1370	1320	1360	1330	1250
16	---	1120	1100	---	814	1250	1380	1370	1340	1340	1350	1240
17	---	1130	1120	1320	---	1280	1390	---	---	1300	1350	1270
18	1230	1120	1130	---	1020	1280	1420	---	1280	1310	1370	1260
19	1210	1070	1150	---	---	1270	1430	---	1330	1330	1360	1280
20	1200	1110	1210	---	---	1290	1450	---	---	1350	1420	---
21	1190	1070	---	---	---	1280	1460	380	---	1370	1350	1250
22	1100	1070	1270	---	---	1280	1450	520	---	1360	1250	1260
23	684	1180	---	---	---	1320	1490	715	549	1320	1260	1090
24	612	---	1300	---	---	---	1500	816	761	1340	1300	1140
25	730	1220	1310	---	---	1300	1510	912	827	1150	1330	1260
26	994	1230	1300	1350	780	1220	1520	988	903	1190	1370	1260
27	1010	1250	1330	1300	834	1270	1540	826	994	1270	1370	1240
28	1050	1230	1300	---	---	1290	1530	315	1160	1130	1340	1280
29	1060	1240	1370	---	---	1510	1530	460	1220	974	1250	1270
30	1100	1170	1350	1350	---	1340	1550	584	1220	1170	1230	---
31	1120	---	1340	1340	---	1360	---	607	---	---	1240	---

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

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

ARKANSAS RIVER BASIN

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07159750 COTTONWOOD CREEK AT SEWARD, OK

LOCATION.--Lat 35°47'43", long 97°29'32", in SW¼ sec.2, T.15 N., R.3 W., Logan County, Hydrologic Unit 11050002, on downstream right bank, 0.3 mi (0.5 km) west of Seward, 7.7 mi (12.4 km) southwest of Guthrie, and at mile 19.2 (30.9 km).

DRAINAGE AREA.--316 mi² (818 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 946.49 ft (288.490 m) National Geodetic Vertical Datum of 1929.

AVERAGE DISCHARGE.--5 years, 143 ft³/s (4.050 m³/s), 103,600 acre-ft/yr (128 hm³/yr).

REMARKS.--Records fair. Low flow sustained by part of sewage effluent from Oklahoma City.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,900 ft³/s (847 m³/s) Nov. 2, 1974 gage height, 23.99 ft (7.312 m); minimum daily, 6.1 ft³/s (0.17 m³/s) Aug. 15, 22, 23, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,250 ft³/s (120 m³/s) at 2215 May 28, gage height, 20.07 ft (6.117 m), no other peaks above base of 3,000 ft³/s (85.0 m³/s); minimum daily, 10 ft³/s (0.28 m³/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	12	22	25	15	18	44	23	21	365	36	16	20
2	12	21	24	15	18	45	25	23	240	34	17	19
3	10	23	24	16	18	44	23	54	178	41	18	21
4	12	31	24	17	18	35	23	119	145	33	22	27
5	13	25	24	14	18	29	23	59	127	30	58	37
6	14	23	26	18	18	33	22	40	144	28	27	31
7	14	20	31	16	18	33	24	36	165	27	22	24
8	13	20	25	17	18	35	23	34	120	26	21	21
9	22	66	23	17	18	42	21	30	88	26	20	22
10	15	104	23	17	18	37	23	27	68	25	20	25
11	14	52	23	17	20	31	42	26	58	24	19	27
12	14	32	22	17	243	30	32	27	52	23	19	23
13	14	25	23	16	923	29	28	27	46	22	17	22
14	13	21	25	16	299	30	24	24	42	20	16	21
15	11	20	31	18	112	32	22	23	41	23	15	22
16	11	19	33	18	74	29	23	22	38	25	15	23
17	12	20	32	18	57	28	22	23	35	24	16	20
18	13	20	28	18	56	29	21	96	37	21	14	19
19	13	18	19	15	49	28	20	68	52	20	13	18
20	13	21	18	16	48	29	19	337	51	19	19	19
21	14	18	18	19	45	28	19	1090	204	18	22	22
22	18	18	17	23	36	26	18	1450	1850	17	18	28
23	71	19	16	21	64	22	18	581	867	27	18	21
24	114	18	16	20	198	26	18	209	224	51	18	18
25	35	18	18	19	195	45	18	125	130	26	15	17
26	28	18	20	18	122	27	18	90	92	23	14	19
27	23	17	18	18	72	26	17	202	68	75	17	19
28	20	17	18	18	53	26	17	2280	55	38	23	19
29	20	23	16	18	---	25	18	3360	46	21	24	19
30	20	25	15	18	---	22	19	1210	39	18	24	18
31	21	---	15	18	---	23	---	557	---	17	22	---
TOTAL	649	794	690	545	2846	968	663	12270	5667	858	619	661
MEAN	20.9	26.5	22.3	17.6	102	31.2	22.1	396	189	27.7	20.0	22.0
MAX	114	104	33	23	923	45	42	3360	1850	75	58	37
MIN	10	17	15	15	18	22	17	21	35	17	13	17
AC-FT	1290	1570	1370	1080	5650	1920	1320	24340	11240	1700	1230	1310
CAL YR 1977	TOTAL	26679	MEAN 73.1	MAX 7060	MIN 10	AC-FT 52920						
WTR YR 1978	TOTAL	27230	MEAN 74.6	MAX 3360	MIN 10	AC-FT 54010						

ARKANSAS RIVER BASIN

07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1973 to current year.

WATER TEMPERATURE: February 1973 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,610 micromhos Jan. 3, 1974; minimum daily, 132 micromhos Nov. 4, 1974.

WATER TEMPERATURE: Maximum daily, 28.0°C July 15, 1978; minimum daily, 0.0°C Jan. 7, 8, 9, 11, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,440 micromhos Apr. 28; minimum daily, 225 micromhos Jan. 22.

WATER TEMPERATURE: Maximum daily, 28.0°C July 15; minimum daily, 1.0°C Jan. 17.

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, DEMAND, CHEM- ICAL (MG/L)	OXYGEN, DEMAND, CHEM- ICAL (MG/L)	OXYGEN, DEMAND, CHEM- ICAL (MG/L)
OCT										
04...	0835	17	1150	8.0	21.0	--	--	--	--	--
18...	0840	12	1250	7.8	14.0	--	--	--	--	--
21...	1330	13	--	7.8	17.0	42	4.2	45	33	--
26...	0745	29	682	7.3	17.0	--	--	--	--	--
NOV										
11...	0750	58	733	7.1	11.0	--	--	--	--	--
16...	--	19	1020	6.9	14.0	--	--	--	--	--
22...	0945	18	1110	7.6	8.0	--	4.7	40	45	--
22...	0946	18	1110	7.6	8.0	12	4.7	40	26	--
30...	0840	24	1260	7.1	9.0	--	--	--	--	--
DEC										
03...	0810	23	1120	8.2	6.0	--	--	--	--	--
14...	1015	24	1175	7.4	5.0	6	8.2	66	23	56
23...	0840	15	1220	8.1	5.0	--	--	--	--	--
31...	0930	15	1310	7.1	7.0	--	--	--	--	--
JAN										
06...	0845	16	1330	7.5	5.0	--	--	--	--	--
11...	1600	18	1050	7.7	0.0	--	8.2	57	47	6.9
11...	1615	18	1050	7.7	0.0	5	8.2	57	38	--
19...	0820	29	1420	7.4	2.0	--	--	--	--	--
26...	0815	28	1240	6.9	2.0	--	--	--	--	--
FEB										
07...	0840	18	1300	7.1	2.0	--	--	--	--	--
14...	0840	303	587	8.3	2.0	--	--	--	--	--
24...	0755	164	897	8.1	4.0	--	--	--	--	--
24...	1015	200	9000	7.7	2.5	--	9.4	71	54	11
MAR										
01...	0715	26	898	8.1	6.0	--	--	--	--	--
10...	0830	37	1210	7.5	7.0	--	--	--	--	--
23...	1200	22	1300	7.7	16.0	--	4.7	49	54	18
26...	0830	27	1320	7.9	16.0	--	--	--	--	--
APR										
04...	0745	23	1240	8.1	17.0	--	--	--	--	--
17...	0745	23	1330	7.6	20.0	--	--	--	--	--
20...	1200	19	1470	7.7	14.0	--	3.6	36	53	--
20...	1201	19	1470	7.7	14.0	23	3.6	36	33	--
28...	0640	16	1440	7.4	17.0	--	--	--	--	--
MAY										
01...	0725	20	1380	6.9	20.0	--	--	--	--	--
19...	0705	70	845	6.8	22.0	--	--	--	--	--

ARKANSAS RIVER BASIN

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07159750 COTTONWOOD CREEK AT SEWARD, 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)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
MAY											
19...	1130	64	935	7.5	21.0	--	2.2	25	73	--	16
19...	1131	64	935	7.5	21.0	97	2.2	25	35	--	--
29...	0800	3514	307	7.1	22.0	--	--	--	--	--	--
JUN											
04...	0730	224	970	7.6	22.0	--	--	--	--	--	--
13...	1700	46	1300	8.6	24.0	77	--	--	29	--	8.4
20...	0710	54	1340	7.2	25.0	--	--	--	--	--	--
22...	0640	1812	225	6.7	22.0	--	--	--	--	--	--
JUL											
16...	0630	24	1360	7.7	--	--	--	--	--	--	--
24...	0635	59	1230	7.4	--	--	--	--	--	--	--
25...	1845	22	1250	7.4	26.5	--	2.6	33	47	--	2.8
25...	1846	22	1250	7.4	26.5	50	2.6	33	35	--	--
30...	0750	18	813	7.7	--	--	--	--	--	--	--
AUG											
01...	0735	16	1050	7.4	26.0	--	--	--	--	--	--
02...	1500	16	1260	7.7	25.5	--	2.7	34	55	--	20
02...	1501	16	1260	7.7	25.5	30	2.7	34	30	--	--
06...	0730	27	855	7.5	22.0	--	--	--	--	--	--
22...	0755	27	1340	6.8	25.0	--	--	--	--	--	--
SEP											
07...	0820	24	991	7.9	25.0	--	--	--	--	--	--
14...	0735	22	1120	7.0	26.0	--	--	--	--	--	--
19...	0710	18	1250	7.1	26.0	--	--	--	--	--	--
27...	1115	20	1290	7.5	20.0	--	2.9	32	38	--	K22
27...	1116	20	1290	7.5	20.0	62	2.9	32	39	--	--

ARKANSAS RIVER BASIN

07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS Ca)	CALCIUM DIS- SOLVED (MG/L AS Ca)	CALCIUM DIS- SOLVED (MG/L AS CaCO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS Na)	SODIUM, DIS- SOLVED (MG/L AS Na)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO
UCT											
04...	260	110	--	56	--	--	30	--	140	52	3.8
18...	270	130	--	55	--	--	32	--	150	53	4.0
21...	--	--	--	--	--	--	--	--	--	--	--
26...	160	74	--	36	--	--	18	--	80	50	2.7
NOV											
11...	200	76	--	45	--	--	21	--	70	42	2.2
16...	270	110	--	59	--	--	29	--	100	44	2.7
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	37	--	93	34	--	--	--	--	--
30...	300	140	--	65	--	--	34	--	130	47	3.3
DEC											
03...	300	140	--	64	--	--	34	--	120	46	3.0
14...	--	--	--	--	--	--	--	--	--	--	--
23...	320	130	--	68	--	--	37	--	130	46	3.2
31...	330	160	--	71	--	--	38	--	130	45	3.1
JAN											
06...	340	160	--	70	--	--	39	--	140	47	3.3
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	76	--	190	4.1	--	145	--	--	--
19...	350	200	--	17	--	--	39	--	150	47	3.5
26...	320	160	--	70	--	--	35	--	120	44	2.9
FEB											
07...	340	160	--	74	--	--	38	--	140	46	3.3
14...	190	85	--	47	--	--	18	--	45	33	1.4
24...	260	130	--	60	--	--	26	--	79	39	2.1
24...	--	--	--	--	--	--	--	--	--	--	--
MAR											
01...	300	140	--	71	--	--	29	--	80	36	2.0
10...	370	180	--	83	--	--	39	--	110	39	2.5
23...	--	--	--	--	--	--	--	--	--	--	--
26...	360	160	--	85	--	--	37	--	140	45	3.2
APR											
04...	360	150	--	81	--	--	39	--	120	41	2.7
17...	380	160	--	83	--	--	41	--	130	42	2.9
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
28...	380	180	--	83	--	--	42	--	150	45	3.3
MAY											
01...	370	170	--	84	--	--	40	--	140	44	3.1
19...	230	110	--	51	--	--	25	--	83	43	2.4
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	49	--	123	24	--	--	--	--	--
29...	110	28	--	27	--	--	9.2	--	20	28	.8
JUN											
04...	340	130	--	83	--	--	32	--	75	32	1.8
13...	--	--	--	--	--	--	--	--	--	--	--
20...	410	170	--	99	--	--	40	--	130	40	2.8
22...	77	16	--	20	--	--	6.5	--	20	35	1.0
JUL											
16...	390	220	--	91	--	--	39	--	130	41	2.9
24...	280	160	--	65	--	--	29	--	130	49	3.4
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	38	--	95	35	--	118	--	--	--
30...	220	110	--	53	--	--	22	--	81	43	2.4
AUG											
01...	280	110	--	66	--	--	29	--	110	45	2.8
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
06...	230	110	--	55	--	--	23	--	82	42	2.3
22...	300	130	--	68	--	--	31	--	150	51	3.8
SEP											
07...	270	110	--	65	--	--	26	--	100	44	2.7
14...	270	130	--	60	--	--	28	--	120	48	3.2
19...	280	130	--	60	--	--	31	--	140	51	3.7
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	55	--	140	29	--	--	--	--	--

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07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	ALKA- LINITY (MG/L AS CACU3)	CARBUN DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RINE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT											
04...	--	11	190	0	160	3,0	150	170	--	696	--
18...	--	12	170	0	140	4,3	160	170	--	741	--
21...	--	--	--	--	--	--	--	--	.6	--	736
26...	--	7,7	110	0	90	8,8	100	82	--	402	--
NOV											
11...	--	6,6	150	0	120	19	100	81	--	424	--
16...	--	9,1	190	0	160	38	140	130	--	611	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	.5	--	--
30...	--	11	200	0	160	25	180	160	--	735	--
DEC											
03...	--	9,2	200	0	160	2,0	200	130	--	665	--
14...	--	--	--	--	--	--	--	--	.4	--	--
23...	--	10	230	0	190	2,9	180	140	--	737	--
31...	--	10	210	0	170	27	200	150	--	790	--
JAN											
06...	--	4,6	220	0	180	11	230	160	--	798	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	10	--	--	--	--	--	--	--	.4	--	--
19...	--	11	190	0	160	12	260	170	--	862	--
26...	--	9,4	190	0	160	38	210	140	--	723	--
FEB											
07...	--	9,5	200	0	160	25	210	150	--	771	--
14...	--	4,2	130	0	110	1,0	100	46	--	348	--
24...	--	5,9	160	0	130	2,0	160	87	--	526	--
24...	--	--	--	--	--	--	--	--	--	--	--
MAR											
01...	--	6,0	190	0	160	2,4	190	82	--	550	--
10...	--	7,6	230	0	190	12	200	130	--	739	--
23...	--	--	--	--	--	--	--	--	--	--	--
26...	--	9,4	230	0	190	4,6	240	150	--	835	--
APR											
04...	--	9,0	260	0	210	3,3	200	130	--	764	--
17...	--	10	260	0	210	10	210	140	--	758	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	.8	--	--
28...	--	11	250	0	210	16	220	160	--	871	--
MAY											
01...	--	11	250	0	210	50	210	160	--	851	--
19...	--	6,7	150	0	120	38	140	91	--	49	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	.4	--	--
29...	--	5,4	94	0	77	12	39	27	--	188	--
JUN											
04...	--	5,5	250	0	210	10	180	85	--	611	--
13...	--	--	--	--	--	--	--	--	.4	--	--
20...	--	8,3	290	0	240	29	220	150	--	845	--
22...	--	4,6	74	0	61	24	22	30	--	142	--
JUL											
16...	--	9,2	200	0	160	6,4	230	150	--	858	--
24...	--	11	150	0	120	9,6	180	160	--	739	--
25...	--	--	--	--	--	--	--	--	--	--	--
25...	9,1	--	--	--	--	--	--	--	.4	--	--
30...	--	6,4	140	0	110	4,5	120	86	--	490	--
AUG											
01...	--	8,5	210	0	170	13	160	120	--	645	--
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	.4	--	--
06...	--	7,5	150	0	120	7,6	130	100	--	525	--
22...	--	12	200	0	160	51	180	180	--	826	--
SEP											
07...	--	8,5	190	0	160	3,8	130	140	--	593	--
14...	--	10	170	0	140	27	160	150	--	684	--
19...	--	12	180	0	150	23	190	160	--	761	--
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	.5	--	--

ARKANSAS RIVER BASIN

07159750 COTTONWOOD CREEK AT SEWARD, 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										
04...	.95	33.3	--	--	--	--	--	--	--	7.0
18...	1.01	25.8	--	--	--	--	--	--	--	20
21...	--	--	--	5.9	--	--	9.5	15	68	--
26...	.55	31.9	--	--	--	--	--	--	--	8.0
NOV										
11...	.58	67.0	--	--	--	--	--	--	--	2.2
16...	.83	31.3	--	--	--	--	--	--	--	4.8
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	30	3.4	--	8.0	--	11	--	--
30...	1.00	49.4	--	--	--	--	--	--	--	6.2
DEC										
03...	.90	42.6	--	--	--	--	--	--	--	5.6
14...	--	--	6	1.8	--	--	9.8	11	52	--
23...	1.00	31.0	--	--	--	--	--	--	--	8.0
31...	1.07	32.0	--	--	--	--	--	--	--	9.0
JAN										
06...	1.09	36.2	--	--	--	--	--	--	--	6.2
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	12	.90	--	--	13	14	64	--
19...	1.17	68.4	--	--	--	--	--	--	--	6.1
26...	.98	55.0	--	--	--	--	--	--	--	5.2
FEB										
07...	1.05	37.5	--	--	--	--	--	--	--	5.2
14...	.47	285	--	--	--	--	--	--	--	1.4
24...	.72	232	--	--	--	--	--	--	--	2.6
24...	--	--	--	--	--	--	--	--	--	--
MAR										
01...	.75	38.8	--	--	--	--	--	--	--	1.7
10...	1.01	73.8	--	--	--	--	--	--	--	3.0
23...	--	--	--	--	--	--	--	--	--	--
26...	1.14	61.8	--	--	--	--	--	--	--	4.1
APR										
04...	1.04	48.3	--	--	--	--	--	--	--	4.3
17...	1.03	47.3	--	--	--	--	--	--	--	4.8
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	43	5.1	--	--	10	15	71	--
28...	1.18	38.1	--	--	--	--	--	--	--	6.0
MAY										
01...	1.16	46.9	--	--	--	--	--	--	--	7.6
19...	.07	9.2	--	--	--	--	--	--	--	2.8
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	164	.50	--	--	7.1	7.6	34	--
29...	.26	1780	--	--	.78	--	--	--	--	.73
JUN										
04...	.83	369	--	--	--	--	--	--	--	1.5
13...	--	--	211	1.7	--	--	4.0	5.7	26	--
20...	1.15	124	--	--	--	--	--	--	--	4.0
22...	.19	695	--	--	--	--	--	--	--	.91
JUL										
16...	1.17	56	--	--	--	--	--	--	--	3.9
24...	1.01	118	--	--	--	--	--	--	--	6.1
25...	--	--	--	--	--	--	--	--	--	--
25...	--	--	147	2.4	--	--	7.1	9.5	42	--
30...	.67	25	--	--	--	--	--	--	--	2.5
AUG										
01...	.88	28	--	--	--	--	--	--	--	4.6
02...	--	--	--	--	--	--	--	--	--	--
02...	--	--	188	2.1	--	--	6.5	8.6	38	--
06...	.71	38	--	--	--	--	--	--	--	3.6
22...	1.12	61	--	--	--	--	--	--	--	11
SEP										
07...	.81	39	--	--	--	--	--	--	--	3.5
14...	.93	41	--	--	--	--	--	--	--	5.1
19...	1.04	37	--	--	--	--	--	--	--	6.5
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	156	16	--	--	.78	16	76	--

ARKANSAS RIVER BASIN

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07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHROMIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	
OCT													
21...	1330	--	--	--	--	--	--	--	--	--	--	--	
NOV													
22...	0946	--	--	--	--	--	--	--	670	--	--	--	
DEC													
14...	1015	--	--	--	--	--	--	--	--	--	--	--	
JAN													
11...	1615	3	<1	--	7	--	5	--	380	--	20	--	
APR													
20...	1201	--	--	--	--	--	--	--	--	--	--	--	
MAY													
19...	1130	--	--	1	--	0	--	2	--	20	--	6	
19...	1131	--	--	--	--	--	--	--	3300	--	--	--	
JUN													
13...	1700	--	--	--	--	--	--	--	--	--	--	--	
JUL													
25...	1846	--	<1	--	<5	--	5	--	1070	--	22	--	
AUG													
02...	1500	--	--	3	--	0	--	2	--	10	--	3	
02...	1501	--	--	--	--	--	--	--	--	--	--	--	
SEP													
27...	1116	--	--	--	--	--	--	--	1500	--	--	--	
DATE		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)	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)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)
OCT													
21...	--	--	--	--	--	--	--	--	--	10	--	--	--
NOV													
22...	180	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
14...	--	--	--	--	--	--	--	--	--	19	--	--	--
JAN													
11...	130	--	--	<.5	9	1	3	11	--	15	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	12	--	--	--
MAY													
19...	--	190	--	--	--	--	--	--	20	--	--	--	--
19...	300	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
13...	--	--	--	--	--	--	--	--	--	13	--	--	--
JUL													
25...	440	--	--	--	<5	--	2	14	--	15	--	--	--
AUG													
02...	--	--	--	--	--	--	--	--	40	--	.0	.00	.00
02...	--	--	--	--	--	--	--	--	--	12	--	--	--
SEP													
27...	370	--	--	--	--	--	--	--	--	11	--	--	--

07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible][illegible]

ARKANSAS RIVER BASIN

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07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1040	1040	1180	1300	1280	898	1250	1380	661	1210	1050	1240
2	1050	1060	1140	1280	1300	963	1260	1390	771	1210	1120	1220
3	1110	1100	1120	1290	1260	1010	1250	1330	882	1250	1150	1220
4	1150	1050	1120	1280	1260	1070	1240	1340	970	1250	1140	1230
5	1180	1080	1120	1290	1270	1090	1270	1050	1020	1240	1140	1260
6	1190	1040	1150	1330	1270	1120	1290	1030	936	1180	855	1140
7	1190	1060	1140	1320	1300	1140	1320	1080	1080	1280	1050	991
8	1190	1060	1180	1350	1270	1170	1330	1090	1050	1300	1130	1010
9	1190	1060	1140	1350	1250	1220	1330	1140	1080	1320	1120	1050
10	1220	1040	1150	1340	1310	1210	1310	1170	1100	1320	1160	1070
11	1160	733	1150	1330	1260	1230	1350	1230	1160	1320	1180	1140
12	1170	765	1150	1330	1240	1220	1400	1230	1210	1330	1230	1150
13	1130	834	1140	1320	1260	1250	1250	1250	1230	1340	1250	1110
14	1160	912	1180	1330	587	1250	1290	1260	1230	1350	1260	1120
15	1200	965	1180	1330	763	1280	1300	1270	1240	1330	1270	1180
16	1220	1020	1150	1310	787	1270	1300	1280	1270	1360	1280	1220
17	1230	1070	1130	1330	815	1240	1330	1300	1300	1360	1330	1220
18	1250	1090	1120	1380	887	1240	1300	1330	1310	1340	1310	1240
19	1230	1120	1140	1420	1000	1250	1300	845	1240	1300	1320	1250
20	1210	1110	1120	1410	1080	1240	1300	960	1340	1310	1310	1240
21	1190	1060	1180	1360	1090	1260	1310	576	1280	1330	1320	1210
22	1170	1110	1180	1380	1100	1260	1320	362	225	1360	1340	1230
23	1080	1090	1220	1360	1120	1280	1340	581	437	1320	1270	1220
24	895	1100	1230	1350	897	1260	1360	727	597	1230	1240	1220
25	757	1150	1260	1300	663	1290	1390	832	777	1250	1250	1060
26	682	1170	1250	1240	750	1320	1410	903	845	1010	1270	1180
27	884	1190	1250	1280	785	1250	1410	975	908	959	1290	1210
28	950	1210	1260	1300	856	1260	1440	378	997	1000	1330	1220
29	947	1230	1260	1320	---	1290	1430	307	1070	1010	1310	1210
30	991	1260	1260	1330	---	1320	1430	584	1130	813	1270	1250
31	1020	---	1310	1340	---	1320	---	587	---	920	1250	---

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

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

ARKANSAS RIVER BASIN

07160000 CIMARRON RIVER NEAR GUTHRIE, OK

LOCATION.--Lat 35°55'10", long 97°25'35", in NE4SE4 sec.29, T.17 N., R.2 W., Logan County, Hydrologic Unit 11050002, on left bank 125 ft (38.1 m) upstream from the Atchison, Topeka, and Santa Fe Railway Co. bridge, 1.2 mi (1.9 km) downstream from Cottonwood Creek, 2.5 mi (4.0 km) north of Guthrie, 6.5 mi (10.5 km) upstream from Skeleton Creek, and at mile 121.8 (196.0 km).

DRAINAGE AREA.--16,892 mi² (48,750 km²) of which 4,926 mi² (12,758 km²) is probably noncontributing.

PERIOD OF RECORD.--Water years 1949, 1953-63, 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	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHMS)	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)	HARD- NESS (MG/L AS CaCO3)
OCT										
21...	1200	--	8.7	21.5	33	12.8	149	41	--	441
NOV										
22...	1100	15100	8.2	8.0	10	11.9	102	25	--	--
DEC										
14...	1500	--	6.8	10.5	7	15.8	146	33	--	828
JAN										
11...	1400	10300	8.2	.0	5	15.4	108	19	--	--
FEB										
24...	0845	17200	8.2	3.0	--	11.6	89	--	--	--
MAR										
23...	1045	16000	8.4	17.0	--	10.8	116	--	--	--
APR										
20...	1045	18800	8.4	15.0	7	11.3	114	112	--	777
MAY										
19...	0950	12500	8.0	22.5	86	7.9	93	105	--	--
JUN										
12...	1300	8550	8.3	25.5	3	7.4	91	--	149	1238
JUL										
26...	1245	7900	8.4	31.5	45	10.4	146	44	--	--
AUG										
02...	1300	10200	8.5	28.5	35	9.3	124	38	--	712
SEP										
27...	1000	14600	8.0	20.5	260	8.0	90	75	--	--

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)	CHLOR- IDE, DIS- SOLVED (MG/L AS Cl)	FLUOR- IDE, 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										
21...	65	163	67	2010	10	543	3707	.5	7364	--
NOV										
22...	--	--	--	--	--	956	5007	--	--	23
DEC										
14...	203	507	77	2250	8.6	571	4930	.5	--	32
JAN										
11...	--	--	--	--	--	580	4969	.4	--	26
FEB										
24...	--	--	--	--	--	--	--	--	--	--
MAR										
23...	--	--	--	--	--	--	--	--	--	--
APR										
20...	173	432	83	2090	10	553	5404	.4	--	29
MAY										
19...	--	--	--	--	--	761	3927	.5	--	227
JUN										
12...	282	705	92	1520	10	289	1663	.4	--	2342
JUL										
26...	--	--	--	--	--	445	1995	.4	--	33
AUG										
02...	180	450	62	1800	12	428	3259	.4	--	75
SEP										
27...	--	--	--	--	--	583	7179	.4	--	622

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07160500 SKELETON CREEK NEAR LOVELL, OK

LOCATION.--Lat 36°03'36", long 97°35'05", in NW¼SW¼ sec.1, T.18 N., R.4 W., Logan County, Hydro-logic Unit 11050002, near right bank on downstream side of pier of bridge on State Highway 74, 2 mi (3 km) upstream from Otter Creek, 2.8 mi (4.5 km) east of Lovell, and at mile 14.6 (23.5 km).

DRAINAGE AREA.--410 mi² (1,062 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 914.76 ft (278.819 m) Oklahoma State Highway Department datum. Prior to Dec. 5, 1949, nonrecording gage at site 60 ft (18.3 m) downstream at datum 0.30 ft (91.4 mm) lower.

REMARKS.--Records good.

AVERAGE DISCHARGE.--29 years, 115 ft³/s (3.257 m³/s), 83,320 acre-ft/yr (103 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 75,200 ft³/s (2,130 m³/s) May 16, 1957, gage height, 34.58 ft (10.540 m); no flow at times in 1953-54, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 17, 1932, reached a stage of 32.0 ft (9.75 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,040 ft³/s (57.8 m³/s) May 29, gage height, 12.55 ft (3.825 m), no peaks above base of 2,300 ft³/s (65.1 m³/s); minimum daily, 2.0 ft³/s (0.057 m³/s) Sept. 12.

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	3.7	7.7	8.4	10	12	21	9.8	33	31	11	6.1	5.6
2	6.3	10	9.0	8.0	10	17	9.9	24	25	11	7.2	4.9
3	4.6	7.9	9.4	9.6	8.8	20	12	77	23	12	6.7	6.8
4	4.4	8.9	9.0	11	10	18	72	228	20	12	40	3.0
5	7.0	9.7	8.6	13	10	14	119	92	288	8.3	36	4.9
6	6.1	9.3	7.4	12	12	18	36	32	1480	7.7	14	3.7
7	5.9	8.2	9.0	11	9.0	16	88	32	250	7.1	8.7	2.4
8	5.8	9.5	9.5	9.4	12	15	32	26	44	7.1	6.9	4.9
9	4.9	11	10	9.0	11	14	20	26	31	15	6.2	4.9
10	8.0	36	11	9.6	12	15	24	18	25	10	6.0	3.6
11	6.3	21	9.6	10	8.7	15	19	15	21	7.8	3.6	2.3
12	5.7	11	9.8	11	189	15	21	13	19	8.6	6.2	2.0
13	7.7	10	14	12	888	14	15	12	17	9.3	8.4	3.7
14	6.9	9.2	14	10	915	13	13	11	14	7.2	6.6	4.3
15	6.6	8.6	13	11	201	13	12	10	13	7.1	7.1	3.8
16	6.8	7.6	12	10	109	12	12	8.7	12	7.9	5.6	5.9
17	6.4	9.2	12	7.6	81	17	11	11	12	7.5	4.7	4.5
18	5.6	8.9	11	9.0	36	15	12	11	12	7.5	3.5	4.1
19	6.2	8.9	13	9.8	26	13	9.8	11	21	6.6	2.5	4.6
20	6.6	7.7	12	9.4	20	11	9.6	27	28	6.6	6.3	4.9
21	7.3	6.8	12	11	16	12	9.3	38	25	7.0	7.0	6.1
22	7.3	8.0	13	10	14	11	10	37	602	7.0	6.1	14
23	9.6	7.0	13	11	304	9.8	9.4	27	271	13	5.2	13
24	19	6.5	11	9.8	1120	12	9.1	16	38	16	5.2	7.9
25	12	8.6	14	11	463	21	8.9	12	25	12	2.8	6.8
26	11	8.4	11	9.4	116	15	7.8	11	18	8.2	4.0	4.9
27	8.2	7.1	11	10	42	12	7.6	297	13	7.8	2.8	4.7
28	7.6	6.8	11	11	26	11	8.0	1490	11	6.1	6.7	6.7
29	8.3	7.8	8.8	10	---	11	8.1	1890	12	5.9	4.7	6.4
30	9.0	9.0	12	11	---	10	8.8	310	12	5.9	5.7	5.4
31	8.6	---	12	10	---	10	---	51	---	5.8	5.9	---
TOTAL	229.4	296.3	340.5	316.6	4681.5	440.8	644.1	4900.7	3413	272.0	248.4	160.9
MEAN	7.40	9.88	11.0	10.2	167	14.2	21.5	158	114	8.77	8.01	5.36
MAX	19	36	14	13	1120	21	119	1890	1480	16	40	14
MIN	3.7	6.5	7.4	7.6	8.7	9.8	7.6	8.7	11	5.8	2.5	2.0
AC-FT	455	588	675	628	9290	874	1280	9720	6770	540	493	319
CAL YR 1977	TOTAL	26965.1	MEAN 73.9	MAX 6360	MIN 3.7	AC-FT 53490						
WTR YR 1978	TOTAL	15944.2	MEAN 43.7	MAX 1890	MIN 2.0	AC-FT 31630						

ARKANSAS RIVER BASIN

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07160500 SKELETON CREEK NEAR LOVELL, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-55, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1950 to September 1955.

WATER TEMPERATURE: October 1950 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 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 (MICR)- MHOS	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)
OCT										
21...	1100	7.3	3000	8.4	16.0	--	63	8.1	84	43
NOV										
22...	1150	8.0	2300	7.8	7.5	--	42	10.6	90	36
DEC										
20...	1430	11	2200	--	4.5	--	39	13.9	109	29
JAN										
11...	1200	10	2100	4.2	.0	2100	12	15.8	110	41
FEB										
24...	0730	1110	340	7.8	5.0	--	--	12.0	86	--
MAR										
23...	0945	9.8	2100	8.9	16.0	--	--	10.7	113	--
APR										
20...	0930	10	2390	8.3	15.0	--	10	9.9	97	35
MAY										
19...	0845	9.6	2050	8.0	21.5	--	30	6.8	79	39
JUN										
12...	1130	18	610	8.0	26.0	--	84	7.7	96	29
JUL										
26...	1115	8.5	1660	8.0	28.5	--	52	6.2	83	45
AUG										
02...	1130	7.4	2200	8.0	27.5	--	41	5.8	75	38
SEP										
26...	1600	3.9	1270	7.6	22.0	--	140	11.8	137	34

DATE	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, DIS- SOLVED (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT										
21...	374	79	198	41	--	18	603	246	1.2	2491
NOV										
22...	--	--	--	--	--	--	735	337	--	--
DEC										
20...	665	195	487	42	260	13	651	291	1.3	--
JAN										
11...	--	--	--	--	--	--	299	325	1.4	--
FEB										
24...	--	--	--	--	--	--	--	--	--	--
MAR										
23...	--	--	--	--	--	--	--	--	--	--
APR										
20...	275	68	170	25	270	13	325	371	1.1	--
MAY										
19...	--	--	--	--	--	--	500	363	.9	--
JUN										
12...	411	100	250	37	163	11	259	222	.4	--
JUL										
26...	--	--	--	--	--	--	253	269	.8	--
AUG										
02...	529	160	400	31	240	14	486	303	1.2	--
SEP										
26...	--	--	--	--	--	--	210	166	1.1	--

07160500 SKELETON CREEK NEAR LOVELL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (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)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
OCT 21...	--	15	--	3.9	19	87	3.7	--	--	--
NOV 22...	44	8.8	3.1	--	11	--	3.8	--	--	--
DEC 20...	33	11	--	2.9	14	62	3.5	--	--	--
JAN 11...	20	40	--	5.2	5.6	25	4.5	--	--	--
FEB 24...	--	--	--	--	--	--	--	--	--	--
MAR 23...	--	--	--	--	--	--	--	--	--	--
APR 20...	86	16	--	2.6	19	86	--	--	--	--
MAY 19...	138	5.0	--	2.6	7.6	34	.81	--	--	--
JUN 12...	111	3.2	--	3.8	7.0	31	.91	--	--	--
JUL 26...	131	1.5	--	2.0	3.5	16	.80	--	--	--
AUG 02...	131	2.4	--	2.1	4.5	20	2.2	8	1	13
SEP 26...	283	1.9	--	<1.0	1.9	--	1.8	--	--	--

[illegible]

LOCATION.--Lat 35°57'32", long 97°01'49", in SW¼SW¼ sec.7, T.17 N., R.3 E., Payne County, Hydrologic Unit 11050003, near right bank at downstream side of bridge on U.S. Highway 177, 1.0 mi (1.6 km) south of Perkins, 1.5 mi (2.4 km) upstream from Dugout Creek, 4.0 mi (6.4 km) downstream from Wildhorse Creek, and at mile 87.3 (140.5 km).

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 814.88 ft (248.375 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to June 26, 1940, and Jan. 9 to Apr. 7, 1957, nonrecording gage at same site and datum 5.00 ft (1.524 m) higher. Prior to Oct. 1, 1977, at same site and datum 5.00 ft (1.524 m) higher.

REMARKS. - Records good.

AVERAGE DISCHARGE.--39 years, 1,165 ft³/s (32.99 m³/s), 844,000 acre-ft/yr (1.04 km³/yr).

EXTREMES FOR PERIOD OF RECORD.-Maximum discharge, 149,000 ft³/s (4,220 m³/s) May 17, 1957, gage height, 19.53 ft (5.953 m); minimum, 0.8 ft³/s (0.023 m³/s) Dec. 8, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 4, 5, 1926, reached a stage of 17.0 ft (5.18 m) from floodmarks, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,000 ft³/s (765 m³/s) at 1300 May 29, gage height, 15.87 ft (4.837 m), no other peaks above base of 16,000 ft³/s (4.53 m³/s); minimum daily, 44 ft³/s (1.25 m³/s) Aug. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	130	147	176	170	576	301	326	5400	311	142	64
2	142	125	154	162	140	539	297	299	3120	295	139	65
3	135	126	157	177	160	504	296	316	1920	282	151	63
4	132	129	162	183	170	500	315	349	1460	265	174	55
5	132	132	170	170	160	528	406	405	1680	263	177	51
6	129	143	170	170	150	473	411	432	3870	254	209	50
7	128	145	168	175	140	476	430	440	4890	238	205	51
8	129	151	183	180	130	498	438	585	5650	236	191	60
9	118	168	169	156	150	470	413	532	2550	227	180	65
10	115	174	145	150	170	429	418	544	1730	222	167	64
11	112	190	160	140	200	425	525	497	1180	218	164	64
12	108	222	161	130	412	431	466	483	1550	204	153	70
13	106	198	172	150	1100	450	379	447	1660	196	137	74
14	101	180	168	160	1450	414	343	417	926	261	128	72
15	97	173	177	170	1180	390	317	396	711	294	122	64
16	92	174	178	160	666	383	312	374	749	260	117	61
17	93	165	172	150	580	384	317	359	595	231	104	60
18	89	159	166	140	470	384	293	348	512	217	94	136
19	87	157	166	130	400	374	275	439	500	201	89	139
20	86	152	163	120	360	371	265	837	457	187	85	107
21	87	144	164	110	300	366	261	583	652	177	87	107
22	89	141	174	100	406	357	249	1280	2620	169	80	101
23	151	143	185	110	404	361	244	1490	4160	184	77	95
24	158	142	182	120	575	363	238	1080	1990	181	78	100
25	155	142	180	130	1370	357	228	735	792	193	70	128
26	172	137	177	120	1040	357	229	611	548	206	65	230
27	168	140	178	110	773	359	226	832	455	181	60	197
28	157	140	179	190	637	338	218	6340	400	171	51	174
29	140	142	178	170	---	326	229	23200	363	172	50	152
30	130	141	177	180	---	316	224	15000	333	163	44	136
31	133	---	174	190	---	307	---	10200	---	153	56	---
TOTAL	3822	4605	5256	4679	13863	12806	9563	70178	53423	6812	3646	2855
MEAN	123	154	170	151	495	413	319	2264	1781	220	118	95.2
MAX	172	222	185	190	1450	576	525	23200	5650	311	209	230
MIN	86	125	145	100	130	307	218	299	333	153	44	50
AC-FT	7580	9130	10430	9280	27500	25400	18970	139200	106000	13510	7230	5660
CAL YR 1977	TOTAL	264720	MEAN 725	MAX	43100	MIN 67	AC-FT	525100				

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1952 to September 1963, June 1965 to current year.
WATER TEMPERATURE: October 1962 to September 1963, June 1965 to current year.

INSTRUMENTATION.--Water quality monitor since April 1969.

REMARKS.--In addition to water quality monitor, samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples 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 calculated from specific conductance values

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 32,400 micromhos Mar. 18, 1957; minimum, 353 micromhos Apr. 30, 1970.
WATER TEMPERATURE: Maximum, 39.0°C June 18, 1974; minimum, -1.0°C several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 22,200 micromhos May 8; minimum daily, 994 micromhos May 20.
WATER TEMPERATURE: Maximum 34.5°C July 3, 9; minimum -0.5°C Jan. 11, 18, 20, Feb. 2, 7.

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, U.7 UM=MF (COLS./ 100 ML)	STREP- TOCOCO FECAL, KF AGAR (COLS./ 100 ML)
OCT											
05...	0730	131	13000	8.3	16.0	--	--	--	--	--	--
11...	1445	134	12500	8.7	16.0	75	--	11.9	121	56	93
15...	0730	96	11500	7.9	13.0	--	--	--	--	--	--
25...	0730	153	7520	8.0	17.0	--	--	--	--	--	--
NOV											
05...	0730	131	9210	8.2	19.0	--	--	--	--	--	--
08...	1115	151	8920	8.7	16.0	30	--	12.0	126	300	220
15...	0730	172	10600	8.3	14.0	--	--	--	--	--	--
25...	0730	143	13400	8.3	8.0	--	--	--	--	--	--
DEC											
05...	0730	166	12700	8.2	8.0	--	--	--	--	--	--
15...	0730	176	15100	8.1	6.0	--	--	--	--	--	--
26...	0930	176	18000	8.4	1.0	--	--	--	--	--	--
29...	1045	179	14500	8.0	4.0	6	--	12.3	95	K35	--
JAN											
04...	0730	179	14500	8.0	.0	--	--	--	--	--	--
10...	1000	150	15300	8.5	-5	7	--	14.4	99	>240	150
15...	0815	170	14600	8.2	.0	--	--	--	--	--	--
23...	0845	110	12500	8.1	.0	--	--	--	--	--	--
FEB											
03...	1545	160	15000	7.8	.5	6	--	15.5	109	K12	K40
05...	0845	160	15900	8.2	.0	--	--	--	--	--	--
12...	0800	264	14800	8.1	.0	--	--	--	--	--	--
24...	0830	443	13300	8.3	5.0	--	--	--	--	--	--
MAR											
03...	1130	509	12200	8.2	-5	100	--	13.3	92	K1600	3200
05...	0830	555	22200	8.2	.0	--	--	--	--	--	--
15...	0810	388	15000	8.3	10.0	--	--	--	--	--	--
25...	0730	360	13300	8.2	6.0	--	--	--	--	--	--
APR											
05...	0810	421	8470	8.2	20.0	--	--	--	--	--	--
13...	0945	361	4720	7.4	17.0	170	--	10.2	107	--	310
15...	0715	322	9490	8.0	18.0	--	--	--	--	--	--
25...	0800	225	14600	7.5	14.0	--	--	--	--	--	--
MAY											
05...	0800	384	7120	7.4	13.0	--	--	--	--	--	--
11...	1630	486	13600	8.0	25.0	1600	--	8.1	100	200	390
15...	0730	398	19800	7.8	21.0	--	--	--	--	--	--
25...	0730	759	4020	7.4	25.0	--	--	--	--	--	--
JUN											
05...	0730	1530	5100	7.6	23.0	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07161000 CIMARRON RIVER AT PERKINS, 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 UMMF (CULS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (CULS. PER 100 ML)
JUN											
08...	1110	5880	--	--	24.0	--	--	--	--	--	--
15...	0730	724	6340	7.4	24.0	--	--	--	--	--	--
23...	0900	4090	2430	7.6	25.0	--	1400	7.0	85	120	84
25...	0730	835	2940	7.4	26.0	--	--	--	--	--	--
JUL											
05...	0730	265	9970	8.0	29.0	--	--	--	--	--	--
15...	0645	295	15800	7.8	28.0	--	--	--	--	--	--
20...	1300	186	8900	8.6	30.0	--	60	8.8	117	4000	6000
25...	0730	193	10400	8.6	27.0	--	--	--	--	--	--
AUG											
05...	0730	171	9050	7.5	21.0	--	--	--	--	--	--
11...	1100	163	9000	8.4	26.0	--	26	8.1	101	1400	2400
15...	0730	122	9710	7.3	25.0	--	--	--	--	--	--
25...	0720	69	11200	7.4	26.0	--	--	--	--	--	--
SEP											
05...	0730	50	8950	7.5	26.0	--	--	--	--	--	--
15...	0730	67	8320	7.8	25.0	--	--	--	--	--	--
19...	1120	143	4550	8.6	25.5	--	25	11.0	136	300	140
25...	0730	122	6010	8.0	23.0	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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)
OCT										
05...	780	600	200	69	2700	88	42	11	230	0
11...	780	580	200	68	2500	87	39	9.1	240	1
15...	760	570	190	69	2300	87	36	9.7	230	0
25...	510	380	130	46	1500	86	29	7.4	160	0
NOV										
05...	500	310	160	24	1800	89	35	8.6	230	0
08...	640	440	160	59	1600	86	31	7.7	240	1
15...	550	350	180	25	2100	89	39	8.8	250	0
25...	590	400	190	29	2700	91	48	8.7	240	0
DEC										
05...	800	590	200	72	2500	87	39	9.3	250	0
15...	870	650	220	77	3200	89	47	9.9	270	0
26...	950	730	240	84	3800	90	54	10	260	3
29...	830	620	210	74	3100	89	47	9.2	250	0
JAN										
04...	900	670	230	78	2800	87	41	9.4	280	0
10...	920	680	230	85	3300	88	47	9.2	290	1
15...	880	650	220	81	3100	88	45	10	290	0
23...	830	580	210	75	2400	86	36	10	310	0
FEB										
03...	830	620	210	75	3100	89	47	8.4	260	0
05...	850	640	210	79	3400	90	51	9.0	260	0
12...	800	600	200	74	3300	90	51	8.9	250	0
24...	620	430	150	59	2900	91	51	9.3	230	0
MAR										
03...	630	460	160	57	2600	90	45	8.7	210	0
05...	920	740	230	84	4700	92	67	8.2	220	0
15...	790	570	190	76	3300	90	51	10	260	0
25...	770	570	190	72	3000	89	47	11	240	0
APR										
05...	560	330	130	56	1700	87	31	12	270	0
13...	340	180	83	32	840	84	20	7.0	200	0
15...	600	430	140	60	1900	87	34	12	200	0
25...	790	600	180	83	3100	89	48	14	230	0
MAY										
05...	550	360	140	49	1300	83	24	8.4	230	0
11...	590	420	150	52	3000	92	54	11	200	0
15...	820	630	200	77	4400	92	67	14	230	0
25...	330	200	86	29	720	82	17	8.8	160	0
JUN										
05...	410	260	110	32	930	83	20	9.1	180	0
08...	--	--	--	--	--	--	--	--	--	--
15...	490	280	130	40	1100	83	22	11	250	0
23...	240	120	64	20	390	77	11	7.4	--	--
25...	310	180	82	25	440	75	11	10	150	0
JUL										
05...	680	480	180	57	2000	86	33	11	250	0
15...	940	760	240	82	3500	89	50	13	210	0
20...	560	380	140	52	1800	87	33	12	--	--
25...	530	470	120	57	2200	90	41	11	81	0
AUG										
05...	600	440	150	55	1800	87	32	8.5	200	0
11...	690	530	180	58	2100	87	35	10	--	--
15...	650	490	160	60	1900	86	33	9.4	190	0
25...	730	540	180	68	2200	87	35	12	230	0
SEP										
05...	610	430	150	57	1800	86	32	11	220	0
15...	610	410	150	56	1600	85	28	11	240	0
19...	300	170	81	24	910	86	23	6.8	--	--
25...	500	310	130	43	1100	82	21	9.8	230	0

ARKANSAS RIVER BASIN

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07161000 CIMARRON RIVER AT PERKINS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ALKA- LITY (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 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)
OCT										
05...	189	1.8	500	4100	--	--	7810	--	10.6	2760
11...	200	.8	450	3900	.5	9.3	7400	7260	10.1	2680
15...	189	4.6	460	3600	--	--	6870	--	9.34	1780
25...	131	2.6	360	2300	--	--	4280	--	5.62	1770
NOV										
05...	190	2.3	420	2600	--	--	5350	--	7.28	1890
08...	200	.8	400	2700	.5	5.6	5300	5250	7.21	2160
15...	210	2.0	480	3100	--	--	6210	--	8.45	2880
25...	200	1.9	510	4100	--	--	7960	--	10.8	3070
DEC										
05...	210	2.5	480	4000	--	--	7670	--	10.4	3440
15...	220	3.4	520	4900	--	--	8930	--	12.1	4240
26...	220	1.7	580	5900	--	--	10900	--	14.8	5180
29...	210	4.0	520	4700	.3	6.3	8910	8740	12.1	4310
JAN										
04...	230	4.5	530	4700	--	--	8470	--	11.5	4090
10...	240	1.5	600	4900	.4	6.4	9330	9280	12.7	3780
15...	240	2.9	520	4800	--	--	8590	--	11.7	3940
23...	250	3.9	480	4000	--	--	7270	--	9.69	2160
FEB										
03...	210	6.6	540	5000	.5	6.5	9210	9070	12.5	3980
05...	210	2.6	530	5300	--	--	9330	--	12.7	4030
12...	210	3.2	500	4800	--	--	7840	--	10.7	6010
24...	190	1.8	390	4300	--	--	7120	--	9.68	8520
MAR										
03...	170	2.1	370	4000	.4	7.0	7280	7310	9.90	10000
05...	180	2.2	550	7500	--	--	13500	--	18.4	20200
15...	210	2.1	--	--	--	--	9050	--	12.3	9480
25...	200	2.4	510	4300	--	--	8010	--	10.9	7790
APR										
05...	220	2.7	340	2600	--	--	4730	--	6.43	5380
13...	160	13	210	1300	.4	6.4	2660	2580	3.62	2740
15...	160	3.2	360	3000	--	--	5220	--	7.10	4540
25...	190	12	490	4800	--	--	8380	--	11.4	5090
MAY										
05...	190	15	290	2100	--	--	4100	--	5.58	4250
11...	160	3.2	460	4500	.6	9.7	8290	8280	11.3	10900
15...	190	5.8	500	6600	--	--	11300	--	15.4	12100
25...	130	10	200	1100	--	--	2260	--	3.07	4630
JUN										
05...	150	7.2	280	1500	--	--	2790	--	3.79	11500
08...	--	--	--	--	--	--	--	--	--	--
15...	210	16	--	1800	--	--	3510	--	4.77	6860
23...	120	--	120	590	.3	10	1320	1270	1.80	14600
25...	120	9.6	71	760	--	--	1680	--	2.28	3790
JUL										
05...	210	4.0	470	2900	--	--	5590	--	7.60	4000
15...	170	5.3	690	5100	--	--	9430	--	12.8	7510
20...	180	--	400	2700	.6	13	5220	5230	7.10	2620
25...	66	33	440	3300	--	--	6000	--	8.16	3130
AUG										
05...	160	10	350	2900	--	--	5260	--	7.15	2430
11...	160	--	410	3400	.5	10	5990	6270	8.15	2640
15...	160	15	380	3100	--	--	5710	--	7.77	1880
25...	190	15	410	3600	--	--	6510	--	8.85	1210
SEP										
05...	180	11	360	2700	--	--	5250	--	7.14	709
15...	200	6.1	360	2500	--	--	4760	--	6.47	861
19...	130	--	190	1400	.5	6.7	2610	2700	3.55	1010
25...	190	3.7	340	1700	--	--	3440	--	4.68	1130

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLV (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)
OCT 11...	--	--	--	--	--	--	--	--	--	--	--
NOV 08...	120	80	40	.0	.0	.0	2	1	1	0	0
DEC 29...	--	--	--	--	--	--	--	--	--	--	--
JAN 10...	--	--	--	--	--	--	--	--	--	--	--
FEB 03...	110	10	100	.1	.0	.1	2	0	3	0	0
MAR 03...	--	--	--	--	--	--	--	--	--	--	--
APR 13...	--	--	--	--	--	--	--	--	--	--	--
MAY 11...	1500	1500	10	.0	.0	.0	0	0	1	0	0
JUN 08...	--	--	--	--	--	--	--	--	--	--	--
JUN 23...	--	--	--	--	--	--	--	--	--	--	--
JUL 20...	--	--	--	--	--	--	--	--	--	--	--
AUG 11...	150	90	60	.0	.0	.0	1	0	1	0	0
SEP 19...	--	--	--	--	--	--	--	--	--	--	--

DATE	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE 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- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 11...	--	--	--	--	--	--	--	--	548	198	99
NOV 08...	0	40	20	20	--	4.5	<1.8	15000	150	61	77
DEC 29...	--	--	--	--	4.5	--	--	--	555	268	97
JAN 10...	--	--	--	--	4.1	--	--	--	229	93	96
FEB 03...	0	30	10	20	--	--	--	--	366	158	95
MAR 03...	--	--	--	--	8.5	--	--	2700	320	440	88
APR 13...	--	--	--	--	8.2	--	--	--	231	238	91
MAY 11...	0	150	120	30	--	25	--	2500	2390	3140	94
JUN 08...	--	--	--	--	--	--	--	--	2480	39400	--
JUN 23...	--	--	--	--	34	--	--	4	2040	22500	99
JUL 20...	--	--	--	--	13	--	--	--	166	83	94
AUG 11...	0	20	10	10	--	--	--	190000	103	45	96
SEP 19...	--	--	--	--	11	--	--	67000	114	44	94

ARKANSAS RIVER BASIN

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07161000 CIMARRON RIVER AT PERKINS, OK--Continued
PHYTOPLANKTON ANALYSES, OCTUBER 1977 TO SEPTEMBER 1978

DATE TIME	NOV 8,77 1115	MAR 3,78 1130	MAY 11,78 1630	JUN 23,78 0900	AUG 11,78 1100	SEP 19,78 1120
TOTAL CELLS/ML	15000	2200	1500	4	190000	67000
DIVERSITY: DIVISION	1.0	1.5	1.2	0.9	0.6	1.0
..CLASS	1.0	1.5	1.2	0.9	0.6	1.0
..ORDER	1.7	2.0	1.5	0.9	0.7	1.1
...FAMILY	2.2	2.4	2.6	0.9	0.8	1.5
....GENUS	2.8	2.8	3.4	1.6	1.0	1.6
ORGANISM	CELLS /ML PER- CENT	CELLS /ML PER- CENT	CELLS /ML PER- CENT	CELLS /ML PER- CENT	CELLS /ML PER- CENT	CELLS /ML PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOREOCOCCELES						
....CHARACIACEAE						
.....SCHROEDERIA	100 1	-- --	-- --	-- --	-- --	* 0
.....MICRACETINIACEAE						
.....MICRACETINUM	620 4	-- --	-- --	-- --	-- --	* 0
.....DUCYSTACEAE						
.....ANKISTRODESMS	100 1	43 2	-- --	-- --	-- --	-- --
.....CHODATELLA	-- --	10 1	-- --	-- --	-- --	-- --
.....DICTYOSPHAERIUM	-- --	-- --	-- --	-- --	2900 2	3600 5
.....KIRCHNERIELLA	-- --	-- --	-- --	-- --	-- --	* 0
.....DUCYSTIS	-- --	-- --	260# 17	-- --	3200 2	650 1
.....TETRAEDRUM	-- --	-- --	-- --	-- --	* 0	-- --
.....WESTELLA	-- --	-- --	-- --	-- --	13000 7	-- --
...SCENEDESMACEAE						
....CRUCIGENIA	830 5	-- --	-- --	-- --	-- --	1400 2
....SCENEDESMUS	3100# 21	57 3	64 4	-- --	1600 1	9100 14
....TETRASTRUM	410 3	-- --	-- --	-- --	-- --	-- --
...TETRASPORALES						
...TETRASPORACEAE						
....TETRASPORA	-- --	-- --	-- --	-- --	-- --	* 0
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTEPIA	410 3	-- --	-- --	-- --	-- --	-- --
....CHLAMYDOMONAS	-- --	320 14	-- --	-- --	-- --	1000 2
CHRYSTOPHYTA						
..RACILLARIOPHYCEAE						
...PENNIALES						
...NAVICULACEAE						
...ENTOMONEIS	-- --	43 2	-- --	-- --	-- --	-- --
...CENTRALES						
...CUSCINODISCACEAE						
....CYCLOTILLA	5500# 36	43 2	130 8	1# 33	* 0	360 1
....MELOSIRA	1000 7	-- --	-- --	-- --	-- --	-- --
....STEPHANODISCUS	-- --	-- --	-- --	-- --	-- --	* 0
...PENNIALES						
...ACMANTHACEAE						
...COCONEIS	-- --	-- --	-- --	-- --	* 0	* 0
...CYMBELLACEAE						
....AMPHORA	-- --	* 0	-- --	-- --	-- --	-- --
....CYMBELLA	-- --	14 1	32 2	-- --	-- --	-- --
....RHODALDIA	-- --	-- --	32 2	-- --	-- --	-- --
...DIATOMACEAE						
....DIATOMA	310 2	-- --	190 13	-- --	-- --	-- --
...NAVICULACEAE						
....DIPLONEIS	-- --	-- --	32 2	-- --	-- --	-- --
....GYROSIGMA	-- --	14 1	160 10	-- --	-- --	-- --
....NAVICULA	520 3	760# 34	290# 19	-- --	-- --	1200 2
....PINNULARIA	-- --	-- --	97 6	-- --	-- --	-- --
...NITZSCHACEAE						
....NITZSCHIA	2000 13	170 8	97 6	-- --	* 0	-- --
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....AGMENELLUM	-- --	170 8	-- --	-- --	1900 1	* 0
.....ANACYSTIS	-- --	400# 18	-- --	-- --	* 0	-- --
...HORMOGONALES						
...NOSTOCACEAE						
....ANARAENA	-- --	-- --	-- --	-- --	-- --	720 1
....ANARAENOPSIS	-- --	-- --	-- --	-- --	1600 1	-- --
...OSCILLATORIACEAE						
....OSCILLATORIA	-- --	170 8	-- --	-- --	160000# 86	48000# 71
EUGLENOPHYTA (EUGLENIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	210 1	-- --	97 6	1# 33	* 0	-- --
....TRACHELONNAS	-- --	-- --	64 4	1# 33	-- --	-- --

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12200	6940	13100	14900	14900	9480	13600	4350	3800	7920	8760	10200
2	11900	8070	13000	15200	15600	12000	14000	11000	5670	8660	9880	9860
3	12200	8800	12500	15000	15600	13000	14100	5970	5220	9470	9580	9530
4	12700	9390	12500	14500	14800	18400	14000	8070	4990	9660	7560	9100
5	13000	9210	12700	14500	15900	22200	8470	7120	5100	9970	9050	8950
6	12800	9470	---	14500	15300	20000	11900	6210	3550	9710	8030	8790
7	12600	10000	---	15100	15200	17000	10400	5230	3000	9970	6530	8990
8	12600	9440	---	13500	15600	14400	10900	22200	3960	10200	6580	8920
9	12200	8410	---	13500	16300	14000	9470	21100	3350	10400	8210	8220
10	12000	10500	---	11100	16900	12800	6910	19000	4340	10600	7190	7670
11	12400	8970	---	14300	15400	12200	5280	15300	7720	10600	10800	7360
12	12400	9580	---	14800	14800	13600	5960	13500	7900	10500	8080	7660
13	12000	9780	13300	13500	5710	16200	5030	12500	8500	10600	7360	7770
14	11300	9660	14000	13800	2360	18400	6930	15000	7210	9830	8090	8220
15	11500	10600	15100	14600	2990	15000	9490	19800	6340	15800	9710	8320
16	11700	11800	13800	14000	4620	12500	10200	19600	5950	15600	10700	7920
17	11400	13000	15300	9000	5640	11400	12600	17300	6240	10800	10700	7840
18	11300	14000	15000	11200	6730	12200	15500	15600	5880	9450	11100	7930
19	11400	15000	13600	13200	10300	12800	17100	14600	5220	9070	11400	6630
20	11300	15500	13700	11200	12600	13200	18200	994	5370	9100	11200	5140
21	11300	15800	13600	13300	13000	13400	17300	6090	6100	9140	11000	5330
22	11400	14600	14500	12800	14100	13300	16600	5230	2580	4600	10900	4200
23	8110	14300	15600	12500	15300	13100	15500	1860	2160	9850	10900	4520
24	8090	13900	17500	10500	13300	13100	15200	2160	1790	9970	11000	4950
25	7520	13400	18600	9770	5930	15300	14600	4020	2940	10400	11200	6010
26	8230	13800	18000	10700	5540	14500	14500	12700	5350	11000	9740	9750
27	5940	13400	15100	11400	7780	14600	14500	4660	6010	9170	9860	5470
28	8560	13400	14600	12700	7770	12400	13800	1660	7820	7840	10100	12700
29	10300	13100	14800	13200	---	12600	12800	6450	7380	7880	10200	14800
30	8140	13300	15400	13400	---	13000	13000	2710	7380	9910	10300	14100
31	6430	---	15400	13400	---	13300	---	2570	---	7830	10300	---

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

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

ARKANSAS RIVER BASIN

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07161000 CIMARRON RIVER AT PERKINS, 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	---	7170			---		---	---	---	8090	8920	10300
2	---	8130			17100		---	---	---	8760	9920	9740
3	---	8980			15400		---	---	---	9760	9330	9470
4	---	9470			15200		---	---	---	9810	7550	9100
5	---	9500			15800		---	---	---	9890	8950	8910
6	---	---			---		10100	---	---	9740	7100	8830
7	---	---			---		10400	---	---	9980	6570	8990
8	---	---			---		10400	---	---	10300	7170	8920
9	---	---			16200		9650	---	---	10800	8680	8200
10	---	---			16800		6760	---	---	11200	7700	7610
11	---	---			15000		6290	---	---	10800	10500	7420
12	---	---			7500		6060	---	8230	10700	7900	7660
13	---	---			4690		5030	---	8060	11300	7440	7830
14	---	---			2170		7260	---	7020	9860	8330	8300
15	---	---			2860		9010	---	6220	17500	9810	8830
16	---	---			4810		10300	---	6030	14500	10600	7880
17	---	---			6010		12700	---	6240	10400	10800	7850
18	---	---			6680		---	---	5680	8900	11200	7900
19	---	---			8590		---	---	5200	9110	11400	6140
20	---	---			10600		---	---	5430	9070	11100	5260
21	---	15900			12500		---	---	5080	9280	10900	5070
22	---	14400			14000		---	---	2630	9730	10400	4220
23	---	14200			13200		---	---	2240	9150	10900	4560
24	---	13700			13700		---	1910	1870	9970	11100	5020
25	---	13500			6170		---	4430	3640	10200	11000	6170
26	---	13600			5660		---	12900	5480	10800	9740	---
27	5620	13400			---		---	4580	6530	6970	9890	---
28	8930	13200			---		---	---	7700	7750	10100	---
29	10000	---			---		---	---	7360	8310	10200	---
30	7750	---			---		---	---	7450	9370	10300	---
31	6560	---			---		---	---	---	7950	10300	---

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	---	16.5		---	.0	4.0	---	---	---	32.0	29.5	26.5
2	---	14.5		---	-0.5	4.0	---	---	---	33.0	27.5	28.0
3	---	18.0		---	.0	1.5	---	---	---	34.5	26.5	29.0
4	---	18.0		---	.0	.5	---	---	---	34.0	23.0	29.5
5	---	17.0		---	---	---	---	---	---	34.0	24.5	27.5
6	---	---		---	---	---	19.0	---	---	33.0	28.0	27.5
7	---	---		---	-0.5	---	19.5	---	---	32.0	29.0	28.5
8	---	---		.0	.0	---	19.5	---	---	33.5	29.5	26.5
9	---	---		.0	.5	---	19.5	---	---	34.5	29.5	27.0
10	---	---		.0	.5	---	15.5	---	---	---	29.0	27.0
11	---	---		-0.5	1.0	---	14.5	---	---	---	29.0	26.5
12	---	---		.0	1.0	---	15.5	---	---	---	30.0	27.0
13	---	---		.0	1.0	---	16.0	---	---	---	30.5	28.0
14	---	---		.0	1.0	---	16.0	---	---	---	30.0	28.0
15	---	---		.0	1.0	---	17.5	---	---	---	28.5	28.5
16	---	---		.0	1.0	---	18.5	---	---	---	29.0	28.5
17	---	---		.0	1.0	---	16.0	---	---	---	28.5	28.0
18	---	---		-0.5	.5	---	---	---	---	---	28.5	26.5
19	---	---		.0	.5	---	---	---	---	---	24.5	27.0
20	---	---		-0.5	1.0	---	---	---	---	---	26.0	27.0
21	---	---		.0	1.0	---	---	---	26.5	31.0	30.0	21.5
22	---	9.0		.0	2.5	---	---	---	24.5	29.5	30.0	19.5
23	---	10.5		.0	5.5	---	---	---	27.5	28.0	29.0	21.5
24	---	9.0		.0	7.5	---	---	---	29.5	29.5	29.0	24.5
25	---	9.5		.0	5.5	---	---	27.5	30.5	31.5	29.5	24.5
26	---	7.5		.0	5.0	---	---	25.0	30.5	31.0	29.5	23.0
27	---	8.5		.0	5.0	---	---	22.0	31.0	29.5	29.5	23.0
28	21.0	6.5		.0	5.0	---	---	21.0	32.0	30.0	27.5	24.5
29	21.0	6.0		.0	---	---	---	---	32.5	30.5	26.0	24.5
30	20.0	6.0		.0	---	---	---	---	32.5	30.5	24.0	23.0
31	21.5	---		.0	---	---	---	---	---	30.0	25.0	---

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, 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	---	320	---	---	---	---	---	---	---	340	360	400
2	---	340	---	---	570	---	---	---	---	360	390	380
3	---	360	---	---	530	---	---	---	---	380	370	380
4	---	380	---	---	520	---	---	---	---	380	330	370
5	---	380	---	---	540	---	---	---	---	390	360	360
6	---	---	---	---	---	---	390	---	---	380	320	360
7	---	---	---	---	---	---	400	---	---	390	300	360
8	---	---	---	---	---	---	400	---	---	400	320	360
9	---	---	---	---	550	---	380	---	---	410	360	340
10	---	---	---	---	560	---	310	---	---	420	330	330
11	---	---	---	---	520	---	290	---	---	410	400	320
12	---	---	---	---	330	---	290	---	340	410	340	330
13	---	---	---	---	250	---	260	---	340	420	320	330
14	---	---	---	---	190	---	320	---	310	390	350	350
15	---	---	---	---	210	---	360	---	290	580	380	360
16	---	---	---	---	260	---	400	---	290	500	400	340
17	---	---	---	---	290	---	460	---	290	400	410	330
18	---	---	---	---	300	---	---	---	280	360	420	340
19	---	---	---	---	350	---	---	---	270	370	430	290
20	---	---	---	---	400	---	---	---	270	370	420	270
21	---	540	---	---	450	---	---	---	260	370	410	260
22	---	500	---	---	490	---	---	---	200	380	410	240
23	---	500	---	---	470	---	---	---	190	370	410	250
24	---	480	---	---	480	---	---	180	180	340	420	260
25	---	480	---	---	290	---	---	250	230	390	420	290
26	---	480	---	---	280	---	---	460	270	410	380	---
27	280	480	---	---	---	---	---	250	300	360	390	---
28	360	470	---	---	---	---	---	---	330	330	390	---
29	390	---	---	---	---	---	---	---	320	350	390	---
30	330	---	---	---	---	---	---	---	320	370	400	---
31	300	---	---	---	---	---	---	---	---	340	400	---

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	---	112.0	---	---	---	---	---	---	---	285.0	138.0	69.1
2	---	115.0	---	---	215.0	---	---	---	---	287.0	146.0	66.7
3	---	122.0	---	---	229.0	---	---	---	---	289.0	151.0	64.6
4	---	132.0	---	---	239.0	---	---	---	---	272.0	155.0	54.9
5	---	135.0	---	---	233.0	---	---	---	---	277.0	172.0	49.6
6	---	---	---	---	---	---	433.0	---	---	261.0	181.0	48.6
7	---	---	---	---	---	---	464.0	---	---	251.0	166.0	49.6
8	---	---	---	---	---	---	473.0	---	---	255.0	165.0	58.3
9	---	---	---	---	223.0	---	424.0	---	---	251.0	175.0	59.7
10	---	---	---	---	257.0	---	350.0	---	---	252.0	149.0	57.0
11	---	---	---	---	281.0	---	411.0	---	---	241.0	177.0	55.3
12	---	---	---	---	367.0	---	365.0	---	1420.0	226.0	140.0	62.4
13	---	---	---	---	742.0	---	266.0	---	1520.0	222.0	118.0	65.9
14	---	---	---	---	744.0	---	296.0	---	775.0	275.0	121.0	68.0
15	---	---	---	---	669.0	---	308.0	---	557.0	460.0	125.0	62.2
16	---	---	---	---	466.0	---	337.0	---	586.0	351.0	126.0	56.0
17	---	---	---	---	454.0	---	394.0	---	466.0	249.0	115.0	53.5
18	---	---	---	---	381.0	---	---	---	387.0	211.0	107.0	125.0
19	---	---	---	---	376.0	---	---	---	364.0	201.0	103.0	109.0
20	---	---	---	---	349.0	---	---	---	333.0	187.0	96.4	78.0
21	---	210.0	---	---	364.0	---	---	---	458.0	177.0	96.3	75.1
22	---	190.0	---	---	537.0	---	---	---	1410.0	173.0	88.6	65.4
23	---	193.0	---	---	513.0	---	---	---	2130.0	184.0	85.2	64.1
24	---	184.0	---	---	745.0	---	---	525.0	967.0	191.0	88.5	70.2
25	---	184.0	---	---	1070.0	---	---	496.0	492.0	203.0	79.4	100.0
26	---	178.0	---	---	786.0	---	---	759.0	399.0	228.0	66.7	---
27	127.0	181.0	---	---	---	---	---	562.0	369.0	176.0	63.2	---
28	153.0	178.0	---	---	---	---	---	---	356.0	152.0	53.7	---
29	147.0	---	---	---	---	---	---	---	314.0	163.0	52.6	---
30	116.0	---	---	---	---	---	---	---	288.0	163.0	47.5	---
31	108.0	---	---	---	---	---	---	---	---	140.0	60.5	---

ARKANSAS RIVER BASIN

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07161000 CIMARRON RIVER AT PERKINS, 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	---	2200			---		---	---	---	2500	2800	3200
2	---	2500			5600		---	---	---	2700	3100	3100
3	---	2800			5000		---	---	---	3100	2900	3000
4	---	3000			4900		---	---	---	3100	2300	2800
5	---	3000			5200		---	---	---	3100	2800	2800
6	---	---			---		3200	---	---	3100	2100	2700
7	---	---			---		3300	---	---	3100	2000	2800
8	---	---			---		3300	---	---	3200	2200	2800
9	---	---			5300		3000	---	---	3400	2700	2500
10	---	---			5500		2000	---	---	3600	2300	2300
11	---	---			4900		1900	---	---	3400	3300	2200
12	---	---			2300		1800	---	2500	3400	2400	2300
13	---	---			1300		1400	---	2500	3600	2300	2400
14	---	---			430		2200	---	2100	3100	2600	2600
15	---	---			670		2800	---	1800	5700	3100	2700
16	---	---			1300		3200	---	1800	4700	3400	2400
17	---	---			1800		4100	---	1800	3300	3400	2400
18	---	---			2000		---	---	1600	2800	3600	2400
19	---	---			2700		---	---	1500	2800	3600	1800
20	---	---			3400		---	---	1600	2800	3500	1500
21	---	5200			4000		---	---	1400	2900	3500	1400
22	---	4700			4500		---	---	590	3100	3500	1100
23	---	4600			4300		---	---	450	2800	3500	1300
24	---	4400			4400		---	340	320	3100	3500	1400
25	---	4400			1800		---	1200	940	3200	3500	1800
26	---	4400			1600		---	4100	1600	3400	3100	---
27	1600	4300			---		---	1300	1900	2800	3100	---
28	2800	4300			---		---	---	2300	2400	3200	---
29	3100	---			---		---	---	2200	2600	3200	---
30	2400	---			---		---	---	2300	2900	3200	---
31	2000	---			---		---	---	---	2400	5200	---

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	---	772.0			---		---	---	---	2100.0	1070.0	553.0
2	---	844.0			2120.0		---	---	---	2150.0	1160.0	544.0
3	---	953.0			2160.0		---	---	---	2360.0	1180.0	510.0
4	---	1040.0			2250.0		---	---	---	2220.0	1080.0	416.0
5	---	1070.0			2250.0		---	---	---	2200.0	1340.0	386.0
6	---	---			---		3550.0	---	---	2130.0	1190.0	364.0
7	---	---			---		3830.0	---	---	1990.0	1110.0	386.0
8	---	---			---		3900.0	---	---	2040.0	1130.0	454.0
9	---	---			2150.0		3350.0	---	---	2080.0	1310.0	439.0
10	---	---			2520.0		2260.0	---	---	2160.0	1040.0	397.0
11	---	---			2650.0		2690.0	---	---	2000.0	1460.0	380.0
12	---	---			2560.0		2260.0	---	10500.0	1870.0	991.0	435.0
13	---	---			3860.0		1430.0	---	11200.0	1910.0	851.0	480.0
14	---	---			1680.0		2040.0	---	5250.0	2180.0	899.0	505.0
15	---	---			2130.0		2400.0	---	3460.0	4520.0	1020.0	467.0
16	---	---			2340.0		2700.0	---	3640.0	3300.0	1070.0	395.0
17	---	---			2820.0		3510.0	---	2890.0	2060.0	955.0	389.0
18	---	---			2540.0		---	---	2210.0	1640.0	914.0	881.0
19	---	---			2920.0		---	---	2030.0	1520.0	865.0	676.0
20	---	---			3300.0		---	---	1970.0	1410.0	803.0	433.0
21	---	2020.0			3240.0		---	---	2460.0	1390.0	822.0	404.0
22	---	1790.0			4930.0		---	---	4170.0	1410.0	756.0	300.0
23	---	1780.0			4690.0		---	---	5050.0	1390.0	728.0	333.0
24	---	1690.0			6630.0		---	991.0	1720.0	1510.0	737.0	378.0
25	---	1690.0			6660.0		---	2380.0	2010.0	1670.0	661.0	622.0
26	---	1630.0			4490.0		---	6760.0	2370.0	1890.0	544.0	---
27	726.0	1630.0			---		---	2920.0	2330.0	1370.0	502.0	---
28	1190.0	1630.0			---		---	---	2480.0	1110.0	441.0	---
29	1170.0	---			---		---	---	2160.0	1210.0	432.0	---
30	842.0	---			---		---	---	2070.0	1280.0	380.0	---
31	718.0	---			---		---	---	---	991.0	484.0	---

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, 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	---	4140	---	---	---	---	---	---	---	4700	5200	6030
2	---	4720	---	---	10100	---	---	---	---	5100	5800	5690
3	---	5230	---	---	9110	---	---	---	---	5700	5440	5530
4	---	5530	---	---	8490	---	---	---	---	5730	4370	5310
5	---	5550	---	---	9350	---	---	---	---	5780	5210	5190
6	---	---	---	---	---	---	5910	---	---	5690	4100	5140
7	---	---	---	---	---	---	6090	---	---	5840	3780	5240
8	---	---	---	---	---	---	6090	---	---	6030	4140	5200
9	---	---	---	---	9590	---	---	---	---	6330	5050	4760
10	---	---	---	---	9460	---	3890	---	---	6570	4460	4410
11	---	---	---	---	8870	---	3610	---	---	6330	6150	4290
12	---	---	---	---	4340	---	3470	---	---	6270	4580	4440
13	---	---	---	---	2640	---	2850	---	---	4680	4300	4540
14	---	---	---	---	1120	---	4190	---	---	4050	4840	4820
15	---	---	---	---	1540	---	5250	---	---	3570	5730	5140
16	---	---	---	---	2710	---	6030	---	---	3450	8570	4570
17	---	---	---	---	3440	---	7480	---	---	3580	6090	4550
18	---	---	---	---	3840	---	---	---	---	3240	5180	4580
19	---	---	---	---	5000	---	---	---	---	2950	5310	3520
20	---	---	---	---	6210	---	---	---	---	3090	5290	2990
21	---	9410	---	---	7360	---	---	---	2880	5410	6390	2870
22	---	8510	---	---	8260	---	---	---	1400	5690	6390	2360
23	---	8390	---	---	7780	---	---	---	1160	5340	6390	2560
24	---	8080	---	---	8080	---	---	962	936	5830	6510	2840
25	---	7960	---	---	3540	---	---	2480	2010	5970	6450	3540
26	---	8020	---	---	3230	---	---	7600	3120	6330	5690	---
27	3200	7900	---	---	---	---	---	2580	3750	5230	5780	---
28	5200	7780	---	---	---	---	---	---	4460	4490	5910	---
29	5850	---	---	---	---	---	---	---	4250	4830	5970	---
30	4490	---	---	---	---	---	---	---	4310	5470	6030	---
31	3770	---	---	---	---	---	---	---	---	4610	6030	---

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	---	1450.0	---	---	---	---	---	---	---	3950.0	1990.0	1040.0
2	---	1590.0	---	---	3820.0	---	---	---	---	4060.0	2180.0	999.0
3	---	1780.0	---	---	3940.0	---	---	---	---	4340.0	2220.0	941.0
4	---	1930.0	---	---	4130.0	---	---	---	---	4100.0	2050.0	789.0
5	---	1980.0	---	---	4040.0	---	---	---	---	4100.0	2490.0	715.0
6	---	---	---	---	---	---	6560.0	---	---	3900.0	2310.0	694.0
7	---	---	---	---	---	---	7070.0	---	---	3750.0	2090.0	722.0
8	---	---	---	---	---	---	7200.0	---	---	3840.0	2130.0	842.0
9	---	---	---	---	3880.0	---	6290.0	---	---	3880.0	2450.0	835.0
10	---	---	---	---	4570.0	---	4390.0	---	---	3940.0	2010.0	762.0
11	---	---	---	---	4790.0	---	5120.0	---	---	3730.0	2720.0	741.0
12	---	---	---	---	4830.0	---	4370.0	---	20000.0	3450.0	1890.0	839.0
13	---	---	---	---	7840.0	---	2920.0	---	21000.0	3510.0	1590.0	907.0
14	---	---	---	---	4380.0	---	3880.0	---	10100.0	4060.0	1670.0	937.0
15	---	---	---	---	4910.0	---	4490.0	---	6850.0	8260.0	1890.0	888.0
16	---	---	---	---	4870.0	---	5080.0	---	6980.0	6020.0	1960.0	753.0
17	---	---	---	---	5390.0	---	6400.0	---	5750.0	3800.0	1780.0	737.0
18	---	---	---	---	4870.0	---	---	---	4480.0	3030.0	1670.0	1680.0
19	---	---	---	---	5400.0	---	---	---	3980.0	2880.0	1610.0	1320.0
20	---	---	---	---	6040.0	---	---	---	3810.0	2670.0	1490.0	864.0
21	---	3660.0	---	---	5960.0	---	---	---	5070.0	2590.0	1500.0	829.0
22	---	3240.0	---	---	9050.0	---	---	---	9900.0	2600.0	1380.0	644.0
23	---	3240.0	---	---	8490.0	---	---	---	13000.0	2650.0	1330.0	657.0
24	---	3100.0	---	---	12500.0	---	---	2810.0	5040.0	2850.0	1370.0	767.0
25	---	3050.0	---	---	13100.0	---	---	4920.0	4300.0	3110.0	1220.0	1220.0
26	---	2970.0	---	---	9070.0	---	---	12500.0	4620.0	3520.0	999.0	---
27	1450.0	2990.0	---	---	---	---	---	5800.0	4610.0	2560.0	936.0	---
28	2200.0	2940.0	---	---	---	---	---	---	4820.0	2070.0	814.0	---
29	2210.0	---	---	---	---	---	---	---	4170.0	2240.0	806.0	---
30	1580.0	---	---	---	---	---	---	---	3880.0	2410.0	716.0	---
31	1350.0	---	---	---	---	---	---	---	---	1900.0	912.0	---

ARKANSAS RIVER BASIN

185

07163000 COUNCIL CREEK NEAR STILLWATER, OK

LOCATION.--Lat 36°07'07", long 96°52'00", in SE¼SW¼ sec.15, T.19 N., R.4 E., Payne County, Hydrologic Unit 11050003, on right bank 200 ft (61.8 m) upstream from bridge on State Highway 51, 10.0 mi (16.1 km) east of Stillwater, and at mile 10.0 (16.1 km).

DRAINAGE AREA.--31 mi² (80.3 km²).

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

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 838.28 ft (255.077 m) National Geodetic Vertical Datum of 1929. Prior to May 4, 1934, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--44 years, 10.9 ft³/s (0.309 m³/s), 4.78 in/yr (121 mm/yr), 7,900 acre-ft/yr (9.74 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s (708 m³/s) Oct. 2, 1959, gage height, 18.9 ft (5.76 m), from floodmarks, from rating curve extended above 2,500 ft³/s (70.8 m³/s) on basis of slope-area measurements at gage heights 13.4 ft (4.08 m) and 17.5 ft (5.33 m); no flow at times in each year except 1975.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 27, 1912, reached a stage of 16.6 ft (5.06 m) at gage, based on floodmarks set by local resident at site 900 ft (274 m) downstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 886 ft³/s (25.1 m³/s) Feb. 13, gage height, 4.77 ft (1.454 m), no peaks above base of 1,200 ft³/s (34.0 m³/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	.25	.20	.40	.35	2.9	1.6	4.0	1.7	.12	.00	.00
2	.00	8.5	.22	.37	.35	5.5	1.6	1.8	1.5	.09	.00	.00
3	.00	1.6	.24	.35	.28	4.7	42	21	1.5	.06	.00	.00
4	.00	.50	.36	.50	.28	2.0	77	7.7	1.4	.05	.00	.00
5	.00	.25	.56	.90	.35	1.5	6.6	3.3	151	.02	.00	.00
6	.00	.23	.35	.77	.28	1.4	5.0	2.0	14	.00	.00	.00
7	.00	.18	.19	.51	.28	29	3.4	47	6.6	.00	.00	.00
8	.00	2.2	.28	.42	.42	14	2.3	7.6	2.7	.00	.00	.00
9	.00	39	.15	.51	.35	4.0	2.0	3.5	2.0	.00	.00	.00
10	.00	3.3	.12	.35	.41	2.4	6.1	2.2	1.5	.00	.00	.00
11	.00	.92	.19	.35	.45	2.1	6.7	1.8	1.1	.00	.00	.00
12	.00	.53	.28	.35	66	2.2	3.7	1.4	.81	.00	.00	.00
13	.00	.35	.51	.51	357	2.1	2.9	1.0	.68	.00	.00	.00
14	.00	.20	.42	.42	17	2.6	3.0	1.2	.51	.00	.00	.00
15	.00	.17	.51	.42	6.4	2.6	2.9	1.2	.42	.00	.00	.00
16	.00	.19	.42	.77	3.2	2.6	3.1	1.1	.42	.00	.00	.00
17	.00	.19	.35	.51	2.0	2.1	3.4	1.1	.42	.00	.00	.00
18	.00	.17	.35	.28	1.4	2.2	3.1	1.2	4.5	.00	.00	.00
19	.00	.19	.35	.23	1.2	2.2	3.2	4.2	2.7	.00	.00	.00
20	.00	.28	.28	.28	1.0	2.5	3.1	38	18	.00	.00	.00
21	.00	.25	.26	.28	.86	2.5	3.4	14	50	.00	.00	.00
22	.00	.26	.23	.28	3.0	2.6	3.5	7.6	34	.00	.00	.00
23	.00	.24	.26	.28	21	3.8	3.5	3.3	4.0	.00	.00	.00
24	.00	.19	.29	.35	18	24	2.8	1.8	1.6	.00	.00	.00
25	.00	.18	.33	.42	10	6.0	2.6	1.1	.94	.00	.00	.00
26	.00	.17	.30	.60	3.2	2.5	2.7	.77	.57	.00	.00	.00
27	.00	.22	.28	.28	2.2	2.1	2.9	19	.37	.00	.00	.00
28	.00	.23	.25	.23	3.8	2.4	2.9	179	.26	.00	.00	.00
29	.00	.24	.36	.12	---	2.0	3.5	12	.21	.00	.00	.00
30	.00	.23	.39	.15	---	1.8	3.3	4.4	.16	.00	.00	.00
31	.00	---	.43	.28	---	1.7	---	2.5	---	.00	.00	---
TOTAL	.00	61.41	9.71	12.47	521.06	142.0	213.8	397.77	305.57	.34	.00	.00
MEAN	.000	2.05	.31	.40	18.6	4.58	7.13	12.8	10.2	.011	.000	.000
MAX	.00	39	.56	.90	357	29	77	179	151	.12	.00	.00
MIN	.00	.17	.12	.12	.28	1.4	1.6	.77	.16	.00	.00	.00
CFSM	.000	.07	.01	.01	.60	.15	.23	.41	.33	.000	.000	.000
IN.	.00	.07	.01	.01	.63	.17	.26	.48	.37	.00	.00	.00
AC-FT	.00	122	19	25	1030	282	424	789	606	.7	.00	.00

CAL YR 1977 TOTAL 1631.40 MEAN 4.47 MAX 1060 MIN .00 CFSM .14 IN 1.96 AC-FT 3240
WTR YR 1978 TOTAL 1664.13 MEAN 4.56 MAX 357 MIN .00 CFSM .15 IN 2.00 AC-FT 3300

ARKANSAS RIVER BASIN

07164200 KEYSTONE LAKE NEAR SAND SPRINGS, OK

LOCATION.--Lat 36°09'05", long 96°15'05", in SW¼SE¼ sec.4, T.19 N., R.10 E., Tulsa County, Hydro-logic Unit 11110101, in stair tower of intake structure near left end of Keystone Dam on Arkansas River, 8.5 mi (13.7 km) west of Sand Springs, and at mile 538.8 (866.9 km).

DRAINAGE AREA.--74,506 mi² (192,971 km²), of which 12,541 mi² (32,481 km²) is probably noncontributing.

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

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

REMARKS.--Reservoir is formed by rolled-fill earth dam. Spillway is concrete ogee weir controlled by 18 40-foot (12.2 m) taintor gates. Outlet works consist of nine sluices. Regulated storage began Sept. 11, 1964; power pool was first filled Nov. 20, 1964. Capacity, 1,836,000 acre-ft (2.26 km³), at elevation 754.0 ft (229.82 m), top of flood control pool, 618,000 acre-ft (762 hm³), at elevation 723.0 ft (220.37 m) top of power pool, 520,700 acre-ft (354 km³) at elevation 706.0 ft (215.19 m), minimum power pool. Figures given herein represent total contents. Reservoir is designed for flood control, power development, and conservation. Revised capacity table, based on survey in 1969, used since Oct. 1, 1972.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,886,000 acre-ft (2.33 km³) Nov. 6, 1974, elevation, 754.86 ft (230.081 m); minimum since power pool was first filled, 297,800 acre-ft (367 hm³) Jan. 19, 1965, elevation, 705.07 ft (214.905 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 793,500 acre-ft (978 hm³) May 31, elevation, 729.13 ft (222.239 m); minimum, 477,000 acre-ft (588 hm³) Sept. 21, elevation, 716.98 ft (218.536 m).

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

716	457,000	725	671,900
719	520,700	728	758,900
722	592,400	730	820,800

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	649300	587600	565900	588600	514100	647100	640700	632600	785400	689300	609000	526500
2	650700	593400	567900	587100	513900	650700	636600	630300	774900	680800	607700	527700
3	646900	594200	572200	578400	514500	649000	634200	642500	767300	673000	607400	523500
4	638500	596000	578900	577900	512300	646300	634500	644100	766400	667100	605900	507600
5	632100	600800	581900	578600	515900	642500	634200	641700	773100	661600	607400	506500
6	627900	608700	582300	580100	514100	639000	634200	643100	770700	656100	609000	504600
7	624200	617200	583600	584100	512300	638200	632100	662400	766100	648500	607700	502200
8	624000	615100	588400	586800	506500	626600	627600	671900	761000	647100	607700	498100
9	626300	609000	588400	580900	499800	614400	623400	672100	755900	647100	605600	500000
10	622700	605100	591100	574400	499400	615900	619500	668500	746700	651200	603300	499600
11	614900	596200	594700	568600	502600	618500	615400	670200	733700	651700	601300	496900
12	608200	603300	597000	559200	520700	621600	615100	672700	723000	646600	600000	494300
13	603600	624000	596700	556600	546200	628700	616200	669600	714300	640900	598200	491800
14	600000	619000	596700	556300	571700	629500	617200	673200	705900	633700	595900	490100
15	602600	617700	596700	558000	601300	627600	617700	675200	695300	635800	593700	490500
16	606900	609000	601000	554900	612300	625300	614100	677400	683600	641700	590100	487800
17	608200	613600	602800	542500	608400	622100	609700	673200	671900	640400	581100	485000
18	609700	606900	605400	531100	599200	620100	610200	669600	668000	637400	575400	481600
19	606100	607900	602300	526500	594400	618500	607900	674600	660800	633700	567400	478100
20	598700	615100	602000	521900	591100	614400	608200	670200	655300	626300	559900	478900
21	588600	604100	595900	523700	589400	614600	609700	683900	665200	619300	554400	478100
22	592400	591900	594400	525800	591600	614100	619000	688100	678300	622900	551100	480200
23	598200	579600	594700	523500	594400	618800	626800	685900	685300	627100	548600	478900
24	586100	585300	598500	524200	608200	614900	626300	682800	699300	621100	543900	481000
25	590600	579100	601500	525100	623400	623700	625300	678600	707600	617200	540200	482500
26	591400	583100	603600	524400	634800	633400	627900	681100	709300	616700	540400	481600
27	579900	589100	599000	524200	646300	628400	621100	687900	708500	615400	540700	482900
28	581400	576700	593700	525400	646900	623400	620300	705000	703600	613600	537400	480800
29	582300	565200	588600	524400	---	621600	626600	750600	709900	615100	534400	482300
30	587300	564500	583100	515200	---	637200	633700	789100	706400	616700	531600	482100
31	588900	---	589400	513400	---	643600	---	793100	---	612800	528400	---
MAX	650700	624000	605400	588600	646900	650700	640700	793100	785400	689300	609000	527700
MIN	579900	564500	565900	513400	499400	614100	607900	630300	655300	612800	528400	478100
†	721.86	720.87	721.88	718.68	724.09	723.97	723.60	729.12	726.22	722.80	719.33	717.22
‡	-68,600	-24,400	+24,900	-76,000	+133,500	-3,300	-9,900	+159,400	-86,700	-93,600	-84,400	-46,300

CAL YR 1977 MAX 918200 MIN 400600 † +163,900
WTR YR 1978 MAX 793100 MIN 478100 ‡ -175,400

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

07164500 ARKANSAS RIVER AT TULSA, OK

LOCATION.--Lat 36°08'37", long 96°00'13", in NW¼ sec.11, T.19 N., R.12 E., Tulsa County, Hydrologic Unit 11110101, near left bank on downstream side of pier of 11th Street bridge on U.S. Highway 66 in Tulsa, 10.1 mi (16.3 km) upstream from Polecreek Creek, 15.1 mi (24.3 km) downstream from Keystone Dam, and at mile 523.7 (842.6 km).

DRAINAGE AREA.--74,615 mi² (193,253 km²), of which 12,541 mi² (32,481 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 615.23 ft (187.522 m) Corps of Engineers datum. Prior to Feb. 2, 1939, nonrecording gage and Feb. 2, 1939, to Sept. 30, 1952, water-stage recorder at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records fair. Except for 109 mi² (282 km²) intervening area, flow completely regulated by Keystone Lake (station 07164200) since September 1964. Prior to September 1964 minor regulation by John Martin Lake in Colorado and by Great Salt Plains Lake (station 07150000).

COOPERATION.--Gage height record and 9 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(Prior to regulation by Keystone Lake) 39 years (water years 1926-64), 6,554 ft³/s (185.6 m³/s), 4,745,000 acre-ft/yr (5.85 km³/yr); (Since regulation by Keystone Lake) 14 years (water years 1965-78), 7,009 ft³/s (198.5 m³/s), 5,078,000 acre-ft/yr (6.26 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft³/s (6,970 m³/s) Oct. 5, 1959, gage height, 22.00 ft (6.706 m); minimum, 27 ft³/s (0.76 m³/s) Oct. 12, 13, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1904, 22.8 ft (6.949 m) June 13, 1923, present datum, from reports of U.S. Weather Bureau.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,200 ft³/s (629 m³/s) May 31, Sept 4; maximum gage height, 6.39 ft (1.948 m) May 31; minimum daily discharge, 134 ft³/s (3.79 m³/s) 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	8290	3890	2200	458	2800	13400	6460	3530	21300	13500	3280	2280
2	8230	1100	927	2190	1610	13600	6830	8710	19100	9960	2440	1730
3	8510	1810	1470	4470	1500	13500	8010	6120	16700	9370	1690	200
4	7300	2220	396	5000	2980	13600	9660	5370	16300	7620	2080	15500
5	7490	1650	299	2430	1920	13600	9580	5830	16800	8060	1660	961
6	5730	425	2160	1160	1580	13700	9600	6150	16700	7560	235	1870
7	5700	265	822	1410	3500	14000	9530	8760	16600	7600	161	2280
8	3850	3110	1970	412	4460	14100	8940	6100	16600	5090	1570	2790
9	1870	7200	827	1360	5210	14000	9300	6990	16400	3150	1210	3020
10	3230	7190	1440	4260	3460	6740	9330	8500	16400	4720	1990	221
11	6680	9290	366	4800	1400	5100	8640	7500	16400	4980	1860	675
12	6000	6120	208	6250	592	5060	8350	6800	15800	4990	2000	2080
13	5030	2820	2160	4190	826	5920	8310	5800	14500	5200	1130	2620
14	3660	4600	3440	2140	1080	4650	8340	5000	14400	5110	1420	2190
15	3840	8340	1760	1650	363	6940	8300	5000	14500	3060	1840	1770
16	582	13500	1300	2960	5060	7680	8410	5060	14300	297	2030	190
17	1420	6370	734	6750	8270	7260	8440	5550	14200	2340	4100	2340
18	4670	7560	262	7000	13400	8000	7010	6590	12800	4710	3950	1610
19	4130	4990	2770	4880	7910	7440	5300	6550	12100	4600	3820	2670
20	5640	2730	1130	2860	8280	8930	3740	8020	11500	4750	3820	1140
21	8060	4830	4960	1710	5760	6480	3310	11000	10000	5260	3710	292
22	3230	8560	1220	424	6270	6380	2500	13500	9680	3200	2400	973
23	708	8850	2210	1270	5740	6550	336	11500	9030	314	1860	365
24	4350	4640	2190	2910	3680	10800	1480	10500	9280	1770	2260	1850
25	4150	4090	430	1470	2100	4210	4040	10000	9160	4890	2390	193
26	2070	2830	256	1730	4360	495	5110	9000	9090	4500	2100	134
27	5840	463	3090	1840	6240	4930	4130	8500	9560	2950	206	1530
28	2460	4680	4400	864	11700	9030	3450	8500	9260	2960	1140	274
29	2360	8540	5290	2110	---	9000	1440	8500	5460	2180	1990	1900
30	519	7040	5180	4140	---	4460	302	13000	3010	241	2090	324
31	579	---	2850	2710	---	592	---	22000	---	498	2290	---
TOTAL	136178	149703	58717	87808	122051	260147	188178	253930	396930	145430	64722	55972
MEAN	4393	4990	1894	2833	4359	8392	6273	8191	13230	4691	2088	1866
MAX	8510	13500	5290	7000	13400	14100	9660	22000	21300	13500	4100	15500
MIN	519	265	208	412	363	495	302	3530	3010	241	161	134
AC=FT	270100	296900	116500	174200	242100	516000	373300	503700	787300	288500	128400	111000
CAL YR 1977	TOTAL	2043264	MEAN	5598	MAX	33800	MIN	33	AC=FT	4053000		
WTR YR 1978	TOTAL	1919766	MEAN	5260	MAX	22000	MIN	134	AC=FT	3808000		

ARKANSAS RIVER BASIN

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1977 to current year.

WATER TEMPERATURE: March 1977 to current year.

INSTRUMENTATION.--Water quality monitor since March 1977.

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 near 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum 7,820 micromhos Feb. 16, 1978; minimum daily 518 micromhos July 27, 1977.

TEMPERATURE: Maximum daily 32.0°C July 3-6, 14, 1978; minimum daily 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum 7,820 micromhos Feb. 16; minimum daily, 1040 micromhos Oct. 22, 23.

TEMPERATURE: Maximum daily, 32.0°C July 3-6, 14; 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, 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)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT										
03...	1850	13200	1400	7.9	23.0	--	--	--	--	--
14...	1420	1330	--	--	19.0	--	--	--	--	--
15...	1845	1230	1330	8.1	20.0	--	--	--	--	--
17...	1315	359	1200	8.4	18.5	6	12.0	125	160	K37
25...	1810	1990	1230	7.4	21.0	--	--	--	--	--
NOV										
05...	1330	1250	1550	8.3	18.0	--	--	--	--	--
13...	1805	1190	1260	8.3	17.0	--	--	--	--	--
15...	1030	2490	1470	8.2	15.5	10	9.8	100	K8200	950
25...	1000	523	1190	8.3	11.0	--	--	--	--	--
DEC										
01...	1505	1000	--	--	8.5	--	--	--	--	--
05...	1042	3060	1520	8.3	8.0	--	--	--	--	--
14...	1345	1310	1870	8.5	11.0	--	--	--	--	--
25...	1250	379	1750	8.0	11.0	--	--	--	--	--
28...	1245	1310	1730	7.9	5.0	--	12.8	101	1300	300
JAN										
05...	0815	1290	2260	8.2	7.0	--	--	--	--	--
11...	1630	1900	2220	8.2	1.0	8	13.0	92	K1000	--
15...	1040	1710	1850	8.2	.0	--	--	--	--	--
27...	1040	776	2430	8.2	.0	--	--	--	--	--
FEB										
01...	1110	1750	2440	8.2	2.0	--	--	--	--	--
01...	1400	--	--	--	1.5	--	--	--	--	--
01...	1415	1310	2150	7.7	1.0	4	14.8	106	K790	K70
MAR										
02...	1200	13600	1800	8.0	4.0	40	12.0	93	K1800	590
05...	1140	13600	1450	7.6	5.0	--	--	--	--	--
06...	1420	13700	--	--	3.5	--	--	--	--	--
15...	1105	1970	1900	8.1	8.0	--	--	--	--	--
22...	1059	2020	1900	8.2	7.0	--	--	--	--	--
APR										
04...	1135	3620	1620	8.0	14.0	--	--	--	--	--
11...	1600	2920	1800	7.5	17.5	6	11.8	121	610	140
15...	1610	1750	1920	7.9	18.0	--	--	--	--	--
25...	0850	2920	1920	7.8	20.0	--	--	--	--	--
MAY										
05...	1055	1380	--	--	--	--	--	--	--	--
05...	1631	8680	2310	7.7	20.0	--	--	--	--	--
10...	1530	8500	1850	7.6	19.5	25	8.8	98	K6000	2200
15...	0802	5000	2270	7.7	19.0	--	--	--	--	--
24...	0842	10500	2150	7.7	21.0	--	--	--	--	--
JUN										
04...	1810	16300	2120	7.6	23.0	--	--	--	--	--
15...	1030	14500	--	--	18.5	--	--	--	--	--
15...	1525	14500	2080	7.6	25.0	--	--	--	--	--
21...	1330	10000	--	7.4	22.0	190	9.4	109	1300	340
22...	1330	9690	--	6.9	--	360	--	--	--	--
29...	1610	5470	1940	7.6	31.0	--	--	--	--	--

ARKANSAS RIVER BASIN

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07164500 - ARKANSAS RIVER AT TULSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM= FLOW, INSTANTANEOUS (CFS)	SPE= CIFIC CON= DUCT= ANCE (MICRON= MMOS)	PH (UNITS)	TEMPER= ATURE (DEG C)	TUR= BID= ITY (NTU)	OXYGEN, DIS= SOLVED (MG/L)	OXYGEN, SATUR= ATION	COLI= FORM, FECAL, 0.7 UM=MF (COLS./ 100 ML)	STREP= TOCOCCEI, FECAL, KF AGAR (COLS. PER 100 ML)
JUL										
04...	0850	7620	1950	7.9	32.0	--	--	--	--	--
14...	1810	5130	1740	7.9	32.0	--	--	--	--	--
17...	1415	184	--	--	29.5	--	--	--	--	--
18...	1230	4720	1580	7.3	28.0	3.2	8.2	106	K38000	K24000
25...	1720	4890	1650	7.6	28.0	--	--	--	--	--
AUG										
05...	1730	1660	2240	7.8	27.0	--	--	--	--	--
09...	1430	1210	2340	8.5	29.5	2.8	12.4	101	50000	80000
15...	1720	1870	1960	7.7	27.0	--	--	--	--	--
25...	1725	2270	1880	8.0	27.0	--	--	--	--	--
28...	1225	143	--	--	26.5	--	--	--	--	--
SEP										
05...	1730	369	2040	7.6	30.0	--	--	--	--	--
15...	1720	457	1910	7.9	28.0	--	--	--	--	--
20...	0930	968	1900	7.6	25.0	4.7	6.2	76	K11000	280
27...	1130	997	--	--	23.0	--	--	--	--	--
28...	1735	172	1880	7.6	26.0	--	--	--	--	--

DATE	HARD= NESS (MG/L AS CaCO3)	HARD= NESS, NONCAR= BONATE (MG/L AS 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= SURP= TION (MG/L AS K)	POTAS= SIUM, DIS= SOLVED (MG/L AS K)	BICAR= BONATE (MG/L AS HCO3)	CAR= BONATE (MG/L AS CO3)
OCT										
03...	190	79	53	13	210	70	6.7	6.2	130	0
14...	--	--	--	--	--	--	--	--	--	--
15...	180	73	52	12	190	69	6.2	6.0	130	0
17...	170	41	49	12	210	72	7.0	7.3	160	0
25...	180	77	52	11	180	68	5.9	5.5	120	0
NOV										
05...	200	78	59	13	230	71	7.1	5.9	190	0
13...	190	68	55	13	170	65	5.4	5.8	150	0
15...	200	75	58	13	200	68	6.2	6.4	150	0
25...	200	70	59	13	160	63	4.9	5.5	160	0
DEC										
01...	--	--	--	--	--	--	--	--	--	--
05...	220	96	63	15	220	68	6.5	6.8	150	0
18...	250	100	73	17	280	70	7.7	6.4	180	0
25...	230	94	64	16	270	72	7.8	5.8	160	0
28...	230	99	66	16	280	72	8.0	6.2	160	0
JAN										
05...	250	110	69	19	370	76	10	6.5	170	0
11...	250	110	72	18	340	74	9.3	6.4	180	0
15...	250	110	72	18	310	72	8.5	6.0	180	0
27...	270	120	76	20	400	76	11	6.4	180	0
FEB										
01...	270	120	76	20	400	76	11	6.7	190	0
01...	--	--	--	--	--	--	--	--	--	--
01...	260	120	74	18	350	74	9.5	4.3	170	0
MAR										
02...	260	120	76	18	290	70	7.8	6.1	170	0
05...	250	100	73	17	200	63	5.5	5.7	160	0
08...	--	--	--	--	--	--	--	--	--	--
15...	270	130	78	19	290	69	7.6	6.3	180	0
22...	270	120	77	19	290	69	7.7	6.2	180	0
APR										
04...	240	89	70	17	240	67	6.7	6.9	190	0
11...	270	110	81	16	220	64	5.8	5.3	190	0
15...	250	95	69	19	300	72	8.2	7.1	190	0
25...	260	99	74	19	300	71	8.1	7.1	200	0
MAY										
05...	--	--	--	--	--	--	--	--	--	--
05...	260	110	71	19	370	75	10	5.6	180	0
10...	260	100	72	19	270	69	7.3	6.0	190	0
19...	330	180	70	38	330	68	7.9	5.7	180	0
24...	260	110	72	19	340	74	9.2	5.7	180	0

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS 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)
JUN										
04...	230	99	64	17	330	75	9.5	5.9	160	0
15...	--	--	--	--	--	--	--	--	--	--
15...	260	110	74	18	320	72	8.7	6.3	180	0
21...	94	20	31	4.0	53	54	2.4	3.4	--	--
22...	69	21	21	4.0	10	23	5	3.1	--	--
29...	250	120	69	18	300	72	8.3	6.0	160	0
JUL										
04...	250	120	72	18	300	71	8.2	6.0	160	0
14...	210	93	57	16	290	74	8.7	6.3	140	0
17...	--	--	--	--	--	--	--	--	--	--
18...	260	130	76	16	220	64	6.0	8.2	--	--
25...	210	84	60	14	270	73	8.2	6.0	150	0
AUG										
05...	280	140	79	20	360	73	9.4	8.5	170	0
09...	270	130	77	20	360	74	10	6.8	--	--
15...	240	110	65	18	300	73	8.5	6.4	160	0
25...	240	110	67	17	280	71	7.9	6.7	160	0
28...	--	--	--	--	--	--	--	--	--	--
SEP										
05...	260	140	75	18	310	71	8.3	7.0	150	0
15...	230	100	65	17	300	73	8.6	6.6	160	0
20...	250	120	70	18	330	74	9.1	6.1	--	--
27...	--	--	--	--	--	--	--	--	--	--
28...	240	110	68	18	290	71	8.1	6.8	160	0
DATE	ALKA- LITY (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	FLUOR- IDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C 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)
OCT										
03...	110	2.6	70	320	--	--	753	--	1.02	26800
14...	--	--	--	--	--	--	--	--	--	--
15...	110	1.7	70	310	--	--	712	--	.97	2370
17...	130	1.0	78	320	.4	8.5	752	764	1.02	729
25...	98	7.6	64	270	--	--	656	--	.89	3530
NOV										
05...	120	1.2	74	340	--	--	827	--	1.12	2790
13...	120	1.2	64	270	--	--	683	--	.93	2190
15...	120	1.5	70	320	.2	8.3	750	750	1.02	5040
25...	130	1.3	69	250	--	--	645	--	.88	911
DEC										
01...	--	--	--	--	--	--	--	--	--	--
05...	120	1.2	84	370	--	--	817	--	1.11	6750
14...	150	.9	99	440	--	--	1000	--	1.36	3540
25...	130	2.6	87	410	--	--	941	--	1.28	963
28...	130	3.2	98	430	.3	8.1	974	983	1.32	3450
JAN										
05...	140	1.7	98	580	--	--	1130	--	1.54	3940
11...	150	1.8	110	510	.3	8.0	1190	1150	1.62	6110
19...	190	1.8	93	480	--	--	1060	--	1.44	4890
27...	150	1.8	120	630	--	--	1320	--	1.80	2770
FEB										
01...	160	1.9	110	650	--	--	1320	--	1.80	6240
01...	--	--	--	--	--	--	--	--	--	--
01...	140	5.4	98	540	.3	7.9	1180	1180	1.60	4170
MAR										
02...	140	2.7	100	440	.3	7.4	1020	1020	1.39	37500
05...	150	7.2	80	320	--	--	804	--	1.09	29500
06...	--	--	--	--	--	--	--	--	--	--
15...	150	2.3	93	450	--	--	1040	--	1.41	5530
22...	150	1.8	94	460	--	--	1050	--	1.43	5730
APR										
04...	160	3.0	92	360	--	--	888	--	1.21	8680
11...	160	9.6	93	380	.3	4.1	948	893	1.29	7470
19...	160	3.8	110	450	--	--	1050	--	1.43	4960
29...	160	5.1	120	430	--	--	1060	--	1.44	8360
MAY										
05...	--	--	--	--	--	--	--	--	--	--
05...	150	5.7	110	590	--	--	1250	--	1.70	30000
10...	160	7.6	100	490	.3	3.0	1030	1010	1.40	23600

ARKANSAS RIVER BASIN

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07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ALKALINITY (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CU2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLORIDE, RIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAY										
15...	150	5.7	110	570	--	--	1240	--	1.69	16700
24...	150	5.7	110	500	--	--	1180	--	1.60	33500
JUN										
04...	130	6.4	110	520	--	--	1130	--	1.54	49700
15...	--	--	--	--	--	--	--	--	--	--
15...	150	7.2	130	500	--	--	1140	--	1.55	44600
21...	74	--	33	84	.1	3.8	223	257	.30	6020
22...	48	--	19	15	.1	7.1	108	108	.15	2830
29...	130	6.4	120	480	--	--	1060	--	1.44	15700
JUL										
04...	130	3.2	120	460	--	--	1070	--	1.46	22000
14...	110	2.8	120	410	--	--	961	--	1.31	13300
17...	--	--	--	--	--	--	--	--	--	--
18...	130	--	100	360	.6	7.3	924	866	1.26	11800
25...	120	6.0	110	380	--	--	916	--	1.25	12100
AUG										
05...	140	4.3	140	580	--	--	1250	--	1.70	5600
09...	140	--	120	590	.4	3.8	1270	1280	1.73	4150
15...	130	5.1	98	480	--	--	1080	--	1.47	5450
25...	130	2.6	120	440	--	--	1060	--	1.44	6500
26...	--	--	--	--	--	--	--	--	--	--
SEP										
05...	120	6.0	120	490	--	--	1120	--	1.52	1120
15...	130	3.2	120	450	--	--	1050	--	1.43	1300
20...	130	--	120	520	.4	2.1	1150	1140	1.56	3010
27...	--	--	--	--	--	--	--	--	--	--
28...	130	6.4	120	450	--	--	1030	--	1.40	478
DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (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)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT										
03...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
17...	.59	.16	--	--	--	.80	--	--	.33	.30
25...	--	--	--	--	--	--	--	--	--	--
NOV										
05...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
19...	.88	.07	--	--	--	.40	--	--	.15	.15
25...	--	--	--	--	--	--	--	--	--	--
DEC										
01...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
28...	.65	.03	--	--	--	.85	--	--	.23	.16
JAN										
05...	--	--	--	--	--	--	--	--	--	--
11...	.72	.06	.81	.87	.36	.51	1.6	7.0	.22	.20
15...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
FEB										
01...	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--
01...	.64	.20	.39	.59	.03	.56	1.2	5.4	.21	.22
MAR										
02...	.76	.37	.61	.98	.14	.84	1.7	7.7	.30	.33
05...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
APR										
04...	--	--	--	--	--	--	--	--	--	--
11...	.80	.18	.46	.64	.11	.53	1.4	6.4	.20	.11
15...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
MAY										
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
10...	.78	.19	1.5	1.7	1.1	.64	2.5	11	.17	.11

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)		COBALT, SUS- PENDE D RECOV- ERABLE (UG/L AS CO)		COBALT, DIS- SOLVED (UG/L AS CO)		COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)		COPPER, SUS- PENDE D RECOV- ERABLE (UG/L AS CU)		COPPER, DIS- SOLVED (UG/L AS CU)		IRON, TOTAL RECOV- ERABLE (UG/L AS FE)		IRON, SUS- PENDE D RECOV- ERABLE (UG/L AS FE)		IRON, DIS- SOLVED (UG/L AS FE)		LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)		LEAD, SUS- PENDE D RECOV- ERABLE (UG/L AS PB)	
	DATE	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE D RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE D RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE D RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE D RECOV- ERABLE (UG/L AS PB)										
UCT																						
14...	--	--	--	--	--	--	--	--	--	--	--	--										
17...	--	--	--	--	--	--	--	--	--	--	--	--										
NOV																						
15...	1	1	0	16	14	2	520	--	30	71	69											
DEC																						
01...	--	--	--	--	--	--	--	--	--	--	--	--										
28...	--	--	--	--	--	--	--	--	--	--	--	--										
JAN																						
11...	--	--	--	--	--	--	--	--	--	--	--	--										
FEB																						
01...	--	--	--	--	--	--	--	--	--	--	--	--										
01...	1	0	1	5	3	2	200	--	30	60	49											
MAR																						
02...	--	--	--	--	--	--	--	--	--	--	--	--										
06...	--	--	--	--	--	--	--	--	--	--	--	--										
APR																						
11...	--	--	--	--	--	--	--	--	--	--	--	--										
MAY																						
05...	--	--	--	--	--	--	--	--	--	--	--	--										
10...	2	0	5	18	14	4	1400	--	30	44	31											
JUN																						
15...	--	--	--	--	--	--	--	--	--	--	--	--										
21...	--	--	--	--	--	--	--	--	--	--	--	--										
22...	--	--	--	--	--	--	--	--	--	--	--	--										
JUL																						
17...	--	--	--	--	--	--	--	--	--	--	--	--										
18...	--	--	--	--	--	--	--	--	--	--	--	--										
AUG																						
09...	0	0	1	9	7	2	160	140	20	46	32											
26...	--	--	--	--	--	--	--	--	--	--	--	--										
SEP																						
20...	--	--	--	--	--	--	--	--	--	--	--	--										
27...	--	--	--	--	--	--	--	--	--	--	--	--										

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)		MANGA- NESE, SUS- PENDE D RECOV- ERABLE (UG/L AS MN)		MANGA- NESE, DIS- SOLVED (UG/L AS MN)		MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)		MERCURY SUS- PENDE D RECOV- ERABLE (UG/L AS HG)		MERCURY DIS- SOLVED (UG/L AS HG)		SELE- NIUM, SUS- PENDE D RECOV- ERABLE (UG/L AS SE)		SELE- NIUM, DIS- SOLVED (UG/L AS SE)		SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	
	DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE D RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, SUS- PENDE D RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)								
UCT																		
14...	--	--	--	--	--	--	--	--	--	--	--	--						
17...	--	--	--	--	--	--	--	--	--	--	--	--						
NOV																		
15...	2	50	50	4	1	1	0	1	0	1	0							
DEC																		
01...	--	--	--	--	--	--	--	--	--	--	--	--						
28...	--	--	--	--	--	--	--	--	--	--	--	--						
JAN																		
11...	--	--	--	--	--	--	--	--	--	--	--	--						
FEB																		
01...	--	--	--	--	--	--	--	--	--	--	--	--						
01...	11	20	10	10	1	1	0	1	0	1	0							
MAR																		
02...	--	--	--	--	--	--	--	--	--	--	--	--						
06...	--	--	--	--	--	--	--	--	--	--	--	--						
APR																		
11...	--	--	--	--	--	--	--	--	--	--	--	--						
MAY																		
05...	--	--	--	--	--	--	--	--	--	--	--	--						
10...	13	100	50	50	0	0	0	0	0	0	0							
JUN																		
15...	--	--	--	--	--	--	--	--	--	--	--	--						
21...	--	--	--	--	--	--	--	--	--	--	--	--						
22...	--	--	--	--	--	--	--	--	--	--	--	--						
JUL																		
17...	--	--	--	--	--	--	--	--	--	--	--	--						
18...	--	--	--	--	--	--	--	--	--	--	--	--						
AUG																		
09...	14	100	90	10	0	0	0	1	0	1	0							
26...	--	--	--	--	--	--	--	--	--	--	--	--						
SEP																		
20...	--	--	--	--	--	--	--	--	--	--	--	--						
27...	--	--	--	--	--	--	--	--	--	--	--	--						

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILVER, SUS- PENDE RECov- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE 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)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED, SUSP. SIEVE DIAM, % FINER THAN .062 MM
OCT											
14...	--	--	--	--	--	--	--	--	50	180	--
17...	--	--	--	--	--	4.9	--	--	393	381	10
NOV											
15...	0	0	50	40	10	--	3.9	--	22	148	99
DEC											
01...	--	--	--	--	--	--	--	--	40	108	--
28...	--	--	--	--	--	--	3.9	--	43	152	99
JAN											
11...	--	--	--	--	--	3.6	--	--	36	185	93
FEB											
01...	--	--	--	--	--	--	--	--	60	168	--
01...	0	0	10	0	10	--	4.1	--	40	141	97
MAR											
02...	--	--	--	--	--	--	--	580	73	2680	97
08...	--	--	--	--	--	--	--	--	50	1850	--
APR											
11...	--	--	--	--	--	4.6	--	--	34	268	90
MAY											
05...	--	--	--	--	--	--	--	--	20	75	--
10...	0	0	40	20	20	--	4.3	2600	104	2390	94
JUN											
15...	--	--	--	--	--	--	--	--	90	3520	--
21...	--	--	--	--	--	14	--	22	254	6860	99
22...	--	--	--	--	--	18	--	--	--	--	--
JUL											
17...	--	--	--	--	--	--	--	--	30	15	--
18...	--	--	--	--	--	11	--	--	28	357	84
AUG											
09...	0	0	30	10	20	--	--	81000	25	82	90
28...	--	--	--	--	--	--	--	--	20	7.7	--
SEP											
20...	--	--	--	--	--	5.1	--	24000	33	86	94
27...	--	--	--	--	--	--	--	--	100	269	--

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	MAR 2,78 1200	MAY 10,78 1530	JUN 21,78 1330	AUG 9,78 1430	SEP 20,78 0930	
TOTAL CELLS/ML	540	2600	22	81000	24000	
DIVERSITY: DIVISION	1.8	1.5	0.8	1.3	0.9	
..CLASS	1.8	1.5	0.8	1.3	0.9	
..ORDER	2.3	1.8	1.0	1.5	1.8	
...FAMILY	2.6	2.4	1.0	1.6	2.0	
....GENUS	2.9	2.5	1.0	0.0	2.1	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHAPACIACEAE						
...SCHROEDERIA	--	--	--	--	240	1
...COELASTRACEAE						
...COELASTRUM	--	--	670# 26	--	430	2
...MICRACTINACEAE						
...MICRACTINIUM	--	--	--	--	2700	3
...OOCYSTACEAE						
...ANKISTRODESMS	44	8	--	--	* 0	* 0
...DICTYOSPHAERIUM	--	--	--	--	--	1100 4
...OOCYSTIS	--	--	340	13	--	270 1
...SELENASTRUM	--	--	--	--	* 0	--
...TETRAEDRON	--	--	16	1	--	--
...SCENEDESMACEAE						
...ACTINASTRUM	--	--	--	--	1400	2
...CRUCIGENTA			64	2	--	--
...SCENEDESMUS	35	6	--	--	3400	4
...VOLVOCALES					650	3
...CHLAMYDOMONADACEAE	--	--	--	--	1400	2
...CHLAMYDOMONAS	26	5	32	1	--	240 1
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCEACEAE						
...CYCLOTELLA	44	8	140	6	24000# 29	730 3
...MELOSIRA	100# 18	--	--	--	680	1
...STEPHANODISCUS	--	--	--	1	6	--
..PENNALES						
...FRAGILARIACEAE						
...SYNEDRA	--	--	--	--	--	* 0
...GOMPHONEMACEAE						
...GOMPHONEMA	26	5	--	--	--	--
...NAVICULACEAE						
...AMPHIPLEURA	9	2	--	--	--	--
...NAVICULA	26	5	370	14	4# 19	680 1
...PINNULARIA	9	2	--	--	--	--
...NITZSCHIA	--	--	48	2	--	300 1
...NITZSCHIA	--	--	48	2	--	300 1
...SURIRELLACEAE					* 0	--
...SURIRELLA	9	2	16	1	--	* 0
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONIDALES						
...CRYPTOCHRYSIDACEAE						
...CHROMONAS	--	--	--	--	--	* 0
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
...AGMENELLUM	--	--	--	--	19000# 24	10000# 41
...ANACYSTIS	--	--	890# 35	--	23000# 28	160 1
...HORMOGONALES						
...OSCILLATORIACEAE						
...OSCILLATORIA	210# 36	--	--	16# 75	--	9700# 40
...CHROOCOCCALES						
...CHROOCOCCACEAE						
...GOMPHOSPHERIA	--	--	--	--	4800	6
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...PERIDINIALES						
...GLENODINIACEAE						
...GLENODINIUM	35	6	--	--	--	--

NOTE: # = DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%

* = OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK --Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1600	1820	1660	1980	2440	---	1610	2320	2100	1940	2300	2020
2	1450	1620	1670	1980	---	1930	1610	2330	2120	1940	2330	2050
3	1400	1600	1610	2040	---	1950	1610	2310	2100	1940	2240	2040
4	1400	1600	1660	2020	---	1460	1620	2320	2120	1950	2260	1930
5	1400	1550	1520	2260	---	1450	1730	2310	2120	1950	2240	2040
6	1340	1550	1640	2390	---	2450	1640	2290	2100	1970	2240	2040
7	1300	1440	1530	2160	---	2840	1620	2320	2110	1950	2240	2040
8	1330	1440	1690	2550	---	2540	1390	2330	2090	1950	2230	2050
9	1320	1440	2000	2160	---	2820	1920	2320	2090	1950	2230	2040
10	1600	1270	1900	2310	---	2860	1890	2280	2110	1970	1880	2050
11	1290	1390	1780	2600	---	2840	1890	2300	2100	1960	1830	2030
12	1300	1400	1740	2090	---	2810	1940	2300	2110	1970	1970	2040
13	1480	1260	1770	2200	---	2840	1900	2280	2090	1730	1860	2040
14	1470	1260	1870	2010	---	2780	1900	2280	2090	1740	1920	1880
15	1330	1260	1590	1850	---	1900	1920	2270	2080	1740	1960	1910
16	1280	1260	1630	1740	---	1910	1920	2280	2080	1740	1660	1900
17	1510	1320	1580	1720	---	1900	1920	2330	2080	1650	1890	1900
18	1640	1320	1580	---	---	1910	1430	2170	2090	1630	1890	1910
19	1630	1320	1860	---	---	1920	1920	2160	2100	1640	1890	1900
20	1050	1320	1590	---	---	1910	1940	2170	2080	2240	1900	1890
21	1550	1320	1590	---	---	1920	1930	2150	2090	2240	1880	---
22	1040	1260	1570	---	---	1900	1920	2170	---	2260	1890	---
23	1040	1250	1730	---	---	1720	1920	2140	---	1650	1880	---
24	1540	1230	1560	---	---	1730	1900	2150	---	1640	1880	---
25	1230	1190	1750	---	---	1370	1920	---	---	1650	1880	---
26	1260	1180	1560	1700	---	1720	1940	---	---	2230	1880	---
27	1420	1220	1740	2430	---	1720	2330	---	---	2280	1880	---
28	1820	1290	1570	2440	---	1730	2350	---	---	2280	1890	1880
29	1230	1640	1850	1900	---	1720	2340	---	1940	2290	1880	1870
30	1420	1620	2000	2060	---	1910	2330	---	1950	2300	1880	2000
31	1620	---	1970	2390	---	1640	---	---	---	2310	2030	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	20.0	10.0	4.0	2.0	---	13.0	21.0	22.0	31.0	28.0	30.0
2	22.0	19.0	10.0	2.0	---	5.0	12.0	22.0	22.0	31.0	27.0	30.0
3	23.0	18.0	9.0	4.0	---	2.0	13.0	22.0	23.0	32.0	27.0	30.0
4	24.0	18.0	10.0	4.0	---	5.0	14.0	21.0	23.0	32.0	28.0	30.0
5	23.0	18.0	8.0	7.0	---	5.0	14.0	20.0	23.0	32.0	27.0	30.0
6	21.0	18.0	3.0	6.0	---	5.0	16.0	21.0	23.0	32.0	27.0	30.0
7	20.0	17.0	3.0	4.0	---	6.0	15.0	22.0	24.0	31.0	27.0	29.0
8	20.0	17.0	7.0	3.0	---	6.0	16.0	21.0	24.0	31.0	27.0	29.0
9	19.0	18.0	3.0	1.0	---	6.0	16.0	22.0	24.0	31.0	27.0	29.0
10	20.0	17.0	3.5	.5	---	6.0	17.0	22.0	24.0	31.0	27.0	29.0
11	20.0	17.0	7.0	1.0	---	7.0	17.0	20.0	24.0	31.0	27.0	29.0
12	21.0	15.0	9.0	3.0	---	8.0	16.0	19.0	24.0	31.0	27.0	28.0
13	20.0	17.0	9.0	2.5	---	9.0	18.0	21.0	25.0	31.0	27.0	29.0
14	17.0	17.0	11.0	1.0	---	8.0	18.0	21.0	26.0	32.0	27.0	28.0
15	20.0	16.0	12.0	.0	---	8.0	18.0	19.0	25.0	31.0	27.0	28.0
16	20.0	17.0	13.0	1.0	---	8.0	17.0	19.0	26.0	30.0	27.0	29.0
17	18.0	17.0	13.0	1.0	---	7.0	18.0	20.0	26.0	30.0	27.0	29.0
18	22.0	16.0	8.0	---	---	7.0	19.0	18.0	27.0	30.0	27.0	28.0
19	23.0	14.0	10.0	---	---	6.0	19.0	20.0	27.0	29.0	27.0	28.0
20	21.0	16.0	5.0	---	---	7.0	19.0	20.0	27.0	28.0	27.0	28.0
21	20.0	12.0	3.0	---	---	8.0	19.0	21.0	---	28.0	27.0	---
22	21.0	12.0	10.0	---	---	7.0	20.0	22.0	---	28.0	27.0	---
23	20.0	8.5	11.0	---	---	7.0	20.0	21.0	---	28.0	28.0	---
24	20.0	12.0	12.0	---	---	8.0	20.0	21.0	---	28.0	27.0	---
25	21.0	11.0	11.0	---	---	9.0	20.0	---	---	28.0	27.0	---
26	21.0	10.0	9.0	.0	---	9.0	19.0	---	---	26.0	28.0	---
27	21.0	10.0	4.0	.0	---	10.0	20.0	---	---	28.0	28.0	---
28	21.0	8.0	5.0	.5	---	11.0	21.0	---	---	28.0	28.0	26.0
29	20.0	10.0	5.0	1.0	---	11.0	21.0	---	31.0	28.0	28.0	26.0
30	22.0	9.0	6.0	2.0	---	11.0	20.0	---	32.0	28.0	27.0	25.0
31	20.0	---	6.0	2.0	---	12.0	---	---	---	28.0	29.0	---

ARKANSAS RIVER BASIN

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07164500 ARKANSAS RIVER AT TULSA, 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	1590	1730	1690	2000	2480	1770	1710	---	---	---	---	2060
2	1370	1670	1720	1990	2320	1800	1670	2170	---	---	---	2030
3	1280	1590	1660	1990	2400	2050	1710	---	---	---	2260	2010
4	1250	1620	1550	2090	2570	1470	1600	2350	---	---	2480	1940
5	---	1550	1460	2240	2610	1400	1690	2280	---	---	2300	2200
6	---	1570	1680	2340	2600	2490	1500	2410	---	---	2210	1880
7	---	1410	1530	2190	2810	2950	1600	---	2160	---	2250	2110
8	---	1410	1800	2560	2790	2560	1430	2290	2110	---	2250	2140
9	---	1470	1980	2150	2540	2840	2000	2010	2120	---	2020	---
10	---	1240	1920	2430	2300	2920	2150	1590	2090	---	1860	---
11	---	1370	1770	2670	2450	2840	1900	2500	2110	---	1890	---
12	---	1390	1700	1700	1480	2880	1980	2430	2100	---	1940	2030
13	---	1310	1830	2100	1090	2610	1960	2440	2070	---	1830	1980
14	---	1230	1930	2060	1610	2920	1890	2490	2060	---	1950	1930
15	---	1210	1540	1910	6480	2230	1880	2460	2060	---	2160	1970
16	---	1290	1650	2200	7820	1950	1970	2490	2160	---	1600	1920
17	---	---	1570	1710	2840	2120	1770	2430	2050	---	2160	1990
18	---	---	1550	1560	2220	1770	1910	2270	2150	---	1930	1960
19	---	---	1840	1430	2090	1890	2000	2330	2120	---	1900	1930
20	---	---	1590	1440	1960	2270	1980	2300	2040	---	1940	1740
21	---	---	1540	1410	1880	1960	1980	2200	2100	---	1470	1800
22	---	1270	1610	2960	1960	1980	1990	2270	2260	---	1960	1790
23	---	1260	1720	1470	1970	1670	1870	2310	2460	---	1960	1880
24	---	1240	1550	1790	1890	1640	1860	2290	2400	---	1960	1970
25	---	1240	1770	1730	1940	1400	1850	---	2360	---	1860	2020
26	---	1210	1560	1560	1980	1740	1910	---	2320	---	1920	1990
27	1410	1240	1750	2420	2010	1920	2190	---	2290	---	1850	1910
28	1790	1400	1500	2380	1890	1800	2230	---	---	---	1950	1860
29	1270	1660	2080	1930	---	1860	2240	---	---	---	1880	1930
30	1400	1560	2010	1960	---	1860	2290	---	---	---	1910	1960
31	1550	---	1980	2390	---	1640	---	---	---	---	2040	---

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

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, 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	89	95	94	110	130	97	94	---	---	---	---	110
2	79	93	95	110	120	98	93	110	---	---	---	110
3	75	89	92	110	130	110	94	---	---	---	120	110
4	74	90	87	110	130	84	90	120	---	---	130	100
5	---	87	83	120	130	81	94	120	---	---	120	120
6	---	88	93	120	130	130	85	130	---	---	120	100
7	---	81	86	120	140	150	90	---	110	---	120	110
8	---	81	98	130	140	130	82	120	110	---	120	110
9	---	84	110	110	130	140	110	110	110	---	110	---
10	---	74	100	130	120	150	110	89	110	---	100	---
11	---	79	97	140	130	140	100	130	110	---	100	---
12	---	80	94	94	84	150	110	130	110	---	100	110
13	---	77	100	110	67	130	110	130	110	---	100	110
14	---	73	100	110	90	150	100	130	110	---	110	100
15	---	72	87	100	310	120	100	130	110	---	110	110
16	---	76	92	120	370	110	110	130	110	---	90	100
17	---	---	88	94	140	110	97	130	110	---	110	110
18	---	---	87	88	120	97	100	120	110	---	100	110
19	---	---	100	82	110	100	110	120	110	---	100	100
20	---	---	89	82	110	120	110	120	110	---	100	96
21	---	---	87	81	100	110	110	120	110	---	110	98
22	---	75	90	150	110	110	110	120	120	---	110	98
23	---	75	95	84	110	93	100	120	130	---	110	100
24	---	74	87	98	100	91	100	120	130	---	110	110
25	---	74	97	95	100	81	100	---	120	---	100	110
26	---	72	88	88	110	96	100	---	120	---	100	110
27	81	74	96	130	110	100	120	---	120	---	100	100
28	98	81	85	120	100	98	120	---	---	---	110	100
29	75	92	110	100	---	100	120	---	---	---	100	100
30	81	88	110	110	---	100	120	---	---	---	100	110
31	87	---	110	120	---	91	---	---	---	---	110	---

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	1990.0	998.0	558.0	136.0	983.0	3510.0	1640.0	---	---	---	---	677.0
2	1760.0	276.0	234.0	650.0	522.0	3600.0	1720.0	2590.0	---	---	---	514.0
3	1720.0	435.0	345.0	1330.0	526.0	4010.0	2030.0	---	---	---	548.0	59.4
4	1460.0	539.0	93.0	1490.0	1050.0	3080.0	2350.0	1740.0	---	---	730.0	4180.0
5	---	388.0	67.0	787.0	674.0	2970.0	2430.0	1890.0	---	---	538.0	311.0
6	---	101.0	542.0	376.0	555.0	4810.0	2200.0	2160.0	---	---	76.1	505.0
7	---	58.0	191.0	457.0	1320.0	5670.0	2320.0	---	4930.0	---	52.2	677.0
8	---	680.0	521.0	145.0	1690.0	4950.0	1980.0	1980.0	4930.0	---	509.0	829.0
9	---	1630.0	246.0	404.0	1850.0	5290.0	2760.0	2080.0	4870.0	---	359.0	---
10	---	1440.0	389.0	1500.0	1120.0	2730.0	2770.0	2040.0	4870.0	---	537.0	---
11	---	1980.0	95.9	1810.0	491.0	1930.0	2330.0	2630.0	4870.0	---	502.0	---
12	---	1320.0	52.8	1590.0	134.0	2050.0	2480.0	2390.0	4690.0	---	540.0	618.0
13	---	586.0	583.0	1240.0	149.0	2080.0	2470.0	2040.0	4310.0	---	305.0	778.0
14	---	907.0	929.0	636.0	262.0	1880.0	2250.0	1760.0	4280.0	---	422.0	591.0
15	---	1620.0	413.0	445.0	304.0	2250.0	2240.0	1760.0	4310.0	---	540.0	526.0
16	---	2770.0	323.0	959.0	5050.0	2280.0	2500.0	1780.0	4250.0	---	493.0	51.3
17	---	---	174.0	1710.0	3130.0	2160.0	2210.0	1950.0	4220.0	---	1220.0	695.0
18	---	---	61.5	1660.0	4340.0	2100.0	1890.0	2140.0	3800.0	---	1070.0	478.0
19	---	---	748.0	1080.0	2350.0	2010.0	1570.0	2120.0	3590.0	---	1030.0	721.0
20	---	---	272.0	633.0	2460.0	2890.0	1110.0	2600.0	3420.0	---	1030.0	295.0
21	---	---	1170.0	374.0	1560.0	1920.0	983.0	3580.0	2970.0	---	1100.0	77.3
22	---	1730.0	296.0	172.0	1860.0	1890.0	742.0	4370.0	3140.0	---	713.0	257.0
23	---	1790.0	567.0	288.0	1700.0	1640.0	90.7	3730.0	3170.0	---	552.0	98.5
24	---	927.0	514.0	770.0	994.0	2650.0	400.0	3400.0	3260.0	---	671.0	549.0
25	---	817.0	113.0	377.0	567.0	921.0	1090.0	---	2970.0	---	645.0	57.3
26	---	550.0	60.8	411.0	1290.0	128.0	1380.0	---	2950.0	---	567.0	39.8
27	1280.0	92.5	801.0	646.0	1850.0	1330.0	1340.0	---	3100.0	---	55.6	413.0
28	651.0	1020.0	1010.0	280.0	3160.0	2390.0	1120.0	---	---	---	339.0	74.0
29	478.0	2120.0	1570.0	570.0	---	2430.0	467.0	---	---	---	537.0	513.0
30	114.0	1670.0	1540.0	1230.0	---	1200.0	97.8	---	---	---	564.0	96.2
31	136.0	---	846.0	878.0	---	145.0	---	---	---	---	680.0	---

ARKANSAS RIVER BASIN

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07164500 ARKANSAS RIVER AT TULSA, 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	370	410	400	490	630	420	410	---	---	---	---	510
2	310	390	410	490	580	430	390	540	---	---	---	500
3	280	370	390	490	600	500	410	---	---	---	560	490
4	270	380	360	510	650	340	370	590	---	---	630	470
5	---	360	330	560	660	320	400	570	---	---	570	550
6	---	360	400	590	660	630	340	610	---	---	550	450
7	---	320	350	540	720	760	370	---	---	---	560	520
8	---	320	430	660	720	650	320	570	520	---	560	530
9	---	340	480	530	640	730	490	490	520	---	490	---
10	---	270	470	610	570	750	530	370	510	---	450	---
11	---	310	420	680	620	730	460	630	520	---	460	---
12	---	310	400	400	340	740	480	610	520	---	470	500
13	---	290	440	520	230	660	480	610	510	---	440	480
14	---	270	470	510	380	750	460	630	510	---	470	470
15	---	260	360	460	1800	550	450	620	510	---	530	480
16	---	280	390	550	2200	470	480	630	530	---	370	470
17	---	---	360	410	730	520	420	610	500	---	530	490
18	---	---	360	360	550	420	460	570	530	---	470	480
19	---	---	440	320	510	460	490	580	520	---	460	470
20	---	---	370	330	480	570	480	570	500	---	470	410
21	---	---	360	320	450	480	480	550	520	---	480	430
22	---	280	380	760	480	480	490	570	560	---	480	430
23	---	280	410	340	480	390	450	580	620	---	480	450
24	---	270	360	430	460	380	450	570	600	---	480	480
25	---	270	420	410	470	320	450	---	590	---	450	490
26	---	260	360	360	480	410	460	---	580	---	470	490
27	320	270	420	610	490	470	540	---	---	---	450	460
28	430	320	340	600	460	430	550	---	---	---	470	450
29	280	390	510	470	---	450	560	---	---	---	450	470
30	320	360	490	480	---	450	570	---	---	---	460	480
31	360	---	480	600	---	380	---	---	---	---	500	---

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	8280.0	4310.0	2380.0	606.0	4760.0	15200.0	7150.0	---	---	---	---	3140.0
2	6890.0	1160.0	1030.0	2900.0	2520.0	15800.0	7190.0	12700.0	---	---	---	2340.0
3	6430.0	1810.0	1550.0	5910.0	2430.0	18200.0	8870.0	---	---	---	2560.0	265.0
4	5320.0	2280.0	385.0	6880.0	5230.0	12500.0	9650.0	8550.0	---	---	3540.0	19700.0
5	---	1600.0	266.0	3670.0	3420.0	11800.0	10300.0	8970.0	---	---	2550.0	1430.0
6	---	413.0	2330.0	1850.0	2820.0	23300.0	8810.0	10100.0	---	---	349.0	2270.0
7	---	229.0	777.0	2060.0	6800.0	28700.0	9520.0	---	23800.0	---	243.0	3200.0
8	---	2690.0	2290.0	734.0	8670.0	24700.0	7720.0	9390.0	23300.0	---	2370.0	3990.0
9	---	6610.0	1070.0	1950.0	9000.0	27600.0	12300.0	9250.0	23000.0	---	1600.0	---
10	---	5240.0	1830.0	7020.0	5320.0	13600.0	13400.0	8490.0	22600.0	---	2420.0	---
11	---	7780.0	415.0	8810.0	2340.0	10100.0	10700.0	12800.0	23000.0	---	2310.0	---
12	---	5120.0	225.0	6750.0	543.0	10100.0	10800.0	11200.0	22200.0	---	2540.0	2810.0
13	---	2210.0	2570.0	5880.0	513.0	10500.0	10800.0	9550.0	20000.0	---	1340.0	3400.0
14	---	3350.0	4370.0	2950.0	1110.0	9420.0	10400.0	8500.0	19800.0	---	1800.0	2780.0
15	---	5850.0	1710.0	2050.0	1760.0	10300.0	10100.0	8370.0	20000.0	---	2630.0	2290.0
16	---	10200.0	1370.0	4400.0	30100.0	9750.0	10900.0	8610.0	20500.0	---	2030.0	241.0
17	---	---	713.0	7470.0	16300.0	10200.0	9570.0	9140.0	19200.0	---	5870.0	3100.0
18	---	---	255.0	6800.0	19900.0	9070.0	8710.0	10100.0	18300.0	---	5010.0	2090.0
19	---	---	3290.0	4220.0	10900.0	9240.0	7010.0	10300.0	17000.0	---	4740.0	3390.0
20	---	---	1130.0	2550.0	10700.0	13700.0	4850.0	12300.0	15500.0	---	4850.0	1260.0
21	---	---	4820.0	1480.0	7000.0	8400.0	4290.0	16400.0	14000.0	---	4810.0	339.0
22	---	6470.0	1250.0	870.0	8130.0	8270.0	3310.0	20800.0	14600.0	---	3110.0	1130.0
23	---	6690.0	2450.0	1170.0	7440.0	6900.0	408.0	18000.0	15100.0	---	2410.0	443.0
24	---	3380.0	2130.0	3380.0	4570.0	11100.0	1800.0	16200.0	15000.0	---	2930.0	2400.0
25	---	2980.0	486.0	1630.0	2660.0	3640.0	4910.0	---	14600.0	---	2900.0	255.0
26	---	1990.0	249.0	1680.0	5650.0	548.0	6350.0	---	14200.0	---	2660.0	177.0
27	5050.0	338.0	3500.0	3030.0	8260.0	6260.0	6020.0	---	14700.0	---	250.0	1900.0
28	2860.0	4040.0	4040.0	1400.0	14500.0	10500.0	5120.0	---	---	---	1450.0	333.0
29	1780.0	8990.0	7280.0	2680.0	---	10900.0	2180.0	---	---	---	2420.0	2410.0
30	448.0	6840.0	6850.0	5370.0	---	5420.0	465.0	---	---	---	2600.0	480.0
31	563.0	---	3690.0	4390.0	---	607.0	---	---	---	---	3090.0	---

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, 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	876	950	929	1040	1550	971	940	---	---	---	---	1120
2	760	919	945	1090	1260	987	919	1180	---	---	---	1110
3	712	876	913	1090	1300	1120	940	---	---	---	1230	1100
4	696	892	855	1140	1390	813	881	1260	---	---	1350	1060
5	---	855	807	1220	1420	776	929	1240	---	---	1250	1200
6	---	866	924	1270	1410	1350	829	1310	---	---	1200	1030
7	---	781	844	1190	1520	1600	881	---	---	---	1180	1150
8	---	781	987	1400	1510	1390	792	1250	1150	---	1230	1170
9	---	813	1080	1170	1380	1540	1090	1100	1160	---	1100	---
10	---	691	1050	1320	1250	1580	1170	876	1140	---	1020	---
11	---	760	971	1450	1330	1540	1040	1360	1150	---	1030	---
12	---	770	934	934	818	1560	1080	1320	1150	---	1060	1110
13	---	728	1000	1150	612	1420	1070	1330	1130	---	1000	1080
14	---	686	1060	1120	887	1580	1030	1350	1120	---	1070	1060
15	---	675	850	1050	3460	1210	1030	1340	1120	---	1180	1080
16	---	717	908	1200	4170	1070	1080	1350	1180	---	881	1050
17	---	---	868	940	1540	1160	971	1320	1120	---	1180	1090
18	---	---	855	860	1210	971	1050	1240	1170	---	1060	1070
19	---	---	1010	792	1140	1030	1090	1270	1160	---	1040	1060
20	---	---	876	797	1070	1240	1080	1250	1110	---	1060	956
21	---	---	850	781	1030	1070	1080	1260	1150	---	1080	987
22	---	707	887	1600	1070	1080	1090	1240	1230	---	1070	982
23	---	702	945	813	1080	919	1020	1260	1340	---	1070	1030
24	---	691	855	962	1030	903	1020	1250	1300	---	1070	1080
25	---	691	971	950	1060	776	1010	---	1280	---	1020	1100
26	---	675	860	860	1080	956	1050	---	1260	---	1050	1090
27	781	691	961	1320	1100	1050	1190	---	1250	---	1010	1050
28	982	776	829	1290	1030	987	1210	---	---	---	1070	1020
29	707	913	1140	1060	---	1020	1220	---	---	---	1030	1060
30	776	860	1100	1070	---	1020	1250	---	---	---	1050	1080
31	855	---	1040	1300	---	903	---	---	---	---	1110	---

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	19600.0	9980.0	5520.0	1350.0	10200.0	35100.0	16400.0	---	---	---	---	6890.0
2	16900.0	2730.0	2370.0	6450.0	5480.0	36200.0	16900.0	27800.0	---	---	---	5180.0
3	16400.0	4280.0	3620.0	13200.0	5260.0	40800.0	20300.0	---	---	---	5610.0	594.0
4	13700.0	5350.0	914.0	15400.0	11200.0	29900.0	23000.0	18600.0	---	---	7580.0	44400.0
5	---	3810.0	651.0	8000.0	7360.0	28500.0	24000.0	19500.0	---	---	5600.0	3110.0
6	---	994.0	5390.0	3980.0	6020.0	49900.0	21500.0	21800.0	---	---	761.0	5200.0
7	---	559.0	1870.0	4530.0	14400.0	60500.0	22700.0	---	52900.0	---	535.0	7080.0
8	---	6560.0	5250.0	1560.0	18200.0	52900.0	19100.0	20600.0	51500.0	---	5210.0	8810.0
9	---	15800.0	2410.0	4300.0	19400.0	58200.0	27400.0	20800.0	51400.0	---	3590.0	---
10	---	13400.0	4080.0	15200.0	11700.0	28800.0	29500.0	20100.0	50500.0	---	5480.0	---
11	---	19100.0	960.0	18800.0	5030.0	21200.0	24300.0	27500.0	50900.0	---	5170.0	---
12	---	12700.0	525.0	15800.0	1310.0	21300.0	24300.0	24200.0	49100.0	---	5720.0	6230.0
13	---	5540.0	5830.0	13000.0	1360.0	22700.0	24000.0	20800.0	44200.0	---	3050.0	7640.0
14	---	8520.0	9850.0	6470.0	2590.0	19800.0	23200.0	18200.0	43500.0	---	4100.0	6270.0
15	---	15200.0	4040.0	4680.0	3390.0	22700.0	23100.0	18100.0	43800.0	---	5860.0	5160.0
16	---	26100.0	3190.0	9590.0	57000.0	22200.0	24500.0	18400.0	45600.0	---	4830.0	539.0
17	---	---	1720.0	17100.0	34400.0	22700.0	22100.0	19800.0	42900.0	---	13100.0	6890.0
18	---	---	605.0	16300.0	43800.0	21000.0	19900.0	22100.0	40400.0	---	11300.0	4650.0
19	---	---	7550.0	10400.0	24300.0	20700.0	15600.0	22500.0	37900.0	---	10700.0	7640.0
20	---	---	2670.0	6150.0	23900.0	29900.0	10900.0	27100.0	34500.0	---	10900.0	2940.0
21	---	---	11400.0	3610.0	16000.0	18700.0	9650.0	35800.0	31100.0	---	10800.0	778.0
22	---	16300.0	2920.0	1830.0	18100.0	18600.0	7360.0	45200.0	32100.0	---	6930.0	2580.0
23	---	16800.0	5640.0	2790.0	16700.0	16300.0	925.0	39100.0	32700.0	---	5370.0	1020.0
24	---	8660.0	5060.0	7720.0	10200.0	26300.0	4080.0	35400.0	32600.0	---	6530.0	5390.0
25	---	7630.0	1130.0	3770.0	6010.0	8820.0	11000.0	---	31700.0	---	6580.0	573.0
26	---	5160.0	594.0	4020.0	12700.0	1280.0	14500.0	---	30900.0	---	5950.0	394.0
27	12300.0	864.0	8020.0	6560.0	18500.0	14000.0	13300.0	---	32300.0	---	562.0	4340.0
28	6520.0	9810.0	9850.0	3010.0	32500.0	24100.0	11300.0	---	---	---	3290.0	755.0
29	4510.0	21100.0	16300.0	6040.0	---	24800.0	4740.0	---	---	---	5530.0	5440.0
30	1090.0	16300.0	15400.0	12000.0	---	12300.0	1020.0	---	---	---	5930.0	945.0
31	1340.0	---	8310.0	9510.0	---	1440.0	---	---	---	---	6860.0	---

07165000 HEYBURN LAKE NEAR HEYBURN, OK

LOCATION.--Lat 35°56'52", long 96°17'55", in SE¼ sec.13, T.17 N., R.9 E., Creek County, Hydrologic Unit 11110101, at intake structure at right abutment of Heyburn Dam on Polecat Creek, 2.5 mi (4.0 km) northwest of Heyburn, 3.4 mi (5.5 km) upstream from bridge on U.S. Highway 66, 11.0 mi (17.7 km) southwest of Sapulpa, and at mile 48.6 (28.2 km).

DRAINAGE AREA.--125 mi² (318.6 km²).

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

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

REMARKS.--Reservoir is formed by an earth dam. Outlet works consist of an 8.25 ft (2.515 m) diameter concrete conduit extending from an uncontrolled concrete drop inlet at the upstream side of dam to a concrete stilling basin near downstream toe of dam and three 36-inch (.91 m) gated low-flow pipes which drain into the conduit below the drop inlet. Spillway is 200-foot (61.0 m) channel in a natural saddle about 1,000 ft (304.8 m) west of right abutment. Storage began Sept. 29, 1950; conservation pool was first filled Mar. 10, 1951. Capacity, 144,800 acre-ft (179 hm³), at elevation 802.0 ft (244.45 m) maximum pool, 55,050 acre-ft (67.9 hm³), at elevation 784.0 ft (238.96 m), spillway crest and top of flood-control pool, and 6,620 acre-ft (8.2 hm³) at elevation 761.5 (232.11 m), conservation pool. Dead storage, 226 acre-ft (3,280 m³) below elevation 740.0 ft (225.55 m), invert of low-flow sluices. Reservoir was designed for flood control and conservation. Figures given herein represent total contents. Revised capacity table, based on survey in 1971, used since Oct. 1, 1972.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,210 acre-ft (39.7 hm³), Nov. 4, 1974, elevation, 776.85 ft (236.784 m); (correction) minimum since conservation pool was first filled, 4,410 acre-ft (5.44 hm³) Oct 20, 21, 1972, elevation, 758.49 ft (231.188 m). (correction) Minimum elevation since conservation pool was first filled, 758.48 ft (231.185 m) Oct. 13, 14, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,710 acre-ft (18.1 hm³) May 7, elevation, 768.18 ft (234.141 m); minimum, 5,310 acre-ft (6.55 hm³) Jan. 14, 15, elevation, 759.83 ft (231.596 m).

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

759	4,750	765	10,430
761	6,180	767	13,020
763	8,130	769	15,940

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	5750	5570	5490	5360	5350	6880	6900	8190	7170	6840	6060	5980
2	5720	5560	5480	5370	5350	6890	6860	7800	7070	6800	6050	5960
3	5710	5550	5480	5370	5350	6880	6870	9570	7010	6770	6160	5950
4	5690	5530	5510	5350	5350	6860	6850	8690	6970	6750	6100	5920
5	5680	5530	5530	5360	5350	6820	6850	8100	8560	6710	6610	5910
6	5670	5530	5520	5350	5360	6820	6840	7730	8270	6680	6600	5890
7	5680	5530	5510	5360	5370	6870	6810	13960	7870	6660	6590	5880
8	5670	5580	5520	5350	5370	6890	6790	11280	7560	6630	6570	5850
9	5660	5630	5490	5330	5370	6890	6780	9500	7340	6610	6540	5850
10	5640	5630	5490	5330	5370	6860	6890	8530	7190	6580	6530	5870
11	5630	5630	5480	5330	5380	6840	6870	7990	7080	6540	6500	5840
12	5610	5620	5480	5320	6550	6820	6840	7630	7000	6510	6470	5840
13	5600	5610	5480	5320	7510	6820	6810	7400	6950	6500	6440	5810
14	5580	5610	5480	5310	7400	6790	6780	7230	6890	6480	6410	5810
15	5580	5610	5460	5310	7280	6790	6770	7120	6840	6460	6390	5790
16	5560	5610	5470	5350	7180	6770	6770	7030	6800	6450	6360	5770
17	5550	5600	5460	5350	7120	6750	6770	6980	6770	6400	6320	5740
18	5540	5580	5460	5350	7060	6730	6740	7000	7000	6370	6290	5710
19	5530	5580	5450	5350	7030	6720	6670	6970	7000	6350	6270	5690
20	5520	5580	5440	5350	7000	6720	6660	6940	6970	6330	6260	5680
21	5510	5560	5420	5350	6950	6710	6640	7470	9240	6300	6220	5660
22	5530	5550	5420	5340	6940	6700	6640	8220	8740	6280	6210	5630
23	5570	5540	5420	5340	6940	7070	6670	7840	8100	6290	6180	5620
24	5560	5530	5420	5340	6930	7990	6620	7530	7690	6270	6160	5610
25	5540	5530	5410	5340	6930	7710	6600	7320	7420	6250	6130	5620
26	5550	5520	5390	5330	6910	7450	6580	7190	7230	6210	6110	5610
27	5540	5510	5390	5330	6900	7270	6570	7280	7120	6190	6090	5600
28	5540	5500	5380	5330	6890	7160	6570	8040	7020	6160	6080	5580
29	5540	5490	5390	5330	---	7060	6690	7730	6960	6140	6040	5560
30	5550	5490	5390	5350	---	6990	6710	7470	6900	6110	6030	5550
31	5550	---	5390	5350	---	6940	---	7280	---	6080	6000	---
MAX	5750	5630	5530	5380	7510	7990	6900	13960	9240	6840	6610	5980
MIN	5510	5490	5380	5310	5350	6700	6570	6940	6770	6080	6000	5550
†	760.18	760.10	759.96	759.89	761.79	761.84	761.60	762.19	761.80	760.88	760.78	760.18
‡	-200	-60	-100	-40	+1,540	+50	-230	+570	-380	-820	-80	-450

CAL YR 1977 MAX 9270 MIN 5380 † -740

WTR YR 1978 MAX 13960 MIN 5310 ‡ -200

† Elevation in feet, at end of month.

‡ Change in contents, in acre-ft.

07165500 POLECAT CREEK BELOW HEYBURN LAKE, NEAR HEYBURN, OK

LOCATION.--Lat 35°56'42", long 96°17'39", in NW¼NW¼ sec.19, T.17 N., R.10 E., Creek County, Hydro-logic Unit 11110101, on right bank of outlet channel, 1,100 ft (335 m) downstream from Heyburn Dam, 3.2 mi (5.1 km) upstream from bridge on U.S. Highway 66, 11 mi (17.7 km) southwest of Sapulpa, and at mile 48.4 (77.9 km).

DRAINAGE AREA.--123 mi² (319 km²).

PERIOD OF RECORD.--October 1943 to current year. Prior to October 1956, published as Polecat Creek at Heyburn and October 1956 to September 1970 as Polecat Creek below Heyburn Reservoir near Heyburn.

REVISED RECORDS.--WSP 1411: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 718.00 ft (218.846 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 22, 1949, nonrecording gage and Feb. 22, 1949, to Feb. 16, 1956, water-stage recorder at site 3.2 mi (5.1 km) downstream at datum 706.47 ft (215.332 m). Mar. 8, 1958 to Sept. 30, 1971, water-stage recorder at outlet structure at right abutment of Heyburn Dam 1,100 ft (335 m) upstream at datum 760.00 ft (231.648 m), present site used as supplementary gage.

REMARKS.--Records poor. Flow regulated since September 1950 by Heyburn Lake (station 07165000) with occasional prior regulation from March 1959 by lake construction operations.

COOPERATION.--Gage-height record, 8 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--Prior to regulation by Heyburn Dam 7 years (water years 1944-50) 66.9 ft³/s (1.895 m³/s), 48,470 acre-ft/yr (59.8 hm³/yr), (since regulation by Heyburn Dam) 28 years (water years 1951-78) 48.5 ft³/s (1.374 m³/s), 35,140 acre-ft/yr (43.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft³/s (490 m³/s) June 23, 1948 and May 19, 1949, from rating curve extended above 6,100 ft³/s (173 m³/s); maximum gage height, 28.53 ft (8.696 m) May 19, 1949, site and datum then in use; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 4, 1940, reached a stage of 31.5 ft (9.60 m), from flood mark, at former site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,760 ft³/s (49.8 m³/s) May 7 computed from outflow 1,100 ft (335 m) upstream, gage height, 12.51 ft (3.813 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	.30	.00	.50	.60	15	20	204	56	15	.00	.30
2	.00	.30	.00	.50	.60	13	16	214	41	12	.00	.30
3	.00	.30	.00	.50	.60	13	14	664	30	8.3	.00	.30
4	.00	.30	.00	.40	.60	14	14	576	24	6.1	.70	.35
5	.00	.30	.00	.21	.60	11	12	331	196	3.9	.60	.40
6	.00	.30	.00	.10	.60	8.8	12	196	354	1.3	.45	.40
7	.00	.00	.00	.10	.60	11	9.5	1480	260	.49	.45	.35
8	.05	.00	.00	.35	.60	14	7.2	1560	156	.27	.35	.30
9	.10	.00	.00	.40	.60	15	5.3	940	94	.05	.30	.30
10	.15	.00	.00	.53	.60	14	15	458	60	.00	.30	.45
11	.30	.00	.00	.84	.60	14	17	240	42	.00	.40	.70
12	.30	.00	.00	1.2	.60	11	12	195	34	.00	.40	.50
13	.30	.00	.00	1.5	.75	8.2	11	114	26	.00	.45	.45
14	.30	.00	.00	2.7	.89	7.3	8.3	74	19	.00	.35	.40
15	.30	.00	.00	3.0	.71	4.8	6.8	52	15	.00	.25	.70
16	.30	.00	.00	3.6	.52	12	6.1	37	9.9	.00	.20	.68
17	.30	.00	.75	5.1	.42	5.3	5.4	27	6.8	.00	.45	.50
18	.30	.00	.50	6.2	.36	3.7	5.4	24	15	.00	.45	.40
19	.30	.00	.50	6.4	.31	2.6	1.8	23	31	.00	.35	.39
20	.30	.00	.50	7.7	.26	2.3	.49	20	28	.00	.35	.35
21	.30	.00	.50	7.9	.22	2.1	.27	54	168	.00	.35	.35
22	.30	.00	.50	6.6	.16	1.3	.11	239	577	.00	.40	.35
23	.30	.00	.50	3.4	.14	3.4	.11	197	334	.00	.50	.45
24	.30	.00	.50	1.4	.15	197	.05	106	191	.00	.45	.60
25	.30	.00	.50	.81	.19	182	.00	74	120	.00	.35	.60
26	.30	.00	.50	.80	.19	127	.00	63	75	.00	.30	.60
27	.30	.00	.50	.80	.16	82	.00	58	51	.00	.30	.47
28	.30	.00	.50	.77	.16	58	.00	205	38	.00	.30	.40
29	.30	.00	.50	.76	---	44	.27	222	27	.00	.30	.40
30	.30	.00	.50	.61	---	33	1.8	134	20	.00	.30	.40
31	.30	---	.50	.60	---	25	---	83	---	.00	.30	---
TOTAL	6.60	1.80	7.75	66.28	566.20	954.8	201.90	8864	3098.7	47.41	10.65	13.31
MEAN	.21	.060	.25	2.14	20.2	30.8	6.73	286	103	1.53	.34	.44
MAX	.30	.30	.75	7.9	.89	197	20	1560	577	15	.70	.70
MIN	.00	.00	.00	.10	.60	1.3	.00	20	6.8	.00	.00	.30
AC-FT	13	3.6	15	131	1120	1890	400	17560	6150	94	21	26

CAL YR 1977 TOTAL 5001.79 MEAN 13.7 MAX 576 MIN .00 AC-FT 9920
WTR YR 1978 TOTAL 13839.40 MEAN 37.9 MAX 1560 MIN .00 AC-FT 27450

ARKANSAS RIVER BASIN

203

07165570 ARKANSAS RIVER NEAR HASKELL, OK

LOCATION.--Lat 35°49'23", long 95°38'39", in NE¼ sec.31, T.16 N., R.16 E., Muskogee County, Hydrologic Unit 11110101, near right bank on downstream side of bridge on State Highway 104, 2 mi (3.2 km) east of Haskell, 23.5 mi (37.8 km) upstream from Verdigris River, and at mile 483.7 (778.3 km).

DRAINAGE AREA.--75,473 mi² (195,475 km²), of which 12,541 mi² (32,481 km²) probably is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 530.00 ft (161.544 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Keystone Lake (station 07164200), 55.1 mi (88.7 km) upstream.

COOPERATION.--Gage-height record and 24 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--6 years, 10,340 ft³/s (292.8 m³/s), 7,491,000 acre-ft/yr (9.24 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 108,000 ft³/s (3,060 m³/s) Nov. 6, 1974, gage height, 17.30 ft (5.273 m); minimum daily, 193 ft³/s (5.47 m³/s) Feb. 26, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,000 ft³/s (623 m³/s) June 1, gage height, 10.11 ft (3.082 m); minimum daily, 338 ft³/s (9.572 m³/s) Dec. 27.

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	8070	521	6180	2870	3700	10900	1470	1980	21800	4890	434	1460
2	8010	2620	2580	802	2430	12800	5960	7400	20400	12900	2210	1460
3	7950	1760	1680	972	1290	12700	6660	10800	18700	10000	2520	1210
4	8040	1440	1330	3700	1130	12600	8350	11200	17500	9440	2080	516
5	7150	1910	867	3950	1660	12500	9330	7670	17900	7640	1530	7830
6	7230	1560	615	2140	2030	12600	9250	6460	19600	7980	1940	2230
7	5740	784	1220	1400	759	12900	9270	7280	19600	7640	631	1440
8	5640	527	1450	952	2490	13600	9170	10900	18300	7690	396	1710
9	4120	3220	1180	540	3530	13200	8850	9130	17800	5330	938	1800
10	2560	7460	1450	882	4570	12000	10000	8990	17600	3790	1010	2840
11	2310	7140	1160	3820	3320	6700	10400	9490	17600	4990	1610	853
12	6120	9050	808	5120	1730	5250	8900	8900	17300	5160	1730	759
13	5740	5520	399	6670	3860	4960	8430	7440	15100	5460	1640	1460
14	4630	3300	864	3890	4550	5260	8340	7390	13900	5550	1050	1990
15	3850	4540	3040	2430	1980	4540	8300	5320	13800	5410	1120	1700
16	3690	9030	2090	1480	977	6720	8280	5270	13700	3520	1410	1390
17	1100	12400	1490	1800	3670	7150	8500	5120	13400	1140	1670	605
18	819	6150	1170	8370	8400	6850	8620	6020	13500	2060	2500	1370
19	3500	7670	520	8390	11800	7270	6590	6940	13300	4630	3970	1250
20	3360	4780	1300	6770	7680	6880	4780	6730	11700	4620	3970	1930
21	5020	3120	2090	4140	8120	9000	3780	9120	12300	4850	4040	1960
22	7050	4690	3650	3350	6780	6440	3040	13600	14100	5100	3880	681
23	3730	8530	2250	1410	5660	6540	2500	15800	11400	3370	3010	760
24	1480	8890	1930	862	5350	10300	732	12700	10200	1040	1960	547
25	3360	4430	1990	2630	3590	12200	1080	11000	9920	1850	1940	1100
26	3670	3850	783	1430	2140	4940	3590	10800	9670	4540	2390	630
27	1490	3320	336	1530	3660	1840	4460	9190	9490	3820	2390	369
28	4980	1060	1430	1520	6050	5180	3750	9200	9890	2860	680	748
29	2800	4380	3870	1690	---	8880	3470	9790	9550	2820	432	563
30	2080	8360	4610	1220	---	8810	2170	9690	5320	2410	1700	988
31	906	---	4520	3340	---	4200	---	18200	---	690	1450	---
TOTAL	135795	142032	58854	90070	112906	265710	188022	279520	434340	153190	58231	44149
MEAN	4380	4734	1899	2905	4032	8571	6267	9017	14480	4942	1878	1472
MAX	8070	12400	6180	8390	11800	13600	10400	18200	21800	12900	4040	7830
MIN	819	521	338	540	759	1840	732	1980	5320	690	396	369
AC-FT	269300	281700	116700	178700	223900	527000	372900	554400	861500	303900	115500	87570
Cal YR 1977	TOTAL	2029691	MEAN	5561	MAX	30500	MIN	193	AC-FT	4026000		
HYD YR 1978	TOTAL	1962819	MEAN	5378	MAX	21800	MIN	338	AC-FT	3893000		

ARKANSAS RIVER BASIN

07165570 ARKANSAS RIVER NEAR HASKELL, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 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- MH/CM)	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										
12...	1155	4500	--	--	15.5	--	--	--	--	--
18...	1200	540	1300	8.3	18.0	8	9.6	102	20	187
27...	1120	1110	--	--	10.0	--	--	--	--	--
NOV										
08...	1150	441	--	--	15.0	--	--	--	--	--
22...	1345	3090	--	--	9.0	--	--	--	--	--
26...	1000	1420	1020	7.7	4.0	9	13.8	106	12	--
DEC										
06...	1200	619	--	--	1.5	--	--	--	--	--
20...	1145	357	--	--	2.0	--	--	--	--	--
21...	1215	1900	1640	6.6	2.5	16	14.4	106	14	212
JAN										
30...	1315	739	2200	7.7	2.0	4	13.2	95	9	--
FEB										
00...	1240	4560	607	--	.0	--	--	--	--	--
13...	1215	3630	1580	6.0	1.0	140	13.8	99	37	197
28...	1140	3380	--	--	4.5	--	--	--	--	--
MAR										
06...	1210	12500	--	--	6.5	--	--	--	--	--
20...	1140	6940	--	--	8.9	--	--	--	--	--
22...	1000	5600	1630	8.2	11.0	--	10.8	98	--	--
APR										
05...	1145	8230	--	--	16.5	--	--	--	--	--
11...	1415	12100	1420	8.0	14.0	42	10.4	102	19	230
18...	1225	6498	--	--	16.5	--	--	--	--	--
MAY										
02...	1115	5540	--	--	13.5	--	--	--	--	--
05...	1200	5300	912	7.9	18.0	--	8.0	86	--	--
08...	1200	10500	912	7.9	18.0	63	8.0	86	52	--
16...	1155	3220	--	--	23.5	--	--	--	--	--
31...	1250	18800	--	--	25.5	--	--	--	--	--
JUN										
07...	1105	20000	2000	7.9	23.5	45	7.6	90	20	235
13...	1225	16900	--	--	26.5	--	--	--	--	--
20...	1300	11600	--	--	26.0	--	--	--	--	--
JUL										
03...	1205	9620	--	--	31.0	--	--	--	--	--
05...	1200	4310	2250	8.9	30.5	10	11.0	149	21	--
19...	1225	2580	--	--	30.0	--	--	--	--	--
AUG										
01...	1115	434	2470	8.6	27.0	6	7.8	99	22	294
01...	1410	428	--	--	30.0	--	--	--	--	--
16...	1340	1610	--	--	30.5	--	--	--	--	--
29...	1225	409	--	--	27.0	--	--	--	--	--
SEP										
06...	1200	1770	1950	8.6	26.0	9	9.1	112	19	--
22...	1140	655	--	--	29.5	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07165570 ARKANSAS RIVER NEAR HASKELL, OK --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07171000 VERDIGRIS RIVER NEAR LENAPAH, OK

LOCATION.--Lat 36°51'05", long 95°35'06", at center of sec.3, T.27 N., R.16 E., Nowata County, Hydrologic Unit 11070103, near right bank on downstream side of pier of county road bridge, 2.8 mi (4.5 km) east of Lenapah, 4.5 mi (7.2 km) upstream from Cedar Creek, and at mile 144.6 (232.7 km).

DRAINAGE AREA.--3,639 mi² (942.5 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 977: 1942(M). WSP 1117: drainage area.

GAGE.--Water-stage recorder. Datum of gage is 644.89 ft (196.562 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Some regulation, by dams in Kansas, since April 1949.

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

AVERAGE DISCHARGE.--(prior to regulation) 11 years (water years 1939-49), 2,599 ft³/s (73.60 m³/s), 1,833,000 acre-ft/yr (2.32 km³/yr); (since regulation) 12 years (water years 1967-78), 2,693 ft³/s (76.27 m³/s), 1,951,000 acre-ft/yr (2.41 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 157,000 ft³/s (3,880 m³/s) May 20, 1943, gage height, 40.44 ft (12.326 m), from floodmarks; no flow at times in 1939-40, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,700 ft³/s (700 m³/s) Nov. 10, gage height, 25.15 ft (7.666 m); minimum daily, 11 ft³/s (0.31 m³/s) Aug. 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	4890	7520	1310	271	210	6000	6760	10500	1030	673	11	37
2	1660	15400	1200	258	210	6030	4810	5550	702	343	11	34
3	1180	23500	949	242	210	7140	4190	4480	562	324	12	34
4	991	18400	884	236	200	6030	8530	4200	376	312	30	35
5	658	6660	919	243	200	4940	5460	4000	301	301	38	37
6	462	8660	857	256	200	4630	7430	3800	304	1110	37	38
7	591	6940	796	269	200	3610	6540	6000	304	1280	18	36
8	676	8290	759	258	200	2380	5880	8000	288	1290	92	32
9	1130	21400	730	245	200	1850	5280	7000	269	1270	49	28
10	866	22100	690	245	200	1640	6890	5500	253	1250	62	27
11	713	17400	630	245	200	1550	8890	4500	240	1280	48	27
12	728	10100	616	245	775	1490	4600	4700	233	936	42	30
13	932	11200	682	245	4460	1490	5240	4500	218	459	37	35
14	1340	11700	695	245	5240	1410	4560	4300	258	173	37	35
15	1340	8930	675	245	3390	1340	4430	4000	216	98	37	35
16	1320	6100	663	245	2380	1230	3300	3800	195	67	37	36
17	1290	5500	638	245	2770	1020	3130	3500	188	55	37	47
18	1330	4400	609	245	3550	870	4040	3300	9930	45	35	50
19	1340	2700	578	245	3200	807	3310	6000	13400	40	34	79
20	1330	2200	548	245	3040	595	3010	11600	4790	36	36	88
21	1320	2100	520	245	2850	552	2870	5920	8660	34	34	64
22	1280	2100	856	245	2150	576	2810	5000	3200	33	32	48
23	1280	2100	1230	245	2380	698	2590	5560	2670	31	31	41
24	1430	2000	1390	248	3460	13500	2470	6800	2490	31	29	36
25	1150	1900	1380	248	6320	22300	2410	6850	2410	30	28	30
26	1020	1800	1360	240	6280	17500	2230	6580	2340	28	27	25
27	618	1800	1350	230	4230	5280	1500	5100	2290	27	41	20
28	463	1700	1340	230	5000	4470	1010	3830	1420	22	86	18
29	441	1600	943	220	---	7810	844	3260	1060	19	73	18
30	1590	1460	431	220	---	9910	839	3200	1040	16	56	16
31	17800	---	304	220	---	9150	---	1840	---	13	45	---
TOTAL	53159	241160	26532	7564	65705	147798	127653	163170	61637	11626	1222	1120
MEAN	1715	8039	856	244	2347	4768	4255	5264	2055	375	39.4	37.3
MAX	17800	23500	1390	271	6460	22300	8690	11600	13400	1290	92	88
MIN	441	1460	304	220	200	552	839	1840	188	13	11	16
AC-FT	105400	478300	52630	15000	130300	293200	253200	323600	122300	23060	2420	2220
CAL YR 1977 TOTAL	1049591			2876	35500	34	AC-FT	2082000				
WTR YR 1978 TOTAL	908346			2489	23500	11	AC-FT	1802000				

ARKANSAS RIVER BASIN

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07171000 VERDIGRIS RIVER NEAR LENAPAH, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952-64, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1951 to September 1964.

WATER TEMPERATURE: October 1951 to September 1964.

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 (LO- LEVEL) (MG/L)	HARD- NESS (MG/L AS CaCO3)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS Ca)
UCT											
04...	1010	1400	--	--	19.0	--	--	--	--	--	--
18...	1145	1300	440	7.2	14.0	43	8.1	79	17	225	67
25...	1100	1400	--	--	15.0	--	--	--	--	--	--
NOV											
03...	1100	23500	--	--	12.0	--	--	--	--	--	--
14...	1330	10200	--	--	11.0	--	--	--	--	--	--
15...	1210	7510	400	6.8	10.0	78	9.0	82	27	--	--
DEC											
05...	1400	906	--	--	7.5	--	--	--	--	--	--
20...	1110	548	600	7.6	3.0	16	12.2	92	12	263	84
JAN											
26...	1130	240	600	7.4	.5	5	11.9	84	11	--	--
FEB											
15...	1415	3368	--	--	1.0	--	--	--	--	--	--
22...	1200	2080	510	7.0	1.5	7	12.6	91	20	206	62
MAR											
01...	1430	6010	--	--	1.5	--	--	--	--	--	--
21...	1150	532	550	7.9	11.5	2	11.0	102	17	--	--
21...	1420	555	--	--	9.0	--	--	--	--	--	--
APR											
11...	1145	9540	--	--	15.5	--	--	--	--	--	--
18...	1115	4180	470	7.6	16.0	17	9.2	96	17	210	63
MAY											
01...	1140	14300	--	--	15.5	--	--	--	--	--	--
23...	1230	5700	--	--	21.0	--	--	--	--	--	--
24...	1130	6940	350	7.2	23.0	13	8.6	101	26	--	--
JUN											
19...	1300	12000	--	--	23.5	--	--	--	--	--	--
20...	1050	2050	220	7.0	24.0	150	7.2	87	40	97	29
JUL											
25...	1120	30	380	7.6	28.0	40	6.0	77	16	--	--
AUG											
22...	1100	32	590	7.1	28.0	22	6.2	79	25	204	64
SEP											
20...	1115	89	600	6.9	26.0	17	6.0	75	23	--	--

ARKANSAS RIVER BASIN

07171000 VERDIGRIS RIVER NEAR LENAPAH, OK --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM DIS- SOLVED (MG/L AS CACD3)	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 SU4)	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- PENDE (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
04...	--	--	--	--	--	--	--	--	--	--	--
18...	169	13	36	3.2	24	38	.2	274	--	.50	--
25...	--	--	--	--	--	--	--	--	--	--	--
NOV											
03...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	8.0	25	--	--	212	.35	--
DEC											
05...	--	--	--	--	--	--	--	--	--	--	--
20...	211	12	43	2.8	57	40	.6	--	7	.60	--
JAN											
26...	--	--	--	--	54	54	.3	--	7	.30	--
FEB											
15...	--	--	--	--	--	--	--	--	--	--	--
22...	155	10	30	3.9	31	40	9.0	--	28	.30	--
MAR											
01...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	52	39	.3	--	22	.90	--
21...	--	--	--	--	--	--	--	--	--	--	--
APR											
11...	--	--	--	--	--	--	--	--	--	--	--
18...	159	11	17	2.4	46	35	.1	--	177	.80	--
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	13	20	.1	--	225	.50	--
JUN											
19...	--	--	--	--	--	--	--	--	--	--	--
20...	72	5.0	<10	3.5	15	7.0	.1	--	96	1.2	--
JUL											
25...	--	--	--	--	26	24	.2	--	104	.10	1.9
AUG											
22...	160	10	53	5.1	84	12	1.1	--	5	.10	--
SEP											
20...	--	--	--	--	86	11	1.0	--	33	.10	--

DATE	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 NH3)	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT										
04...	--	--	--	--	--	--	--	--	--	--
18...	--	1.3	1.8	8.1	.17	--	--	--	--	1440
25...	--	--	--	--	--	--	--	--	--	--
NOV										
03...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
15...	--	1.9	2.2	10	.19	--	--	--	--	--
DEC										
05...	--	--	--	--	--	--	--	--	--	--
20...	--	.89	1.4	6.6	.13	--	--	--	--	820
JAN										
26...	--	2.0	2.3	11	.14	--	--	--	--	--
FEB										
15...	--	--	--	--	--	--	--	--	--	--
22...	--	1.4	1.7	7.6	.15	1	<1	26	5	3000
MAR										
01...	--	--	--	--	--	--	--	--	--	--
21...	--	1.8	2.7	12	.13	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
APR										
11...	--	--	--	--	--	--	--	--	--	--
18...	--	1.8	2.6	12	.16	--	--	--	--	2100
MAY										
01...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
24...	--	1.0	1.5	7.1	.19	--	--	--	--	--
JUN										
19...	--	--	--	--	--	--	--	--	--	--
20...	--	2.9	4.1	18	.31	--	--	--	--	1920
JUL										
25...	.39	2.2	2.3	11	8.5	--	--	--	--	--
AUG										
22...	--	1.3	1.4	6.4	.25	2	1	11	5	1210
SEP										
20...	--	1.2	1.3	5.8	.72	--	--	--	--	--

ARKANSAS RIVER BASIN

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07171000 VERDIGRIS RIVER NEAR LENAPAH, OK --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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, TOTAL ORGANIC (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT										
04...	--	--	--	--	--	--	--	--	140	529
18...	--	110	--	--	--	--	--	7.0	--	--
25...	--	--	--	--	--	--	--	--	90	340
NOV										
03...	--	--	--	--	--	--	--	--	160	10200
14...	--	--	--	--	--	--	--	--	160	4410
15...	--	--	--	--	--	--	--	15	--	--
DEC										
05...	--	--	--	--	--	--	--	--	60	147
20...	--	130	--	--	--	--	--	2.0	--	--
JAN										
26...	--	--	--	--	--	--	--	13	--	--
FEB										
15...	--	--	--	--	--	--	--	--	170	1550
22...	20	110	1.2	23	<1	<2	300	4.0	--	--
MAR										
01...	--	--	--	--	--	--	--	--	220	3570
21...	--	--	--	--	--	--	--	2.0	--	--
21...	--	--	--	--	--	--	--	--	20	30
APR										
11...	--	--	--	--	--	--	--	--	560	14400
18...	--	140	--	--	--	--	--	6.0	--	--
MAY										
01...	--	--	--	--	--	--	--	--	470	18100
23...	--	--	--	--	--	--	--	--	300	4620
24...	--	--	--	--	--	--	--	19	--	--
JUN										
19...	--	--	--	--	--	--	--	--	180	5830
20...	--	310	--	--	--	--	--	20	--	--
JUL										
25...	--	--	--	--	--	--	--	7.0	--	--
AUG										
22...	15	140	.5	<5	1	<2	13	--	--	--
SEP										
20...	--	--	--	--	--	--	--	12	--	--

ARKANSAS RIVER BASIN

07171300 OOLOGAH LAKE NEAR OOLOGAH, OK

LOCATION.--Lat 36°25'19", long 95°40'43", in NE1/4NW1/4 sec.2, T.22 N., R.15 E., Rogers County, Hydrologic Unit 11070103, in gage tower 1,000 ft (304.8 m) from left end of dam on Verdigris River, 2.0 mi (3.2 km) southeast of Oologah, and at mile 90.3 (145.3 km).

DRAINAGE AREA.--4,539 mi² (11,238 km²).

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

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

REMARKS.--Reservoir is formed by earth dam. Spillway is concrete ogee-type weir controlled by 7 taintor gates. Storage began May 15, 1963, conservation pool was first filled Apr. 4, 1964. Capacity 1,519,000 acre-ft (1.87 km³) at elevation 661.0 ft (201.47 m), top of flood control pool, 553,400 acre-ft (682 hm³) at elevation 638.0 ft (194.46 m), conservation pool. Dead storage 9,260 acre-ft (11.4 hm³) below elevation 592.0 ft (180.44 m). Figures given herein represent total contents. Reservoir is used for flood control and conservation.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,426,000 acre-ft (1.76 km³) Apr. 26, 1973, elevation, 659.33 ft (200.964 m); minimum since conservation pool first filled 33,750 acre-ft (41.6 hm³) Aug. 28, Oct. 27, 1969, elevation, 602.87 ft (183.755 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 795,000 acre-ft (980 hm³) Nov. 12, elevation, 645.34 ft (196.700 m); minimum, 471,300 acre-ft (581 hm³) Sept. 30, elevation, 635.07 ft (193.569 m).

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

635	469,400	641	646,000
637	524,700	643	712,200
639	583,500	645	782,400

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	616600	631000	559200	561500	550000	574200	677900	588100	602500	615700	512000	488500
2	598500	658400	560300	559200	550000	582600	663600	592700	599700	610500	512900	487700
3	582300	688700	560600	558300	550000	583800	669600	603100	595500	604600	514300	487400
4	566600	709800	561200	557200	550300	582600	665400	606800	593000	597600	513700	486900
5	563000	710200	563600	557400	550500	576400	692900	609200	590200	591800	512900	486900
6	558300	708800	560000	556900	550500	572200	696600	606200	588700	582300	511200	485500
7	557400	707700	556000	560300	550500	574300	694900	624600	587800	578900	510600	485300
8	558300	712600	562000	556900	550500	564200	686100	630300	585600	564500	509400	484200
9	557700	747000	557700	555700	550500	557400	689300	629000	582900	560600	508900	483600
10	560600	773900	555100	553100	550500	553700	713600	622700	579200	555100	508300	483400
11	558900	794300	554000	551700	550500	555100	715400	621800	577700	547100	506600	481500
12	558600	790600	552600	551100	550500	554000	711200	624900	577100	539600	506300	481000
13	558000	782400	555400	551100	554300	552800	698300	624900	575200	535300	504500	481200
14	559200	771700	554300	549700	570600	553400	683100	624900	572500	532100	503100	481500
15	561500	763700	550500	549400	578600	553400	670400	624900	570000	532100	503700	480400
16	561500	747700	552800	550300	578300	552600	669400	621800	568200	531000	500900	478800
17	563600	728600	554000	549400	573400	551700	662900	616600	569100	528700	498400	476700
18	564800	706700	554600	549400	570300	552300	653100	616000	587200	527000	500100	476700
19	565700	682500	555100	549400	569100	550300	639800	621500	616600	526700	500100	477200
20	565700	664900	554900	549400	566900	551100	625500	633900	624900	526100	498400	478800
21	567600	638100	552600	549400	557400	551100	612000	638800	651200	524700	497400	478800
22	570000	616300	550800	549400	553400	555100	598600	633600	657400	524700	496800	476100
23	572200	602800	553100	549400	550800	608000	590500	631600	661300	523800	495500	475000
24	574900	586000	556600	549700	552600	622400	586600	631300	659000	521500	494700	475300
25	574600	578000	556000	549700	562000	670100	582300	631600	654100	520100	493600	475300
26	572200	565400	558900	549700	571200	700800	579800	631600	651200	520100	492500	473700
27	571900	563000	560000	550000	574600	705300	576100	629700	648300	518900	492800	474200
28	571900	561500	560000	550000	576100	700800	571900	623300	643400	517500	493100	472900
29	568200	560600	562000	550000	---	697300	564800	617200	638800	516000	493100	472100
30	568200	561200	561800	550000	---	691300	566000	611100	625800	516000	490900	471300
31	605000	---	563600	550000	---	687700	---	605900	---	513700	490100	---
MAX	616600	794300	563600	561500	578600	705300	715400	638800	661300	615700	514300	488500
MIN	557400	560600	550500	549400	550000	550300	564800	588100	568200	513700	490100	471300
†	639.70	638.27	638.35	637.88	638.76	642.28	638.43	639.73	640.38	636.62	635.77	635.07
‡	-11,000	-43,800	+2,400	-13,600	+26,100	+111,600	-121,700	+39,900	+19,900	-112,100	-23,600	-18,800

CAL YR 1977 MAX 860200 MIN 495500 ‡ +66,000
WTR YR 1978 MAX 794300 MIN 471300 ‡ -144,700

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

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07171400 VERDIGRIS RIVER NEAR OOLOGAH, OK

LOCATION.--Lat 36°25'17", long 95°41'01", in NW¼ sec.2, T.22 N., R.15 E., Rogers County, Hydrologic Unit 11070105, on right bank 0.3 mi (0.5 km) downstream from Oologah Dam, 1.2 mi (1.9 km) upstream from Fourmile Creek, 2 mi (3 km) southeast of Oologah, and at mile 90.0 (144.8 km).

DRAINAGE AREA.--4,339 mi² (11,238 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 552.00 ft (168.250 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Some regulation by several dams in Kansas prior to May 1963 and completely regulated thereafter by Oologah Lake (station 07171300).

COOPERATION.--Gage-height record and 12 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(since regulation by Oologah Lake) 14 years (water years 1965-78), 2,958 ft³/s (83.77 m³/s), 2,143,000 acre-ft/yr (2.64 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s (850 m³/s) May 16, 1973, gage height, 38.05 ft (11.598 m); no flow at times in 1967, 1969, 1975-76.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1943 reached a stage of 65.2 ft (19.87 m), from floodmarks. Flood of May 9, 1961, reached a stage of 52.8 ft (16.09 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,200 ft³/s (495 m³/s) Nov. 14, gage height, 27.01 ft (8.233 m); minimum daily, 13 ft³/s (0.37 m³/s) Nov. 1.

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	10100	13	1200	633	606	5230	12300	3120	2820	5840	179	96
2	10000	3530	1200	636	601	7000	12200	3120	2300	3500	179	163
3	9960	8580	1190	637	601	8120	12200	3120	2280	3490	179	160
4	8760	9940	1200	637	594	8080	1270	3120	2250	3490	179	165
5	3890	4910	1230	634	594	8070	4310	3910	2240	3480	180	166
6	2330	9860	1210	635	596	8050	6030	5130	1890	5200	180	135
7	1340	9830	1190	633	597	8050	8190	5130	1190	6200	182	197
8	631	9980	1180	633	596	8050	9530	6220	1190	4380	182	134
9	631	10600	1180	635	595	5740	10500	8050	1190	3300	182	87
10	627	6900	1180	629	595	3040	10500	7100	1180	3840	182	88
11	627	10200	1180	623	597	2270	10500	5990	1180	4280	182	88
12	627	11400	924	622	595	2270	11600	5370	904	4260	181	75
13	627	14300	644	619	595	2270	12300	4180	681	3190	183	55
14	627	16100	642	617	595	1590	13200	4160	679	1500	184	55
15	627	16000	642	618	595	1190	12500	4160	677	151	183	56
16	632	15900	643	613	3070	1180	4230	4150	671	159	185	56
17	634	15800	636	613	5310	1180	6140	5340	669	163	185	56
18	631	15800	631	612	5280	1180	9870	6100	669	167	185	55
19	621	15700	629	610	5260	1180	9850	6110	669	156	185	55
20	615	15600	629	611	5240	801	9810	6110	2760	158	183	54
21	604	15500	624	611	5230	557	9790	6110	3280	161	183	55
22	601	13300	629	609	5220	560	9740	6120	753	166	184	54
23	608	9930	629	610	5210	560	6940	6160	753	171	185	55
24	601	9890	627	607	3640	560	5020	6120	3010	174	186	55
25	1500	7540	627	610	2250	560	3880	6110	4520	176	187	55
26	2050	5170	628	614	2250	2770	3130	6100	4510	177	187	55
27	1400	5150	629	609	4010	6250	3120	6100	4500	177	186	53
28	737	3270	631	607	5230	8260	3120	6100	3810	178	159	53
29	2100	1200	633	607	---	8240	3120	6090	3240	184	84	52
30	1470	1190	631	607	---	10400	3120	6070	7040	182	52	54
31	14	---	633	605	---	12300	---	4920	---	184	31	---
TOTAL	66222	300083	26086	19196	66152	135558	245510	165690	63505	58834	5264	2541
MEAN	2136	10000	841	619	2363	4373	8184	5345	2117	1898	170	84.7
MAX	10100	16100	1230	637	5310	12300	13200	8050	7040	6200	187	197
MIN	14	13	627	605	594	557	3120	3120	669	151	31	52
AC-FT	131400	595200	51740	38080	131200	268900	487000	328600	126000	116700	10440	5040
CAL YR 1977	TOTAL	1106650	MEAN	3032	MAX	26000	MIN	11	AC-FT	2195000		
WTR YR 1978	TOTAL	1154641	MEAN	3163	MAX	16100	MIN	13	AC-FT	2290000		

07171400 VERDIGRIS RIVER NEAR OOLOGAH, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962-63, 1965 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, 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)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS Ca)	
OCT												
13...	1155	623	--	--	14.5	--	--	--	--	--	--	
18...	1310	631	550	7.3	17.0	18	8.0	84	10	123	38	
NOV												
15...	1310	15900	350	6.9	13.0	91	9.1	88	22	--	--	
18...	1520	60000	--	--	10.5	--	--	--	--	--	--	
DEC												
20...	1230	627	310	7.3	3.0	29	11.2	84	15	128	40	
27...	1300	645	--	--	--	--	--	--	--	--	--	
JAN												
26...	1235	613	330	7.6	.5	22	14.0	98	17	--	--	
FEB												
22...	1310	5210	360	7.1	2.0	12	13.2	97	15	148	46	
MAR												
17...	1145	1300	--	--	--	--	--	--	--	--	--	
21...	1300	555	420	7.7	7.0	5	12.0	100	15	--	--	
APR												
14...	1510	13100	--	--	13.0	--	--	--	--	--	--	
18...	1230	9890	400	7.4	15.0	10	10.0	101	14	145	44	
MAY												
24...	1230	6140	390	7.5	20.0	8	8.1	90	14	--	--	
26...	1245	6090	--	--	18.0	--	--	--	--	--	--	
JUN												
20...	1200	2620	410	7.3	24.0	19	7.3	88	10	140	41	
JUL												
25...	1330	176	402	7.3	27.0	45	5.9	75	18	--	--	
AUG												
22...	1210	185	360	7.4	27.0	21	5.1	64	13	157	47	
SEP												
20...	1230	55	380	7.5	26.0	22	6.9	86	13	--	--	
DATE		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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT												
13...	--	--	--	--	--	--	--	--	--	--	--	--
18...	95	6.5	20	3.2	35	--	--	.2	328	--	.50	--
NOV												
15...	--	--	--	--	--	11	17	--	--	229	.52	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
20...	101	6.1	31	3.8	37	17	--	.2	--	5	.50	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
26...	--	--	--	--	--	38	17	.2	--	33	.50	--
FEB												
22...	115	7.5	14	3.9	33	25	--	.1	--	4	.60	--
MAR												
17...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	40	23	.2	--	6	.50	--
APR												
14...	--	--	--	--	--	--	--	--	--	--	--	--
18...	112	8.1	13	2.6	50	28	--	.1	--	6	1.1	--
MAY												
24...	--	--	--	--	--	31	21	.1	--	62	.60	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
20...	103	9.0	17	2.5	43	16	--	.1	--	40	1.5	--
JUL												
25...	--	--	--	--	--	30	22	.2	--	121	.30	.11
AUG												
22...	119	8.5	18	2.5	45	<.0	--	.2	--	29	.30	--
SEP												
20...	--	--	--	--	--	45	57	.2	--	41	.30	--

ARKANSAS RIVER BASIN

07171400 VERDIGRIS RIVER NEAR OOLOGAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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 N(3))	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CU)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT										
13...	--	--	--	--	--	--	--	--	--	--
18...	--	1.1	1.6	7.2	.14	--	--	--	--	290
NOV										
15...	--	1.9	2.4	11	.23	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
DEC										
20...	--	1.1	1.6	7.2	.11	--	--	--	--	1370
27...	--	--	--	--	--	--	--	--	--	--
JAN										
26...	--	1.9	2.4	11	8.5	--	--	--	--	--
FEB										
22...	--	1.9	2.5	11	8.3	1	<1	23	4	1180
MAR										
17...	--	--	--	--	--	--	--	--	--	--
21...	--	1.5	2.0	9.3	7.9	--	--	--	--	--
APR										
14...	--	--	--	--	--	--	--	--	--	--
18...	--	1.3	2.4	11	5.7	--	--	--	--	<100
MAY										
24...	--	1.7	2.5	11	.10	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
JUN										
20...	--	1.8	3.3	15	6.0	--	--	--	--	520
JUL										
25...	2.2	2.3	2.6	12	.11	--	--	--	--	--
AUG										
22...	--	1.2	1.5	6.8	.11	--	<1	14	9	1400
SEP										
20...	--	1.3	1.6	7.2	<.10	--	--	--	--	--
DATE	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)	SILVER, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, TOTAL ORGANIC (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT										
13...	--	--	--	--	--	--	--	--	20	34
18...	--	30	--	--	--	--	--	12	--	--
NOV										
15...	--	--	--	--	--	--	--	8.0	--	--
16...	--	--	--	--	--	--	--	--	40	6480
DEC										
20...	--	50	--	--	--	--	--	5.0	--	--
27...	--	--	--	--	--	--	--	--	40	70
JAN										
26...	--	--	--	--	--	--	--	9.0	--	--
FEB										
22...	11	60	<.5	5	<1	<2	75	4.0	--	--
MAR										
17...	--	--	--	--	--	--	--	--	20	70
21...	--	--	--	--	--	--	--	3.0	--	--
APR										
14...	--	--	--	--	--	--	--	--	20	707
18...	--	<20	--	--	--	--	--	4.0	--	--
MAY										
24...	--	--	--	--	--	--	--	15	--	--
26...	--	--	--	--	--	--	--	--	40	658
JUN										
20...	--	100	--	--	--	--	--	5.0	--	--
JUL										
25...	--	--	--	--	--	--	--	5.0	--	--
AUG										
22...	11	130	<.5	<5	--	<2	35	--	--	--
SEP										
20...	--	--	--	--	--	--	--	7.0	--	--

ARKANSAS RIVER BASIN

07172500 HULAH LAKE NEAR HULAH, OK

LOCATION.--Lat 36°55'44", long 96°05'18", in SE¼ sec.2, T.28 N., R.11 E., Osage County, Hydrologic Unit 11070106, in stair tower at right end of Hulah Dam on Caney River, 0.5 mi (.8 km) downstream from Hickory Creek, 2.0 mi (3.2 km) west of Hulah, 15.7 mi (25.3 km) upstream from Little Caney River, and at mile 96.2 (154.8 km).

DRAINAGE AREA.--732 mi² (1,896 km²).

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

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

REMARKS.--Reservoir is formed by an earth dam. Spillway is 472-ft (143.9 m) concrete ogee-type weir controlled by 10 taintor gates. Outlet works consist of nine rectangular sluices, two 24-inch (0.61 m) gated pipes, and one 10-inch (254 mm) water supply pipe. Closure for diversion made Feb. 6, 1950; regulated storage began Oct. 25, 1950; conservation pool was first filled Sept. 24, 1951. Capacity, 292,600 acre-ft (361 hm³) at elevation 765.0 ft (233.17 m), top of taintor gates, 65,600 acre-ft (80.9 hm³) at elevation 740.0 ft (225.55 m), crest of spillway, and 34,660 acre-ft (42.7 hm³) at elevation 733.0 ft (223.42 m) conservation pool. Dead storage, 506 acre-ft (.62 hm³) below elevation 706.0 ft (215.19 m) invert of sluices. Figures given herein represent total contents. Reservoir is used for flood control, conservation, and municipal water supply. Revised capacity table, based on survey in 1958, used since Oct. 1, 1958.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 293,400 acre-ft (362 hm³) June 23, 1957, elevation, 764.87 ft (233.132 m); minimum since conservation pool was first filled, 11,250 acre-ft (13.9 hm³) Mar. 20, 1957, elevation, 723.22 ft (220.437 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 108,500 acre-ft (134 hm³) May 23, elevation, 746.46 ft (227.521 m), minimum, 21,400 acre-ft (26.4 hm³) Sept. 30, elevation, 730.00 ft (222.504 m).

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

730	21,400	739	56,350
734	34,790	742	72,260
737	47,070	747	105,100

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	46450	35940	32130	30970	31010	43820	32640	41770	57770	37770	28570	24420
2	44850	64670	32090	30940	30970	44160	33040	42640	52700	36630	28570	24390
3	42180	68530	32050	30970	30940	43950	34720	45670	47330	35320	28570	24360
4	34480	68420	32050	31010	30900	43100	36900	45970	41770	34040	28500	24360
5	34790	66060	32050	31050	30900	42060	33360	44720	37650	32860	28400	24140
6	32270	63340	31800	31080	30900	41070	40980	47110	34340	32270	28260	24140
7	31550	58620	31660	31120	30970	40530	41190	54990	32050	31870	28130	24080
8	31370	57130	31660	31080	30940	39760	40900	56300	31370	31940	27990	23990
9	31190	64880	31400	31010	30940	38680	40290	54740	31120	31730	27890	23860
10	31010	68090	31220	30970	30830	37410	43440	51720	31050	31730	27890	23550
11	30970	68480	31050	30940	30760	36280	42810	49930	30900	31370	27660	23340
12	31010	64030	30940	30970	36050	35020	40250	47550	30900	31010	27560	23220
13	31080	59830	30830	31010	44120	33890	37330	44290	30940	31050	27360	23100
14	31150	55660	30650	30940	46670	32490	35940	41070	30940	31050	27360	23010
15	31190	51540	30410	30970	47290	31730	35520	41730	30940	30760	27090	22850
16	31190	47420	30580	31190	46410	31620	34760	35400	30900	30690	26990	22730
17	31260	43140	30480	31150	45280	31800	34570	33820	31050	30480	26730	22640
18	31300	39640	30510	31150	43990	32020	34570	57730	60190	30340	26630	22490
19	31300	37180	30760	31120	42600	32160	33780	93560	61880	30090	26630	22610
20	31260	34720	30870	31120	41190	32310	33080	99500	67480	29950	26500	22430
21	31300	33000	30800	31050	39640	32490	32780	104100	75950	29910	26340	22230
22	31400	32090	30800	31010	38360	32670	32820	107600	78480	29810	26140	22080
23	32380	31690	30830	31010	38880	33450	32750	107500	77380	29710	25880	21990
24	32710	31660	30870	31010	41680	39920	32640	103000	72090	29710	25600	21900
25	32820	31580	30870	31010	44420	42140	32530	97520	66230	29570	25340	21810
26	32890	32050	30900	31010	44970	43520	32130	91920	60390	29500	25120	21840
27	32970	32160	30870	30970	44890	42350	31870	86140	54170	29430	25050	21700
28	33040	32130	30870	30970	44500	39440	31980	81000	48310	29220	25120	21550
29	33080	32160	30940	30940	---	36210	32090	75350	42350	29010	24890	21460
30	33590	32160	30940	30940	---	33040	33860	69480	38880	28840	24770	21400
31	33780	---	31120	30940	---	32380	---	63660	---	28740	24580	---
MAX	46450	68530	32130	31190	47290	44160	43440	107600	78480	37770	28570	24420
MIN	30970	31580	30410	30940	30760	31620	31870	33820	30900	28740	24580	21400
†	733.73	733.29	733.00	732.95	736.41	733.35	733.75	740.44	735.05	732.32	731.05	730.00
‡	-1,510	-1,620	-1,040	-180	+13,560	-12,120	+1,480	+29,800	-24,780	-10,140	-4,160	-3,180

CAL YR 1977 MAX 118600 MIN 21170 † +5,980
WTR YR 1978 MAX 107600 MIN 21400 ‡ -13,890

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

07173000 CANEY RIVER NEAR HULAH, OK

LOCATION.--Lat 36°55'34", long 96°05'01", in NE¼NE¼ sec.11, T.28 N., R.11 E., Osage County, Hydrologic Unit 11070106, on left bank 1,200 ft (365.8 m) downstream from Hulah Dam, 2.1 mi (3.4 km) upstream from Opossum Creek, 2.5 mi (4.0 km) west of Hulah, and at mile 95.9 (154.3 km).

DRAINAGE AREA.--733 mi² (1,898 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 699.00 ft (213.055 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 18, 1939 nonrecording gage. Feb. 18, 1939 to Sept. 30, 1948, water-stage recorder, at county road bridge, 0.2 mi (0.3 km) upstream at datum 14.04 ft (4.279 m) lower. Oct. 1, 1948 to Sept. 30, 1972 at site 0.6 mi (1.0 km) downstream at datum 17.04 ft (5.194 m) lower.

REMARKS.--Records good. Flow completely regulated since February 1950 by Hulah Lake (station 07172500). About 5 to 9 ft³/s (0.14 to 0.25 m³/s) is diverted above station by city of Bartlesville for municipal water supply.

COOPERATION.--Gage-height record and 17 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(Prior to regulation by Hulah Dam) 13 years (water years 1938-50), 413 ft³/s (11.70 m³/s), 299,200 acre-ft/yr (369 hm³/yr); (since regulation by Hulah Dam) 28 years (water years 1951-78), 341 ft³/s (9.657 m³/s), 247,100 acre-ft/yr (305 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,000 ft³/s (1,444 m³/s) Apr. 10, 1944, gage height, 39.45 ft (12.024 m), at former site and datum; no flow at times in 1939-40, 1946, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 40.2 ft (12.25 m) occurred at former site and datum, date unknown, from floodmark, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,590 ft³/s (102 m³/s) Nov. 9, gage height, 7.32 ft (2.231 m); minimum daily, 13 ft³/s (0.37 m³/s) Sept. 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	1010	23	168	51	45	805	168	114	2660	668	35	36
2	1010	475	168	51	41	805	168	103	2620	666	35	35
3	1380	1070	168	51	41	805	184	103	2570	668	35	35
4	1830	1380	168	51	40	805	183	702	2520	661	35	35
5	1820	1980	168	51	40	804	178	1100	2150	656	35	35
6	1360	1980	168	51	40	801	689	1110	1820	436	35	35
7	499	2650	168	51	40	798	1010	1110	1350	223	35	35
8	197	3320	168	51	40	797	1010	1130	573	158	35	35
9	193	1550	168	52	40	797	1000	1600	242	158	35	35
10	193	23	168	49	40	801	993	2080	175	158	35	35
11	90	1060	168	50	40	790	1400	2070	175	158	35	43
12	18	2310	168	50	57	789	1910	2020	98	105	35	47
13	17	2310	168	50	48	792	1880	2000	45	44	35	27
14	17	2290	168	50	45	780	1150	1980	45	39	35	13
15	17	2280	168	51	425	602	675	1950	45	38	34	15
16	17	2250	98	52	797	300	674	1590	44	38	35	15
17	17	2220	53	52	797	158	667	958	43	38	35	14
18	19	1890	52	52	789	128	660	662	97	38	35	14
19	21	1480	52	52	789	128	652	231	50	38	35	15
20	21	1450	52	52	781	128	660	241	59	38	35	15
21	21	1060	52	52	781	128	406	237	62	38	35	14
22	21	700	52	52	781	128	254	243	65	37	35	16
23	29	423	52	52	774	125	254	1160	1080	35	35	18
24	31	171	52	52	789	146	254	2680	2590	35	35	18
25	31	169	52	52	797	142	254	3010	2710	35	35	18
26	25	168	52	52	805	140	254	2980	2650	35	35	18
27	21	168	52	52	805	955	259	2940	2610	35	35	18
28	21	168	52	52	805	1870	195	2870	2560	35	39	18
29	21	168	52	52	---	1860	96	2810	2520	35	35	18
30	22	168	52	52	---	1850	97	2760	1610	35	35	18
31	23	---	52	52	---	851	---	2700	---	35	35	---
TOTAL	10012	37354	3399	1572	11312	20808	18234	47244	35818	5416	1088	743
MEAN	323	1245	110	50.7	404	671	608	1524	1194	175	35.1	24.8
MAX	1830	3320	168	52	805	1870	1910	3010	2710	668	39	47
MIN	17	23	52	32	40	125	96	103	43	35	34	13
AC-FT	19860	74090	6740	3120	22440	41270	36170	93710	71040	10740	2160	1470

CAL YR 1977 TOTAL 179534.0 MEAN 492 MAX 3340 MIN 8.0 AC-FT 356100
WTR YR 1978 TOTAL 193000.0 MEAN 529 MAX 3320 MIN 13 AC-FT 362800

ARKANSAS RIVER BASIN

07173000 CANEY RIVER NEAR HULAH, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952-53, 1956, 1958, 1960, 1963-64, 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 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- MMOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUN- 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)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	
OCT												
03...	1210	1020	--	--	18.0	--	--	--	--	--	--	
17...	1640	17	330	8.2	17.0	57	9.6	101	18	155	50	
25...	1215	32	--	--	15.5	--	--	--	--	--	--	
NOV												
08...	1400	3220	--	--	14.5	--	--	--	--	--	--	
10...	1300	23	--	--	13.5	--	--	--	--	--	--	
14...	1400	2290	320	8.1	12.5	32	9.9	95	17	--	--	
DEC												
01...	--	160	357	--	--	--	--	--	--	--	--	
19...	1515	52	405	8.2	6.0	32	12.2	99	12	210	67	
JAN												
25...	1515	52	590	8.0	1.0	10	13.6	98	8	--	--	
FEB												
21...	1700	781	475	8.0	2.5	10	14.7	109	14	--	--	
MAR												
01...	--	1020	--	--	--	--	--	--	--	--	--	
20...	1145	124	--	--	5.5	--	--	--	--	--	--	
20...	1430	128	410	8.5	8.5	2	12.1	105	14	--	--	
APR												
17...	1500	675	461	8.4	18.0	7	9.1	100	12	187	57	
MAY												
23...	1730	2190	260	7.8	22.0	38	7.9	92	20	--	--	
JUN												
19...	1430	50	190	8.0	24.0	160	6.8	82	35	100	32	
JUL												
24...	1500	35	310	7.7	28.0	53	7.5	96	18	--	--	
AUG												
21...	1700	35	370	8.4	27.5	66	7.9	101	16	154	48	
SEP												
25...	1045	18	340	7.1	20.0	82	9.0	100	22	--	--	
DATE		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 SU4)	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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT												
03...	--	--	--	--	--	--	--	--	--	--	--	--
17...	125	6.7	5.0	2.6	14	17	.2	230	--	--	.40	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
08...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	<3.0	11	--	--	21	.27	--
DEC												
01...	--	--	--	--	--	--	--	--	--	--	--	--
19...	169	9.3	14	2.5	32	16	.1	--	--	22	.30	--
JAN												
25...	--	--	--	--	--	28	28	.2	--	38	.30	--
FEB												
21...	--	--	--	--	--	20	25	.1	--	30	.40	--
MAR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	27	20	.2	--	3	.40	--
APR												
17...	144	9.7	14	1.8	16	29	.2	--	--	42	.20	--
MAY												
23...	--	--	--	--	--	<1.0	10	.1	--	417	.60	--
JUN												
19...	80	4.0	<10	2.4	3.0	3.0	.1	--	--	374	.20	--
JUL												
24...	--	--	--	--	--	33	17	.1	--	82	.50	4.0
AUG												
21...	121	7.3	21	2.4	23	<1.0	.2	--	--	89	.60	--
SEP												
25...	--	--	--	--	--	10	11	.2	--	113	.20	--

ARKANSAS RIVER BASIN

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07173000 CANEY RIVER NEAR HULAH, OK --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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 NUS)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CU)	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)
OCT										
03...	--	--	--	--	--	--	--	--	--	--
17...	--	2.2	2.6	12	.24	--	--	--	--	1390
25...	--	--	--	--	--	--	--	--	--	--
NOV										
08...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
14...	--	1.2	1.5	6.6	.08	--	--	--	--	--
DEC										
01...	--	--	--	--	--	--	--	--	--	--
19...	--	1.1	1.4	6.3	.06	--	--	--	--	1600
JAN										
25...	--	1.2	1.5	7.0	.16	--	--	--	--	--
FEB										
21...	--	1.5	1.9	8.6	5.0	--	--	--	--	--
MAR										
01...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	1.4	1.8	8.2	4.9	--	--	--	--	--
APR										
17...	--	1.5	1.7	7.7	5.7	--	--	--	--	1510
MAY										
23...	--	1.3	1.9	8.7	.13	--	--	--	--	--
JUN										
19...	--	1.4	1.6	7.5	.17	--	--	--	--	1670
JUL										
24...	1.8	1.8	2.3	10	.14	--	--	--	--	--
AUG										
21...	--	1.2	1.8	8.1	.14	1	<1	13	8	1750
SEP										
25...	--	1.4	1.6	7.3	.13	--	--	--	--	--
DATE	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, TOTAL ORGANIC (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT										
03...	--	--	--	--	--	--	--	--	120	330
17...	--	120	--	--	--	--	--	6.0	--	--
25...	--	--	--	--	--	--	--	--	80	6.9
NOV										
08...	--	--	--	--	--	--	--	--	100	869
10...	--	--	--	--	--	--	--	--	70	4.3
14...	--	--	--	--	--	--	--	10	--	--
DEC										
01...	--	--	--	--	--	--	--	--	40	17
19...	--	90	--	--	--	--	--	5.0	--	--
JAN										
25...	--	--	--	--	--	--	--	3.0	--	--
FEB										
21...	--	--	--	--	--	--	--	3.0	--	--
MAR										
01...	--	--	--	--	--	--	--	--	50	138
20...	--	--	--	--	--	--	--	--	50	17
20...	--	--	--	--	--	--	--	1.0	--	--
APR										
17...	--	60	--	--	--	--	--	2.0	--	--
MAY										
23...	--	--	--	--	--	--	--	19	--	--
JUN										
19...	--	300	--	--	--	--	--	15	--	--
JUL										
24...	--	--	--	--	--	--	--	5.0	--	--
AUG										
21...	11	170	<5.0	<5	<1	<2	14	--	--	--
SEP										
25...	--	--	--	--	--	--	--	6.0	--	--

ARKANSAS RIVER BASIN

07174200 LITTLE CANEY RIVER BELOW COTTON CREEK NEAR COPAN, OK

LOCATION.--Lat 36°53'42", long 95°58'09", in W₁ sec.19, T.28 N., R.13 E., Washington County, Hydrologic Unit 11070106, near right bank on downstream side of pier of bridge on State Highway 10, 2 mi (3 km) west of Copan, 4.2 mi (6.8 km) downstream from Cotton Creek, and at mile 8.8 (14.2 km).

DRAINAGE AREA.--502 mi² (1,300 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1958 to current year. Prior to October 1962, published as Caney Creek below Cotton Creek near Copan.

GAGE.--Water-stage recorder. Datum of gage is 672.23 ft (204.900 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair below 2,400 ft³/s (68 m³/s) and poor above.

COOPERATION.--Gage-height record and 24 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--20 years, 279 ft³/s (7.901 m³/s), 202,100 acre-ft/yr (249 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,700 ft³/s (671 m³/s) May 9, 1961, gage height, 24.94 ft (7.602 m); no flow at times in 1962-66, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in April 1944 reached a stage of 29.3 ft (8.93 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,630 ft³/s (159 m³/s) at 2030 June 19, gage height, 21.67 ft (6.605 m), no other peaks above base of 5,000 ft³/s (142 m³/s); maximum daily discharge, 0.15 ft³/s (0.004 m³/s) Sept. 27.

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	246	215	64	19	19	428	200	3610	161	85	4.0	1.4
2	133	1840	66	18	20	421	177	4530	138	69	3.7	1.1
3	66	3740	61	18	20	625	218	2980	137	57	3.6	1.1
4	66	2970	57	17	20	421	2290	1570	136	47	5.5	1.0
5	53	1500	57	17	20	524	1060	961	114	38	6.4	2.3
6	44	823	54	16	21	266	1030	752	143	31	5.4	2.4
7	38	569	51	16	21	243	814	1470	143	27	6.8	2.3
8	34	511	50	15	20	253	583	3010	117	24	7.2	2.4
9	31	3250	46	16	21	215	390	2290	98	215	6.2	2.4
10	29	3560	43	17	22	181	896	1230	84	114	6.0	2.2
11	25	1900	43	18	23	161	2090	876	68	64	5.6	1.8
12	23	924	42	17	186	145	833	1090	56	43	4.5	1.5
13	20	576	40	16	1970	122	501	463	46	27	4.4	1.3
14	17	399	42	16	1930	117	346	294	38	22	4.0	1.1
15	15	312	42	16	1250	110	271	228	33	19	3.4	.98
16	14	267	42	16	550	102	215	187	35	13	3.0	.89
17	13	234	41	17	350	92	197	158	32	13	3.0	.76
18	11	199	39	17	270	84	300	1280	2400	12	2.3	.64
19	9.8	178	36	19	200	80	199	3700	4930	11	1.7	.47
20	9.9	150	34	19	160	72	154	3860	3970	10	1.8	.30
21	11	129	32	19	140	69	129	4090	4270	9.3	2.3	.30
22	8.1	115	31	19	120	68	116	3490	3870	8.3	1.9	.29
23	10	106	29	19	250	82	108	2390	1740	7.6	1.7	.67
24	14	95	28	21	650	1290	93	1660	836	6.9	1.5	1.1
25	71	90	27	21	1130	2690	83	1170	570	6.5	1.1	.47
26	72	83	26	22	925	1360	75	791	354	6.5	1.1	.24
27	56	75	25	23	600	799	71	548	239	7.0	1.5	.15
28	44	69	23	20	495	546	66	388	166	6.1	1.4	.20
29	37	66	22	19	---	387	61	326	132	5.3	1.1	.28
30	36	62	21	19	---	289	58	258	105	4.6	1.1	.32
31	744	---	20	19	---	237	---	199	---	4.3	1.1	---
TOTAL	2020.8	25007	1234	561	11403	12279	13624	49849	25161	1013.4	104.6	32.36
MEAN	65.2	834	39.8	18.1	407	396	454	1608	839	32.7	3.37	1.08
MAX	744	3740	66	23	1970	2690	2290	4330	4930	215	7.2	2.4
MIN	8.1	62	20	15	19	68	58	158	32	4.3	1.1	.15
AC-FT	4010	49600	2450	1110	22620	24360	27020	98880	49910	2010	207	64

CAL YR 1977 TOTAL 113377.60 MEAN 311 MAX 11300 MIN 3.0 AC-FT 224900
WTR YR 1978 TOTAL 142289.16 MEAN 390 MAX 4930 MIN .15 AC-FT 282200

ARKANSAS RIVER BASIN

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07174200 LITTLE CANEY RIVER BELOW COTTON CREEK NEAR COPAN, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967-68, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to September 1968.

WATER TEMPERATURE: October 1966 to September 1968.

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 (MICRO- MHMS)	pH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DEMAND, CHEMICAL (CENT (LON SATURATION LEVEL)	HARDNESS (MG/L AS CaCO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS Ca)
OCT										
03...	1430	80	--	--	18.5	--	--	--	--	--
18...	0930	12	720	7.6	12.0	6	8.4	79	17	237 74
25...	1030	81	--	--	15.5	--	--	--	--	--
NOV										
03...	1345	3770	--	--	13.0	--	--	--	--	--
04...	1045	3790	--	--	14.5	--	--	--	--	--
10...	1430	3460	--	--	13.5	--	--	--	--	--
14...	1500	383	370	8.0	11.5	41	9.6	90	--	--
DEC										
01...	1045	53	--	--	--	--	--	--	--	--
19...	1400	35	750	7.9	6.0	15	11.9	97	10	297 95
JAN										
25...	1600	21	1000	7.4	.0	9	13.4	94	13	--
FEB										
14...	1300	1760	--	--	1.0	--	--	--	--	--
21...	1745	177	495	7.7	.5	24	13.8	97	21	--
MAR										
01...	1145	428	--	--	1.0	--	--	--	--	--
20...	1315	72	--	--	10.0	--	--	--	--	--
20...	1545	71	690	8.0	11.0	2	11.8	109	17	--
23...	--	82	--	--	--	--	--	--	--	67
27...	1115	603	--	--	--	--	--	--	--	--
APR										
17...	1345	201	531	7.9	18.0	31	8.2	89	27	178 53
17...	1420	203	--	--	15.5	--	--	--	--	--
MAY										
01...	1415	4220	--	--	15.5	--	--	--	--	--
02...	1315	4410	--	--	15.5	--	--	--	--	--
03...	1115	2840	--	--	14.5	--	--	--	--	--
23...	1630	2140	290	7.7	23.5	19	6.7	80	36	--
JUN										
19...	1230	4800	140	6.7	23.0	160	4.4	51	41	64 19
JUL										
24...	1330	6.9	580	7.5	27.0	15	7.5	94	15	--
AUG										
21...	1600	2.3	640	8.2	29.5	22	6.8	89	18	217 69
SEP										
25...	1000	.40	600	7.3	22.0	34	4.0	46	19	--

ARKANSAS RIVER BASIN

07174200 LITTLE CANEY RIVER BELOW COTTON CREEK NEAR COPAN --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM DIS- SOLVED (MG/L AS CACU3)	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 SU4)	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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
18...	185	11	50	3.8	24	80	.1	383	--	.40	--
25...	--	--	--	--	--	--	--	--	--	--	--
NOV											
03...	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	<3.0	26	--	--	--	--	--
DEC											
01...	--	--	--	--	--	--	--	--	--	--	--
19...	238	13	57	2.7	42	95	.1	--	3	.20	--
JAN											
25...	--	--	--	--	47	147	.2	--	9	.10	--
FEB											
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	29	54	9.0	--	42	.60	--
MAR											
01...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	40	75	.1	--	10	.10	--
23...	--	10	40	2.4	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
APR											
17...	135	9.1	27	2.9	19	56	.1	--	190	.30	--
17...	--	--	--	--	--	--	--	--	--	--	--
MAY											
01...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	<1.0	18	.1	--	360	.20	--
JUN											
19...	47	3.0	15	3.4	3.0	6.0	.1	--	396	.30	--
JUL											
24...	--	--	--	--	19	66	.2	--	26	.10	2.7
AUG											
21...	174	9.8	48	3.0	25	38	.2	--	38	.20	--
SEP											
25...	--	--	--	--	16	95	.2	--	47	.20	--

DATE	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)	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)
OCT										
03...	--	--	--	--	--	--	--	--	--	--
18...	--	1.1	1.5	6.8	.09	--	--	--	--	380
25...	--	--	--	--	--	--	--	--	--	--
NOV										
03...	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
DEC										
01...	--	--	--	--	--	--	--	--	--	--
19...	--	1.2	1.4	6.5	.07	--	--	--	--	790
JAN										
25...	--	1.9	2.0	8.9	.12	--	--	--	--	--
FEB										
14...	--	--	--	--	--	--	--	--	--	--
21...	--	1.6	2.2	10	.10	--	--	--	--	--
MAR										
01...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	1.5	1.6	7.5	9.3	--	--	--	--	--
23...	--	--	--	--	--	<1	<1	<5	<2	1210
27...	--	--	--	--	--	--	--	--	--	--
APR										
17...	--	1.6	1.9	8.8	.20	--	--	--	--	2800
17...	--	--	--	--	--	--	--	--	--	--
MAY										
01...	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
23...	--	1.2	1.4	6.4	.13	--	--	--	--	--
JUN										
19...	--	2.5	2.8	13	.23	--	--	--	--	2300
JUL										
24...	1.5	1.5	1.6	7.3	5.5	--	--	--	--	--
AUG										
21...	--	1.2	1.4	6.3	.14	<1	<1	8	8	1200
SEP										
25...	--	<1.0	--	--	.10	--	--	--	--	--

ARKANSAS RIVER BASIN

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07174200 LITTLE CANEY RIVER BELOW COTTON CREEK NEAR COPAN --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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 RECOV- ERABLE (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)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT										
03...	--	--	--	--	--	--	--	--	90	19
18...	--	80	--	--	--	--	--	7.0	--	--
25...	--	--	--	--	--	--	--	--	40	8.7
NOV										
03...	--	--	--	--	--	--	--	--	240	2440
04...	--	--	--	--	--	--	--	--	270	2760
10...	--	--	--	--	--	--	--	--	230	2150
14...	--	--	--	--	--	--	--	--	--	--
DEC										
01...	--	--	--	--	--	--	--	--	50	7.2
19...	--	220	--	--	--	--	--	4.0	--	--
JAN										
25...	--	--	--	--	--	--	--	4.0	--	--
FEB										
14...	--	--	--	--	--	--	--	--	300	1430
21...	--	--	--	--	--	--	--	3.0	--	--
MAR										
01...	--	--	--	--	--	--	--	--	110	127
20...	--	--	--	--	--	--	--	--	60	12
20...	--	--	--	--	--	--	--	2.0	--	--
23...	16	190	5.0	8	--	<2	6	--	--	--
27...	--	--	--	--	--	--	--	--	210	455
APR										
17...	--	170	--	--	--	--	--	14	--	--
17...	--	--	--	--	--	--	--	--	90	49
MAY										
01...	--	--	--	--	--	--	--	--	400	4560
02...	--	--	--	--	--	--	--	--	390	4640
03...	--	--	--	--	--	--	--	--	480	3680
23...	--	--	--	--	--	--	--	25	--	--
JUN										
19...	--	20	--	--	--	--	--	17	--	--
JUL										
24...	--	--	--	--	--	--	--	<5.0	--	--
AUG										
21...	10	110	<.5	5	<1	2	10	--	--	--
SEP										
25...	--	--	--	--	--	--	--	6.0	--	--

ARKANSAS RIVER BASIN

07174600 SAND CREEK AT OKESA, OK

LOCATION.--Lat 36°43'10", long 96°07'56", in NW¼NW¼ sec.21, T.26 N., R.11 E., Osage County, Hydro-logic Unit 11070106, on downstream side of left abutment of county road bridge, 0.5 mi (0.8 km) north-east of Oksa, 9 mi (14 km) southwest of Bartlesville, and at mile 17.2 (27.7 km).

DRAINAGE AREA.--139 mi² (360 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 689.20 ft (210.068 m) National Geodetic Vertical Datum of 1929. Prior to May 25, 1960, nonrecording gage at same site and datum.

REMARKS.--Records fair.

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

AVERAGE DISCHARGE.--19 years, 70.4 ft³/s (1.994 m³/s), 51,000 acre-ft/yr (62.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,700 ft³/s (416 m³/s) Sept. 13, 1961, gage height, 27.7 ft (8.44 m), from floodmarks; no flow at times in each year except 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Feb. 13	0030	4,170	118	May 18	1645	5,490	155
Apr. 4	0330	3,650	103	May 20	0030	*6,710	190
May 1	0800	3,210	90.9				*16.53 5.038

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	30	25	13	4.7	4.5	87	44	1500	36	7.3	.00	.00
2	19	200	13	4.5	4.5	106	41	252	30	5.7	.00	.00
3	15	100	12	4.5	4.7	192	268	874	26	4.3	.00	.00
4	10	60	12	4.7	4.7	102	1550	376	23	3.1	.00	.00
5	9.0	50	13	4.7	4.7	65	306	162	21	2.9	.00	.00
6	8.0	45	11	4.7	4.8	57	704	49	20	2.2	.00	.00
7	7.0	40	10	4.6	5.1	278	249	157	20	1.5	.00	.00
8	6.0	300	9.6	4.5	5.3	259	157	238	18	1.4	.00	.00
9	5.0	200	8.4	4.5	5.4	132	123	93	17	1.1	.00	.00
10	4.5	120	8.2	4.4	5.5	92	156	52	16	.66	.00	.00
11	4.0	90	7.6	4.2	5.7	73	238	41	14	.49	.00	.00
12	3.5	70	7.5	4.2	927	60	127	60	12	.35	.00	.00
13	3.2	60	6.7	4.2	1710	50	96	50	10	.26	.00	.00
14	2.9	56	6.5	4.2	305	45	78	34	8.7	.27	.00	.00
15	2.7	51	6.7	4.0	167	42	66	24	7.4	.18	.00	.00
16	2.5	44	6.6	4.5	116	40	59	19	6.4	.07	.00	.00
17	2.4	37	6.2	4.7	85	37	58	16	5.5	.00	.00	.00
18	2.3	34	5.8	4.9	61	35	61	1740	7.1	.00	.00	.00
19	2.2	30	5.8	4.9	51	32	71	1450	50	.00	.00	.00
20	2.1	26	5.8	4.8	47	29	61	1910	37	.00	.00	.00
21	2.0	25	5.8	4.7	40	27	50	283	112	.00	.00	.00
22	2.0	22	5.5	4.6	36	27	45	360	231	.00	.00	.00
23	3.0	20	5.0	4.5	153	48	42	200	79	.00	.00	.00
24	7.0	19	4.8	4.5	310	1150	38	118	47	.00	.00	.00
25	15	17	4.5	4.6	297	387	34	79	30	.00	.00	.00
26	11	16	4.5	4.7	145	182	31	57	18	.00	.00	.00
27	9.0	15	4.5	4.7	93	122	29	47	14	.00	.00	.00
28	8.0	15	4.5	4.7	82	90	29	104	11	.00	.00	.00
29	7.0	14	4.2	4.7	---	73	30	134	9.7	.00	.00	.00
30	6.5	14	4.2	4.6	---	58	32	71	8.9	.00	.00	.00
31	50	---	4.4	4.5	---	50	---	48	---	.00	.00	---
TOTAL	261.8	1815	227.8	141.2	4679.9	4027	4873	10648	945.7	31.78	.00	.00
MEAN	8.45	60.5	7.35	4.55	167	130	162	343	31.5	1.03	.000	.000
MAX	50	300	13	4.9	1710	1150	1550	1910	231	7.3	.00	.00
MIN	2.0	14	4.2	4.0	4.5	27	29	16	5.5	.00	.00	.00
AC-FT	519	3600	452	280	9280	7990	9670	21120	1880	63	.00	.00

CAL YR 1977 TOTAL 15989.70 MEAN 43.8 MAX 3280 MIN .00 AC-FT 31720
WTR YR 1978 TOTAL 27651.18 MEAN 75.8 MAX 1910 MIN .00 AC-FT 54850

LOCATION.--Lat 36°30'31", long 95°50'36", in NE¼NW¼ sec.5, T.23 N., R.14 E., Washington County, Hydrologic Unit 11070106, near left bank on downstream side of pier of county road bridge, 1 mi (1.6 km) upstream from Buck Creek, 2.2 mi (3.5 km) downstream from Double Creek, 4.5 mi (7.2 km) southeast of Ramona, and at mile 32.0 (51.5 km).

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1241: 1939.

REMARKS.--Records fair. Some regulation since February 1950 by Hulah Lake (station 07172500).

AVERAGE DISCHARGE.--36 years, 967 ft³/s (27.39 m³/s), 700,600 acre-ft/yr (863 hm³/yr).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,500 ft³/s (212 m³/s) and maximum (*):

DATE	TIME	DISCHARGE		GAGE HEIGHT		DATE	TIME	DISCHARGE		GAGE HEIGHT	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
Nov. 10	1000	*9,280	263	*26.12	7.961	May 21	0230	7,560	214	22.22	6.773
Apr. 5	0130	8,110	230	23.52	7.169						

Minimum discharge, 21 ft³/s (0.59 m³/s) Sept. 19-21.

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	1680	1360	316	117	95	2040	1780	2860	3670	2380	54	49
2	1470	2100	308	114	93	2190	629	5470	3580	869	57	49
3	1330	6430	308	109	90	2660	587	6210	3500	777	65	49
4	1480	6170	312	107	89	2420	6260	6330	3450	756	89	49
5	2080	5290	336	113	91	1940	7030	3770	3410	743	68	52
6	2100	4400	332	112	95	1720	4090	2820	2890	726	59	52
7	1750	3530	314	112	102	2330	3920	3850	2340	616	57	52
8	865	3750	303	112	102	3360	2880	3660	1630	418	57	52
9	320	7980	293	107	102	2370	2390	4250	893	274	55	52
10	267	9120	282	107	100	1900	2500	4250	500	356	55	52
11	260	7060	276	107	100	1700	2980	3790	328	394	55	55
12	242	4080	274	107	454	1560	3910	4420	304	301	54	54
13	136	4010	277	107	5850	1460	3500	3940	272	266	52	55
14	89	3660	276	105	6400	1420	3010	3100	165	167	50	57
15	74	3380	274	105	3890	1320	2160	2710	123	113	50	58
16	62	3300	272	105	2760	1180	1160	2530	109	94	50	43
17	55	3110	261	105	2650	799	1080	2100	99	88	48	29
18	55	2990	172	105	2200	529	1100	1420	651	81	47	24
19	55	2640	136	103	1900	529	1200	5000	4380	77	51	22
20	53	1980	132	100	1600	332	1040	6640	5210	74	49	21
21	52	1670	127	98	1500	327	933	7220	6080	74	49	23
22	53	1610	121	98	1410	313	751	6120	5840	72	49	28
23	68	973	120	102	1530	854	497	5310	4960	68	49	26
24	105	790	119	105	2070	6130	463	4120	3450	68	49	24
25	107	418	117	105	2760	6450	443	4530	3990	65	49	23
26	147	360	115	103	3120	4470	485	4740	4080	62	49	43
27	152	348	114	103	2720	2760	410	4490	3820	61	51	41
28	141	332	115	100	2250	2460	396	4260	3630	60	57	31
29	115	328	115	100	---	3090	375	4090	3490	60	59	27
30	107	324	115	98	---	2890	262	3990	3380	59	52	26
31	752	---	115	96	---	2730	---	3820	---	57	51	---
TOTAL	16222	93693	6749	3267	46123	66233	58161	131810	80224	10276	1686	1218
MEAN	523	3123	218	105	1647	2137	1939	4252	2674	331	54.4	40.6
MAX	2100	9120	336	117	6400	6450	7030	7220	6080	2380	89	58
MIN	52	324	114	96	89	313	262	1420	99	57	47	21
AC-FT	32180	185800	13390	6480	91480	131400	115400	261400	199100	20380	3340	2420
CAL YR 1977	TOTAL	390330	MEAN	1069	MAX	9120	MIN 21	AC-FT	774200			
WTR YR 1978	TOTAL	515662	MEAN	1413	MAX	9120	MIN 21	AC-FT	1023000			

07175500 CANEY RIVER NEAR RAMONA, OK--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to current year.

WATER TEMPERATURE: October 1966 to current year.

REMARKS.--Samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples at or near 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.

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, 1,880 micromhos Feb. 5 1967; minimum daily, 114 micromhos Oct. 20, 1973.

WATER TEMPERATURE: Maximum, 35.0°C Aug. 6, 1970, Aug. 26, 1971, July 21, 1974; minimum, 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR--

SPECIFIC CONDUCTANCE: Maximum daily, 969 micromhos Feb. 1; minimum daily, 176 micromhos June 20.

WATER TEMPERATURE: Maximum daily, 32.0°C on July 10, 17-19, 26; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM= FLUM, INSTAN- TANEDUS (CF8)	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...	1300	2100	298	7.8	20.0	--	--	--	--	130	20
15...	1330	128	400	8.0	15.0	--	--	--	--	150	35
17...	1335	60	490	8.0	15.0	30	8.8	88	15	--	--
25...	1500	136	452	7.9	18.0	--	--	--	--	160	40
NOV											
05...	0930	5500	265	7.4	15.0	--	--	--	--	96	17
14...	1630	3620	340	8.0	12.5	58	9.9	94	21	--	--
15...	0915	3440	307	7.8	12.0	--	--	--	--	130	22
25...	1000	499	401	7.9	10.0	--	--	--	--	180	44
DEC											
04...	1000	393	521	8.3	7.0	--	--	--	--	200	41
14...	1030	278	546	7.8	5.0	--	--	--	--	210	52
19...	1645	136	540	7.9	6.0	22	11.4	93	12	--	--
25...	1040	117	616	8.3	4.0	--	--	--	--	230	61
JAN											
05...	1130	115	750	8.2	4.0	--	--	--	--	280	83
15...	1020	198	658	7.6	0	--	--	--	--	210	58
25...	1000	107	841	7.8	1.0	--	--	--	--	290	87
26...	1000	191	750	7.4	0	7	17.4	121	13	--	--
FEB											
21...	1420	1320	500	8.0	2.0	7	14.0	101	20	--	--
MAR											
05...	1100	1940	427	8.0	2.0	--	--	--	--	160	39
15...	1100	1390	460	7.8	6.0	--	--	--	--	180	54
20...	1215	332	580	8.1	11.0	7	10.8	100	15	--	--
26...	1000	4630	529	7.2	7.0	--	--	--	--	110	50
APR											
05...	1030	7650	303	7.0	16.0	--	--	--	--	95	37
15...	0930	2910	443	7.5	18.0	--	--	--	--	180	41
18...	0745	1820	524	8.0	18.5	14	8.6	90	17	--	--
25...	0930	449	577	7.8	15.0	--	--	--	--	210	50
MAY											
05...	1500	3420	324	7.7	14.0	--	--	--	--	110	30
15...	1630	2700	288	7.9	20.0	--	--	--	--	110	14
23...	1400	5270	280	7.6	22.0	33	6.7	78	--	--	--
25...	1430	4650	375	7.3	23.0	--	--	--	--	160	26
JUN											
05...	1100	3480	302	7.4	23.0	--	--	--	--	130	16
15...	1700	123	506	7.4	28.0	--	--	--	--	190	39
19...	1715	5050	240	6.9	23.0	240	4.9	57	167	--	--

ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, 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, DEMAND, CHEM- ICAL (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)
JUN 25...	0830	3920	249	7.2	25.0	--	--	--	100	20
JUL 05...	1330	722	328	7.9	29.0	--	--	--	130	19
15...	0900	115	497	7.9	28.0	--	--	--	180	35
24...	1130	68	540	7.7	29.0	17	7.8	101	17	--
25...	0930	66	507	7.8	28.0	--	--	--	170	33
AUG 05...	1030	70	591	7.6	25.0	--	--	--	180	44
15...	0900	50	617	7.6	27.0	--	--	--	180	45
21...	1400	49	660	8.8	30.5	7	12.4	165	25	--
25...	1030	49	661	8.0	28.0	--	--	--	200	52
SEP 05...	0930	52	641	8.1	26.0	--	--	--	200	53
15...	0830	57	639	8.0	26.0	--	--	--	210	63
25...	0830	23	560	7.1	22.5	--	5.9	68	--	--
25...	0900	23	638	8.0	27.0	--	--	--	210	50

ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)
OCT										
05...	--	41	--	--	5.9	--	10	14	.4	--
15...	--	48	--	--	7.2	--	21	23	.7	--
17...	--	--	--	--	--	--	--	--	--	--
25...	--	52	--	--	8.0	--	26	25	.9	--
NOV										
05...	--	31	--	--	4.5	--	13	22	.6	--
14...	40	--	100	6.0	--	--	--	--	--	--
15...	--	42	--	--	5.8	--	12	16	.5	--
25...	--	58	--	--	7.5	--	18	18	.6	--
DEC										
04...	--	63	--	--	9.7	--	29	24	.9	--
14...	--	65	--	--	11	--	31	24	.9	--
19...	--	--	--	--	--	--	--	--	--	--
25...	--	72	--	--	11	--	38	27	1.1	--
JAN										
05...	--	89	--	--	14	--	56	30	1.5	--
15...	--	66	--	--	12	--	45	31	1.3	--
25...	--	94	--	--	14	--	56	29	1.4	--
26...	103	--	258	14	--	55	--	--	--	3.2
FEB										
21...	--	--	--	--	--	--	--	--	--	--
MAR										
05...	--	50	--	--	9.0	--	22	22	.8	--
15...	--	58	--	--	9.7	--	22	20	.7	--
20...	54	--	136	9.7	--	--	--	--	--	--
24...	--	32	--	--	6.6	--	23	31	1.0	--
APR										
05...	--	29	--	--	5.6	--	24	34	1.1	--
15...	--	56	--	--	9.9	--	21	20	.7	--
18...	--	--	--	--	--	--	--	--	--	--
25...	--	66	--	--	12	--	35	26	1.0	--
MAY										
05...	--	33	--	--	6.1	--	21	29	.9	--
15...	--	36	--	--	5.5	--	12	18	.5	--
23...	34	--	85	6.9	--	--	--	--	--	--
25...	--	50	--	--	7.8	--	17	19	.6	--
JUN										
05...	--	42	--	--	6.4	--	8.0	11	.3	--
15...	--	62	--	--	9.6	--	30	25	.9	--
19...	--	--	--	--	--	--	--	--	--	--
25...	--	32	--	--	5.4	--	7.6	14	.3	--
JUL										
05...	--	41	--	--	5.7	--	14	19	.5	--
15...	--	59	--	--	8.5	--	29	25	.9	--
24...	46	--	115	8.6	--	30	--	--	--	2.8
25...	--	56	--	--	7.9	--	29	26	1.0	--
AUG										
05...	--	59	--	--	8.7	--	40	32	1.3	--
15...	--	58	--	--	9.7	--	46	35	1.5	--
21...	--	--	--	--	--	--	--	--	--	--
25...	--	64	--	--	10	--	48	34	1.5	--
SEP										
05...	--	64	--	--	10	--	49	34	1.5	--
15...	--	68	--	--	9.9	--	48	33	1.4	--
25...	--	--	--	--	--	--	--	--	--	--
25...	--	66	--	--	10	--	46	32	1.4	--

ARKANSAS RIVER BASIN

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07175500 CANEY RIVER NEAR RAMONA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	POTAS- SIUM, OIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LITY (MG/L AS CACO3)	CARBON DIOXIDE OIS- SOLVED (MG/L AS CO2)	SULFATE OIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, OIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C OIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, OIS- SOLVED (MG/L)
OCT										
05...	3.2	130	0	110	3.3	15	24	--	173	--
15...	3.8	140	0	110	2.2	22	44	--	233	--
17...	--	--	--	--	--	--	--	.4	--	297
25...	4.1	150	0	120	3.0	23	49	--	264	--
NOV										
05...	4.3	96	0	79	6.1	21	20	--	221	--
14...	--	--	--	--	--	--	--	.5	--	--
15...	3.4	130	0	110	3.3	16	19	--	181	--
25...	3.4	160	0	130	3.2	20	27	--	235	--
DEC										
04...	3.4	190	0	160	1.5	26	54	--	301	--
14...	3.3	190	0	160	4.8	28	56	--	313	--
19...	--	--	--	--	--	--	--	.1	--	--
25...	3.4	200	0	160	1.6	34	68	--	362	--
JAN										
05...	3.6	240	0	200	2.4	39	100	--	435	--
15...	3.1	190	0	160	7.6	36	91	--	371	--
25...	3.9	250	0	210	6.3	45	110	--	478	--
26...	--	--	--	--	--	--	--	.2	--	--
FEB										
21...	--	--	--	--	--	--	--	.1	--	--
MAR										
05...	2.8	150	0	120	2.4	29	41	--	240	--
15...	2.4	160	0	130	4.1	30	42	--	253	--
20...	--	--	--	--	--	--	--	.2	--	--
26...	3.4	70	0	57	7.1	33	53	--	209	--
APR										
05...	3.3	71	0	58	11	24	39	--	192	--
15...	2.7	170	0	140	8.6	27	36	--	252	--
18...	--	--	--	--	--	--	--	.1	--	--
25...	3.0	200	0	160	5.1	36	58	--	333	--
MAY										
05...	3.0	95	0	78	3.0	21	39	--	195	--
15...	2.7	120	0	98	2.4	14	14	--	157	--
23...	--	--	--	--	--	--	--	9.0	--	29
25...	2.5	160	0	130	13	20	23	--	219	--
JUN										
05...	2.7	140	0	110	8.9	17	14	--	176	--
15...	3.1	190	0	160	12	24	49	--	299	--
19...	--	--	--	--	--	--	--	.1	--	--
25...	2.8	100	0	82	10	13	16	--	145	--
JUL										
05...	3.1	130	0	110	2.6	17	21	--	192	--
15...	3.5	180	0	150	3.6	20	54	--	310	--
24...	--	--	--	--	--	--	--	.2	--	--
25...	3.7	170	0	140	4.3	21	60	--	308	--
AUG										
05...	3.7	170	0	140	6.8	22	84	--	334	--
15...	4.0	170	0	140	6.8	27	95	--	363	--
21...	--	--	--	--	--	--	--	.3	--	--
25...	4.2	180	1	150	2.9	33	100	--	386	--
SEP										
05...	4.3	180	0	150	2.3	28	89	--	362	--
15...	4.4	180	0	150	2.9	33	85	--	372	--
25...	--	--	--	--	--	--	--	--	--	--
25...	4.4	190	0	160	3.0	30	86	--	367	--

ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, 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										
05...	.24	981	--	--	--	--	--	--	--	--
15...	.32	80	--	--	--	--	--	--	--	--
17...	--	--	--	.40	--	--	1.5	2.3	10	.24
25...	.36	96	--	--	--	--	--	--	--	--
NOV										
05...	.30	3280	--	--	--	--	--	--	--	--
14...	--	--	34	.30	--	--	1.4	1.7	7.7	.12
15...	.25	1680	--	--	--	--	--	--	--	--
25...	.32	317	--	--	--	--	--	--	--	--
DEC										
04...	.41	319	--	--	--	--	--	--	--	--
14...	.43	235	--	--	--	--	--	--	--	--
19...	--	--	37	.40	--	--	1.1	1.5	6.7	.18
25...	.49	114	--	--	--	--	--	--	--	--
JAN										
05...	.59	135	--	--	--	--	--	--	--	--
15...	.50	198	--	--	--	--	--	--	--	--
25...	.65	138	--	--	--	--	--	--	--	--
26...	--	--	8	.20	--	--	2.8	3.0	14	.34
FEB										
21...	--	--	25	.80	--	--	1.8	2.6	12	.11
MAR										
05...	.33	1260	--	--	--	--	--	--	--	--
15...	.34	950	--	--	--	--	--	--	--	--
20...	--	--	30	.50	--	--	1.8	2.3	10	.12
26...	.28	2610	--	--	--	--	--	--	--	--
APR										
05...	.26	3970	--	--	--	--	--	--	--	--
15...	.34	1980	--	--	--	--	--	--	--	--
16...	--	--	71	.40	--	--	1.6	2.0	9.2	--
25...	.45	404	--	--	--	--	--	--	--	--
MAY										
05...	.27	1800	--	--	--	--	--	--	--	--
15...	.21	1150	--	--	--	--	--	--	--	--
23...	--	--	346	.30	--	--	1.9	2.2	9.8	.16
25...	.30	2750	--	--	--	--	--	--	--	--
JUN										
05...	.24	1650	--	--	--	--	--	--	--	--
15...	.41	99	--	--	--	--	--	--	--	--
19...	--	--	1190	.40	--	--	1.7	2.1	9.5	.22
25...	.20	1540	--	--	--	--	--	--	--	--
JUL										
05...	.26	374	--	--	--	--	--	--	--	--
15...	.42	96	--	--	--	--	--	--	--	--
24...	--	--	31	.40	--	--	1.6	2.0	9.3	9.5
25...	.42	54	--	--	--	--	--	--	--	--
AUG										
05...	.45	63	--	--	--	--	--	--	--	--
15...	.49	49	--	--	--	--	--	--	--	--
21...	--	--	33	.20	--	--	1.5	1.7	7.8	.10
25...	.53	51	--	--	--	--	--	--	--	--
SEP										
05...	.49	50	--	--	--	--	--	--	--	--
15...	.51	57	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
25...	.50	22	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07175500 CANEY RIVER NEAR RAMONA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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 17...	1335	--	--	--	--	--	--
NOV 14...	1630	--	--	--	--	4700	--
DEC 19...	1645	--	--	--	--	--	--
JAN 26...	1000	2	2	<5	4	1270	20
FEB 21...	1420	--	--	--	--	--	--
MAR 20...	1215	--	--	--	--	710	--
APR 18...	0745	--	--	--	--	--	--
MAY 23...	1400	--	--	--	--	14300	--
JUN 19...	1715	--	--	--	--	--	--
JUL 24...	1130	<1	2	6	4	790	13
AUG 21...	1400	--	--	--	--	--	--

DATE	MANGANESE, 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 17...	--	--	--	--	--	--	11
NOV 14...	130	--	--	--	--	--	--
DEC 19...	--	--	--	--	--	--	2.0
JAN 26...	190	<.5	20	1	<2	46	4.0
FEB 21...	--	--	--	--	--	--	5.0
MAR 20...	140	--	--	--	--	--	6.0
APR 18...	--	--	--	--	--	--	3.0
MAY 23...	370	--	--	--	--	--	39
JUN 19...	--	--	--	--	--	--	33
JUL 24...	110	<.5	<5	1	<2	13	6.0
AUG 21...	--	--	--	--	--	--	31

ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, OK --Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	234	702	510	745	969	439	451	321	288	282	562	658
2	248	520	506	752	952	426	488	332	293	319	572	665
3	307	236	511	756	914	465	515	210	298	333	578	657
4	313	255	521	752	914	456	329	266	306	327	587	645
5	298	265	516	756	894	427	303	324	312	328	591	641
6	306	291	528	755	886	422	368	359	330	332	595	652
7	301	295	559	761	893	432	347	288	360	333	600	645
8	310	297	564	753	907	414	399	345	355	328	616	650
9	328	323	568	746	955	415	425	326	391	349	616	654
10	332	236	569	765	936	438	441	290	422	355	596	656
11	346	234	561	780	926	450	458	365	435	382	614	640
12	355	270	554	782	862	447	295	368	458	388	635	633
13	371	301	538	778	521	458	408	395	487	418	636	640
14	391	311	546	782	306	441	430	364	491	444	616	641
15	400	307	546	658	321	460	443	372	517	497	617	639
16	405	311	552	697	313	432	468	380	543	482	628	642
17	424	313	554	367	412	472	483	386	546	486	630	648
18	427	322	562	463	436	491	498	409	215	487	651	651
19	431	329	566	805	456	527	516	362	270	498	653	658
20	430	345	567	804	467	542	528	243	176	491	663	659
21	425	334	569	819	483	572	524	183	208	473	658	659
22	430	337	573	824	481	600	523	230	186	483	658	661
23	423	366	589	880	490	622	530	270	210	497	669	657
24	439	390	609	882	542	284	551	293	266	504	674	653
25	452	401	616	841	491	414	577	275	254	507	661	638
26	488	420	625	826	386	329	601	274	277	511	654	643
27	507	444	639	878	384	396	598	285	281	516	648	648
28	553	461	640	865	422	419	591	290	284	521	640	647
29	615	504	701	853	---	441	601	286	286	530	643	652
30	596	510	733	859	---	442	600	289	293	539	656	655
31	538	---	742	869	---	436	---	291	---	551	663	---

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

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

ARKANSAS RIVER BASIN

233

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK

LOCATION.--Lat 36°18'26", long 95°41'52", in SE¼SW¼ sec.10, T.21 N., R.15 E., Rogers County, Hydrologic Unit 11070105, near left bank on downstream side of pier of bridge on State Highway 20, 2.3 mi (3.7 km) downstream from Caney River, 4.5 mi (7.2 km) west of Claremore, 12.4 mi (20.0 km) upstream from Bird Creek, and at mile 76.0 (122.3 km).

DRAINAGE AREA.--6,534 mi² (16,923 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 538.62 ft (164.171 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 24, 1939, and May 17 to Aug. 24, 1967, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated since May 1963 by Oologah Lake 14.3 mi (23.0 km) upstream (station 07171300); some regulation by dams in Kansas since 1949 and by Hulah Lake since 1950 (station 07172500).

COOPERATION.--Gage-height record and 13 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(Prior to regulation by Oologah Lake) 27 years (water years 1936-62), 3,723 ft³/s (105.4 m³/s), 2,695,000 acre-ft/yr (3.32 km³/yr), (since regulation by Oologah Lake) 14 years (water years 1965-78), 4,160 ft³/s (117.8 m³/s), 3,014,000 acre-ft/yr (3.72 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 182,000 ft³/s (5,150 m³/s) May 21, 1943, gage height, 55.05 ft (16.779 m); no flow at times in 1936, 1939-40, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,800 ft³/s (561 m³/s) Nov. 14, gage height, 20.46 ft (6.236 m); minimum daily, 52 ft³/s (1.47 m³/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	12800	1210	1340	689	770	7630	14500	5040	6910	10100	218	59
2	12000	3570	1320	688	765	8860	13100	8290	6040	5120	215	177
3	11800	13200	1320	688	763	10900	12600	10900	5870	4370	222	190
4	11100	16700	1340	693	759	10700	13600	11200	5760	4310	244	187
5	6950	16000	1570	696	749	10300	12800	9310	5790	4270	259	196
6	4990	15000	1490	695	752	9950	11300	8600	5560	5580	243	180
7	4030	13900	1420	693	765	10700	12500	10700	3580	7030	233	191
8	2060	13500	1380	689	765	12200	12400	10600	3130	5370	229	217
9	1290	17700	1340	688	766	9520	12600	12200	2260	3430	227	125
10	959	18200	1320	684	763	5610	13600	12200	1580	3830	228	122
11	918	19200	1290	667	763	3940	13200	10300	1300	4840	221	121
12	913	17200	1170	666	1010	3730	14500	12700	1050	4760	221	121
13	895	17600	841	668	6660	3620	15700	9060	759	3800	222	93
14	811	19700	832	674	8610	3040	15700	7880	717	2000	219	81
15	759	19300	828	671	6480	2310	15900	7120	642	318	219	84
16	748	19100	833	679	5290	2260	6890	6820	604	253	219	89
17	742	18900	825	680	7990	1900	6770	7470	590	233	218	85
18	737	18700	806	680	7580	1590	11200	7990	3230	228	215	70
19	729	18500	732	690	7310	1420	11200	9020	5050	224	214	62
20	718	17800	695	690	7190	1130	11200	12400	7760	214	217	58
21	704	17200	685	700	7010	782	11000	14500	11200	211	219	53
22	705	15900	688	712	6910	762	10900	14400	8930	211	219	52
23	730	11300	688	713	6920	793	8680	12800	7030	217	219	53
24	745	11000	684	716	6100	7510	5900	11000	6640	221	219	57
25	1280	9330	681	731	4770	8990	4840	10500	8260	221	219	63
26	2010	5950	681	735	5400	8420	3520	11000	8700	223	219	65
27	1840	5910	681	744	6500	9430	3490	10900	8490	217	222	66
28	411	3600	683	738	7810	10700	3450	10700	7730	215	220	81
29	2100	1340	685	756	---	11200	3450	10400	6880	225	147	77
30	1890	1340	688	763	---	12600	3400	10200	9120	227	116	71
31	293	---	689	770	---	14600	---	9400	---	223	75	---
TOTAL	88657	597850	30225	21746	117920	207097	309690	315600	151162	72691	6597	3146
MEAN	2860	13260	975	701	4211	6681	10320	10180	5039	2345	213	105
MAX	12800	19700	1570	770	8610	14600	15900	14500	11200	10100	259	217
MIN	293	1210	681	666	749	762	3400	5040	590	211	75	52
AC-FT	175900	789100	59950	43130	233900	410800	614300	626000	299800	144200	13090	6240
CAL YR 1977 TOTAL	1540630			4221	MAX 28900	MIN 42	AC-FT 3056000					
WTR YR 1978 TOTAL	1722381			4719	MAX 19700	MIN 52	AC-FT 3416000					

ARKANSAS RIVER BASIN

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-54, 1959, October 1977 to September 1978.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1947 to September 1959.

WATER TEMPERATURE: October 1947 to September 1959.

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

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHMS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, UIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL)
OCT										
18...	1400	733	360	8.3	17.0	--	8.5	88	--	--
NOV										
15...	1215	19300	350	8.1	14.0	--	10.9	107	--	--
DEC										
20...	1130	696	345	7.7	7.0	--	12.6	103	--	--
JAN										
26...	1445	802	410	8.0	8.0	20	15.2	106	14	--
FEB										
22...	1430	6890	405	8.0	5.0	10	14.6	111	18	--
MAR										
21...	1415	776	470	8.1	9.5	4	12.3	110	15	--
APR										
18...	1230	11200	422	8.0	16.0	7	10.6	110	12	--
MAY										
24...	1230	10900	355	7.7	22.5	28	7.5	87	27	--
JUN										
20...	1300	7110	260	7.1	23.0	150	5.6	65	--	82
JUL										
25...	1300	219	460	8.0	29.0	15	6.8	88	15	--
AUG										
22...	1230	219	420	8.4	28.0	14	7.0	90	14	--
SEP										
25...	0700	62	450	7.4	23.0	13	6.0	70	14	--

DATE	HARD- NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM UIS- SOLVED (MG/L AS CACO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT										
18...	--	--	--	--	--	--	--	--	--	--
NOV										
15...	--	--	--	--	--	--	--	--	--	--
DEC										
20...	--	--	--	--	--	--	--	--	--	--
JAN										
20...	--	--	--	--	--	--	37	33	.2	19
FEB										
22...	--	--	--	--	--	--	31	25	.1	26
MAR										
21...	--	47	--	8.6	21	2.9	44	42	.2	12
APR										
18...	150	45	114	8.3	13	2.6	--	29	.1	27
MAY										
24...	--	--	--	--	--	--	19	27	.1	200
JUN										
20...	117	37	92	6.0	24	3.3	13	18	.1	1271
JUL										
25...	--	--	--	--	--	--	42	32	.2	17
AUG										
22...	180	56	140	9.3	30	2.8	44	<1.0	.2	31
SEP										
25...	--	--	--	--	--	--	75	58	.2	15

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07176460 BIRCH LAKE NEAR BARNSDALL, OK

LOCATION.--Lat 36°32'05", long 96°09'45", in NW¼NE¼ sec.30, T.24 N., R.11 E., Osage County, Hydrologic Unit 11070107, 450 ft (137 m) north of dam on Birch Creek, 1.5 mi (2.4 km) south of Barnsdall and at mile 0.8 (1.3 km).

DRAINAGE AREA.--66.0 mi² (170.9 km²).

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

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

REMARKS.--Reservoir is formed by earth dam with uncontrolled concrete spillway. Storage began Mar. 18, 1977; conservation pool was first filled Mar. 23, 1978. The outlet work is a gated intake structure. Capacity, 58,180 acre-ft (71.7 hm³) at elevation 774.0 ft (235.92 m), crest of uncontrolled spillway and 19,180 acre-ft (23.7 hm³) at elevation 750.5 ft (228.75 m), top of conservation pool. Dead storage, 3,360 acre-ft (4.14 hm³) below elevation 730.0 ft (222.50 m). Figures given herein represent total contents. Reservoir is used for flood control, water supply, water quality, recreation, and fish and wildlife.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 25,240 acre-ft (31.1 hm³) May 22, 1978, elevation, 755.48 ft (230.270 m); minimum since conservation pool was first filled, 16,010 acre-ft (19.7 hm³) Sept. 30, 1978, elevation, 747.60 ft (227.868).

EXTREMES FOR CURRENT YEAR.--Maximum contents 25,240 acre-ft (31.1 hm³) May 22, elevation, 755.48 ft (230.270 m), minimum, 13,080 acre-ft (16.1 hm³) Oct. 26-29, elevation, 744.68 ft (226.978 m).

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

744	12,440	750	18,620
746	14,370	753	22,120
748	16,430	756	25,920

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	13430	13230	14180	14080	14070	17690	19660	19650	19190	19190	17570	16730
2	13390	13260	14160	14070	14070	17900	19620	19670	19140	19110	17530	16710
3	13380	13310	14160	14070	14070	17960	21030	21330	19090	19060	17520	16680
4	13340	13340	14150	14060	14080	17980	22540	21360	19030	18980	17520	16660
5	13340	13340	14150	14060	14080	18060	22640	21360	19020	18900	17520	16630
6	13320	13340	14150	14060	14080	18060	22510	21250	19010	18780	17480	16610
7	13310	13340	14150	14060	14080	18590	21780	21240	18950	18750	17470	16590
8	13310	13520	14150	14020	14080	18750	21060	21190	18910	18730	17420	16560
9	13280	14120	14150	14020	14080	18820	20290	20800	18890	18680	17380	16550
10	13260	14170	14150	14020	14080	18890	19880	20250	18840	18640	17360	16540
11	13240	14210	14150	14020	14090	18910	19720	20100	18810	18570	17330	16520
12	13220	14220	14150	14020	16000	18910	19560	20140	18780	18530	17310	16490
13	13200	14240	14150	14020	16990	18950	19450	19820	18760	18480	17270	16460
14	13200	14260	14150	14020	17110	18950	19390	19500	18720	18440	17240	16450
15	13150	14270	14160	14020	17190	18970	19330	19330	18690	18410	17220	16410
16	13150	14270	14160	14020	17260	19010	19320	19260	18650	18370	17170	16390
17	13140	14270	14160	14020	17290	19010	19270	19180	18630	18310	17130	16350
18	13130	14270	14160	14020	17310	19060	19270	20950	18670	18260	17100	16320
19	13110	14270	14160	14020	17350	19060	19280	24250	18690	18210	17090	16270
20	13100	14270	14150	14020	17380	19080	19260	24710	18720	18170	17070	16240
21	13090	14270	14120	14030	17380	19080	19210	25140	19600	18130	17050	16200
22	13090	14270	14120	14050	17410	19080	19170	24870	19740	18070	17000	16170
23	13090	14270	14120	14050	17450	20240	19170	23760	19750	18000	16980	16150
24	13090	14250	14120	14050	17530	21610	19120	22620	19710	17970	16970	16130
25	13090	14240	14090	14070	17560	21760	19070	21510	19640	17930	16930	16130
26	13080	14220	14090	14070	17600	21830	19060	20790	19570	17880	16900	16110
27	13080	14220	14090	14070	17630	21670	19040	20470	19500	17850	16870	16090
28	13080	14200	14090	14070	17660	21140	18970	20430	19430	17790	16870	16060
29	13080	14200	14090	14070	---	20600	18970	20070	19350	17730	16830	16030
30	13150	14200	14090	14070	---	20040	19000	19680	19280	17680	16790	16010
31	13200	---	14090	14070	---	19750	---	19350	---	17650	16770	---
MAX	13430	14270	14180	14080	17660	21830	22640	25140	19750	19190	17570	16730
MIN	13080	13230	14090	14020	14070	17690	18970	19180	18630	17650	16770	16010
†	744.80	745.83	745.72	745.70	749.14	751.00	750.34	750.65	750.59	749.13	748.32	747.60
‡	-230	+1,000	-110	-20	+3,590	+2,090	-750	+350	-70	-1,630	-880	-760

WTR YR 1978 MAX 25140 MIN 13080 ‡ +2,580

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

ARKANSAS RIVER BASIN

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07176465 BIRCH CREEK BELOW BIRCH LAKE NEAR BARNSDALL, OK

LOCATION.--Lat 36°32'08", long 96°09'38" NW¼NE¼ sec. 30, T.24 N., R.11 E., Osage County, Hydrologic Unit 11070107, 300 ft (91 m) downstream from Birch Dam, 1.5 mi (2.4 km) south of Barnsdall and at mile 0.7 (1.1 km).

DRAINAGE AREA.--66.0 mi² (179.9 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 690.00 ft (210.312 m) National Geodetic Vertical Datum of 1929.

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

COOPERATION.--Gage-height record and 14 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

EXTREMES FOR CURRENT PERIOD.--February to September 1977: Maximum discharge during period, 26 ft³/s (0.74 m³/s) Sept. 16, gage height, 6.91 ft (2.106 m); maximum gage height 8.21 ft (2.502 m) May 21 (backwater from Bird Creek); no flow at times.

Water year 1978: Maximum discharge 623 ft³/s (17.6 m³/s) May 22, 23, 24, gage height, 9.53 ft (2.905 m); minimum daily, 0.86 ft³/s (0.024 m³/s) Oct. 1-21.

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD FEBRUARY 1977 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	1.5	.00	.59	.14	2.3	.57	.43
2					---	1.5	.00	.01	.03	.62	.57	.43
3					---	1.5	.00	.00	.00	.43	.57	.57
4					---	1.5	.00	.00	.06	.43	.57	.57
5					---	1.5	.00	.01	.14	.54	.71	.57
6					---	1.5	.00	.28	.32	.71	.71	.57
7					---	1.4	.00	.00	.43	.71	.71	.71
8					---	.19	.00	.00	.42	.71	.71	.71
9					---	.00	.00	.00	.43	.71	.71	.86
10					---	.02	.00	.00	.43	.71	.71	.86
11					---	1.4	.00	.00	.43	.86	.71	3.9
12					---	3.4	.00	.00	.43	1.0	.71	2.3
13					---	4.0	.00	.00	.43	1.0	1.0	1.1
14					---	4.0	.00	.00	.43	1.0	3.6	2.2
15					---	3.6	.00	.00	.48	1.2	2.7	2.3
16					---	3.1	.00	.00	.57	1.1	.57	4.4
17					---	3.4	.00	.60	.57	.95	1.0	1.3
18					---	3.0	.00	.00	.62	.85	1.3	1.0
19					---	2.6	.00	.57	.59	.86	1.1	.71
20					---	2.2	.71	.00	.71	.94	1.0	.71
21					---	1.9	.49	.00	.50	.53	1.1	.86
22					---	1.9	.29	.00	.00	.66	1.1	.86
23					---	1.7	.29	.00	.57	.57	1.1	.71
24					---	1.5	.22	.00	.00	1.0	1.1	.85
25					---	1.5	.14	.00	.00	1.1	1.1	.86
26					---	1.5	.14	.00	.00	1.0	1.2	.71
27					---	1.5	.26	.00	.00	.93	1.3	.86
28					---	1.5	.49	.00	.57	.84	.50	.86
29					---	.00	.00	.57	.71	.43	.60	.86
30					---	.00	.00	.57	.68	.43	.43	.86
31					---	.00	.00	.29	---	.57	.43	---
TOTAL					---	39.04	.00	5.84	15.54	27.56	28.11	34.34
MEAN					---	1.26	.000	.19	.52	.89	.91	1.14
MAX					---	4.0	.00	.71	1.1	2.3	3.6	4.4
MIN					---	.00	.00	.00	.00	.43	.43	.43
AC=FT					---	.77	.00	.12	.31	.55	.56	.68

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		.86	3.8	4.0	4.7	4.0	8.9	58	7.5	109	27	10	6.7
2		.86	3.8	4.0	4.7	4.0	7.1	57	49	36	27	10	6.8
3		.86	3.8	4.0	4.7	4.0	7.1	57	84	31	27	10	6.8
4		.86	3.8	4.2	4.7	4.0	7.1	57	85	26	27	9.9	6.8
5		.86	3.8	4.5	4.7	4.0	7.1	56	85	25	27	10	7.0
6		.86	3.8	4.5	4.7	4.0	7.1	306	84	24	27	10	6.8
7		.86	3.8	4.6	4.6	4.0	7.1	501	84	24	20	9.6	6.5
8		.86	4.0	4.7	4.5	4.0	6.8	503	84	19	13	8.8	6.5
9		.86	6.5	4.7	4.5	3.9	6.8	503	205	8.0	13	8.5	6.3
10		.86	5.7	4.7	4.5	3.8	6.8	305	314	8.0	13	8.6	6.3
11		.86	3.8	4.7	4.5	3.6	6.8	105	262	8.0	13	8.3	6.0
12		.86	3.8	4.7	4.5	4.0	6.8	101	169	7.7	13	8.0	6.1
13		.86	3.8	4.5	4.5	4.6	6.3	65	167	6.7	12	7.2	5.8
14		.86	3.6	4.5	4.5	5.2	6.0	30	167	6.7	12	7.1	5.8
15		.86	3.6	4.5	4.5	5.2	6.0	29	119	6.8	12	7.2	5.8
16		.86	3.8	4.5	4.5	5.2	6.0	28	28	6.9	12	6.9	6.0
17		.86	4.0	4.5	4.2	5.4	6.0	27	28	7.1	12	7.1	5.7
18		.86	4.0	4.5	4.0	5.4	6.1	23	47	8.2	11	7.1	5.8
19		.86	4.0	4.5	4.0	5.4	6.5	24	47	7.5	11	7.4	5.8
20		.86	4.0	4.5	4.0	5.4	6.6	24	37	9.9	11	6.4	5.7
21		.86	4.0	4.5	4.0	13	6.9	18	32	21	11	5.4	5.4
22		1.0	4.0	4.7	4.0	13	7.2	14	286	22	11	5.7	5.4
23		1.3	4.0	4.7	4.0	13	9.9	14	623	21	11	5.7	5.1
24		1.5	4.0	4.7	4.0	13	12	13	619	30	10	6.1	4.9
25		1.5	4.0	4.7	4.0	12	12	13	611	30	10	6.5	4.7
26		1.9	4.0	4.7	4.0	12	9.9	9.3	484	30	10	6.8	4.7
27		1.7	4.0	4.7	4.0	11	177	4.7	195	31	9.9	6.7	4.5
28		1.7	4.0	4.7	4.0	11	308	4.8	194	30	10	6.5	4.5
29		1.7	4.0	4.7	4.0	---	312	4.9	192	26	10	6.8	4.2
30		2.3	4.0	4.7	4.0	---	323	5.0	190	27	10	6.5	4.2
31		3.8	---	4.7	4.0	---	165	---	170	---	11	6.5	---
TOTAL		36.46	121.2	140.8	133.5	187.1	1477.9	2959.7	5748.5	653.5	453.9	237.3	172.6
MEAN		1.18	4.04	4.54	4.31	6.68	47.7	98.7	185	21.8	14.6	7.65	5.75
MAX		3.8	6.5	4.7	4.0	13	323	503	623	109	27	10	7.0
MIN		.86	3.6	4.0	4.0	3.6	6.0	4.7	7.5	6.7	9.9	5.4	4.2
AC=FT		72	240	279	265	371	2930	5870	11400	1300	900	471	342
WTR YR 1978	TOTAL	12322.46	MEAN	33.8	MAX	623	MIN	.86	AC=FT	24440			

ARKANSAS RIVER BASIN

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07176500 BIRD CREEK NEAR AVANT, OK

LOCATION.--Lat 36°29'11", long 96°03'45", in NW¼ sec.7, T.23 N., R.12 E., Osage County, Hydrologic Unit 11070107, near left bank on downstream side of pier of county road bridge at Avant, 1.5 mi (2.4 km) upstream from Candy Creek, and at mile 54.2 (87.2 km).

DRAINAGE AREA.--364 mi² (943 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 651.28 ft (198.510 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Small diversions above station for municipal water supply of cities of Pawhuska and Barnsdall.

COOPERATION.--Gage-height record and 13 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--33 years, 197 ft³/s (5.579 m³/s), 142,700 acre-ft/yr (176 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,400 ft³/s (918 m³/s), Oct. 2, 1959, gage height, 31.40 ft (9.571 m); maximum gage height, 32.03 ft (9.763 m) Mar. 11, 1974; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s (170 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Feb. 13	0445	*7,990 226	*14.40 4.389	May 20	0145	7,890 223	14.21 4.331
Apr. 4	0430	6,590 187	11.70 3.566				

Minimum discharge, 2.0 ft³/s (0.057 m³/s) Oct. 21, 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	150	93	11	9.9	7.4	150	120	2070	214	49	14	2.8
2	100	785	10	9.9	7.4	224	113	525	106	45	15	3.0
3	82	483	10	8.9	7.4	301	308	2540	87	42	19	3.4
4	75	189	11	8.7	7.4	178	3610	1260	76	59	26	3.9
5	73	103	44	8.7	7.4	117	623	528	88	89	21	4.8
6	72	71	21	8.7	7.4	105	1570	354	79	91	18	4.3
7	72	57	18	8.4	7.9	822	764	394	78	90	19	4.3
8	72	60	15	7.8	8.5	467	555	445	71	57	15	4.3
9	69	1900	14	6.4	9.0	213	483	365	49	30	10	5.0
10	68	522	12	6.3	9.7	141	429	429	39	19	8.7	5.8
11	68	196	11	6.8	12	117	300	829	34	14	8.0	6.1
12	65	117	9.3	6.8	1240	94	200	1350	30	12	6.6	6.2
13	41	86	9.3	6.8	4960	88	151	500	21	11	5.7	5.8
14	16	67	9.1	6.8	878	81	87	370	16	11	4.8	5.8
15	7.7	58	8.9	6.8	481	75	70	282	14	11	4.4	5.5
16	5.2	78	8.9	8.2	284	68	63	138	12	11	4.6	5.2
17	4.1	48	9.3	8.7	203	66	63	119	11	11	5.5	5.2
18	3.5	41	8.2	8.7	168	63	95	2580	409	11	5.8	4.4
19	3.1	38	8.3	8.7	102	60	88	2740	52	11	5.0	4.5
20	2.6	32	9.0	8.7	91	55	68	3540	38	10	7.0	7.0
21	2.2	27	9.2	8.7	78	47	53	1240	1970	10	7.3	7.4
22	2.0	22	8.1	8.3	68	44	46	1020	1360	10	6.3	7.1
23	3.1	21	7.4	8.0	192	643	42	1170	324	10	5.8	6.5
24	5.1	19	6.8	8.0	595	2420	42	899	197	10	5.6	6.5
25	6.3	17	6.3	8.4	431	647	42	790	135	10	5.1	10
26	6.0	14	6.4	9.1	258	270	39	595	104	10	4.6	9.7
27	5.8	14	6.8	9.3	168	264	29	311	86	23	4.0	9.3
28	8.0	14	7.7	9.3	159	414	24	518	70	105	3.7	8.9
29	9.2	14	8.0	8.4	---	386	22	621	59	47	3.7	8.1
30	10	12	8.5	8.0	---	364	29	405	54	27	3.4	7.1
31	125	---	9.0	7.7	---	297	---	325	---	18	3.1	---
TOTAL	1231.9	5198	341.5	253.9	10447.5	9281	10128	29252	5883	964	275.7	177.9
MEAN	39.7	173	11.0	8.19	373	299	338	944	196	31.1	8.89	5.93
MAX	150	1900	44	9.9	4960	2420	3610	3540	1970	105	26	10
MIN	2.0	12	6.3	6.3	7.4	44	22	119	11	10	3.1	2.8
AC-FT	2440	10310	677	504	20720	18410	20090	58020	11670	1910	547	353

CAL YR 1977 TOTAL 35948.24 MEAN 98.5 MAX 5700 MIN .00 AC-FT 71300
 WTR YR 1978 TOTAL 73634.40 MEAN 201 MAX 4960 MIN 2.0 AC-FT 145700

ARKANSAS RIVER BASIN

07176500 BIRD CREEK AT AVANT, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965-66, 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 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- DUCTI- ANCE (MICHOH- MHMS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JHU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATU- RATION)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	HARD- NESS (MG/L AS CaCO3)	CALCIUM TOTAL RECov- ERABLE (MG/L AS Ca)	
UCT												
17...	1200	4.0	310	7.9	15.0	42	8.9	89	21	119	38	
NOV												
14...	1145	6.8	430	8.0	12.5	30	8.8	84	25	--	--	
DEC												
19...	1215	8.0	580	7.8	7.0	16	10.7	90	20	157	46	
JAN												
26...	0800	8.7	540	7.7	1.0	6	14.0	100	17	--	--	
FEB												
22...	0945	6.8	540	7.8	1.5	14	13.8	101	19	--	--	
MAR												
20...	1730	501	460	7.9	12.0	30	10.5	100	25	--	35	
APR												
17...	1200	63	498	7.9	14.0	4	8.4	93	20	126	36	
26...	1324	39	--	--	13.0	--	--	--	--	--	--	
MAY												
15...	1400	307	--	--	14.0	--	--	--	--	--	--	
23...	1200	1160	300	7.7	22.0	16	8.0	93	25	--	--	
JUN												
20...	0930	47	500	7.2	24.0	50	4.6	55	23	106	31	
JUL												
24...	1700	10	340	7.9	32.0	6	7.6	104	17	--	--	
AUG												
21...	1300	7.4	560	8.3	28.0	5	7.5	96	21	116	34	
SEP												
25...	1215	10	350	7.6	23.0	6	7.0	81	18	--	--	
DATE		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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
UCT												
17...	95	5.5	20	3.1	16	25	.2	213	--	.30	--	--
NOV												
14...	--	--	--	--	--	<3.0	33	--	--	29	.27	--
DEC												
19...	115	9.6	25	3.5	30	50	.1	--	--	16	<.10	--
JAN												
26...	--	--	--	--	--	32	73	.1	--	8	<.10	--
FEB												
22...	--	--	--	--	--	20	38	.1	--	20	.50	--
MAR												
20...	--	9.7	27	2.7	38	60	.2	--	--	31	.50	--
APR												
17...	90	8.1	18	2.5	14	46	.1	--	--	51	.10	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
15...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	<1.0	22	.1	--	70	.20	--
JUN												
20...	77	7.0	22	2.7	11	24	.1	--	--	91	.10	--
JUL												
24...	--	--	--	--	--	33	31	.2	--	9	.10	.14
AUG												
21...	86	7.1	28	2.9	19	<1.0	.2	--	--	11	.10	--
SEP												
25...	--	--	--	--	--	5.0	56	.2	--	8	.10	--

ARKANSAS RIVER BASIN

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07176500 BIRD CREEK AT AVANT, OK --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 17...	--	1.4	1.7	7.7	.16	--	--	--	--	770
NOV 14...	--	1.6	1.9	8.6	.09	--	--	--	--	--
DEC 19...	--	1.1	1.1	--	.05	--	--	--	--	950
JAN 26...	--	1.4	--	--	3.3	--	--	--	--	--
FEB 22...	--	1.8	2.1	10	.15	--	--	--	--	--
MAR 20...	--	1.8	2.3	11	.11	<1	<1	9	<2	2100
APR 17...	--	1.3	1.4	6.5	.10	--	--	--	--	<100
APR 26...	--	--	--	--	--	--	--	--	--	--
MAY 15...	--	--	--	--	--	--	--	--	--	--
MAY 23...	--	1.2	1.4	6.6	9.5	--	--	--	--	--
JUN 20...	--	2.0	2.1	9.4	.12	--	--	--	--	630
JUL 24...	1.5	1.6	1.7	7.9	7.0	--	--	--	--	--
AUG 21...	--	1.5	1.6	7.3	6.5	<1	<1	21	5	430
SEP 25...	--	1.3	1.3	6.4	<4.5	--	--	--	--	--
DATE	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)	SILF- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, TOTAL RECOV- ERABLE (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 17...	--	90	--	--	--	--	--	8.0	--	--
NOV 14...	--	--	--	--	--	--	--	9.0	--	--
DEC 19...	--	100	--	--	--	--	--	5.0	--	--
JAN 26...	--	--	--	--	--	--	--	4.0	--	--
FEB 22...	--	--	--	--	--	--	--	4.0	--	--
MAR 20...	10	110	<.5	10	<1	<2	10	4.0	--	--
APR 17...	--	900	--	--	--	--	--	9.0	--	--
APR 26...	--	--	--	--	--	--	--	--	20	2.1
MAY 15...	--	--	--	--	--	--	--	--	160	133
MAY 23...	--	--	--	--	--	--	--	22	--	--
JUN 20...	--	190	--	--	--	--	--	11	--	--
JUL 24...	--	--	--	--	--	--	--	7.0	--	--
AUG 21...	9	110	.5	12	--	<2	18	--	--	--
SEP 25...	--	--	--	--	--	--	--	8.0	--	--

ARKANSAS RIVER BASIN

07176800 CANDY CREEK NEAR WOLCO, OK

LOCATION.--Lat 36°32'06", long 96°02'54", in NW¼NW¼ sec.29, T.29 N., R.12 E., Osage County, Hydrologic Unit 11070107, 1.3 mi (2.1 km) east of Wolco, 3.3 mi (5.3 km) northeast of Avant, and at mile 5.6 (9.0 km).

DRAINAGE AREA.--30.6 mi² (79.3 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 673.00 ft (205.130 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

COOPERATION.--Gage-height record, 11 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--9 years, 29.2 ft³/s (0.827 m³/s), 21,160 acre-ft/yr (26.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,520 ft³/s (270 m³/s) Mar. 10, 1974, gage height, 18.16 ft (5.535 m); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Apr. 4	0015	2,610 73.9	10.02 3.054	May 11	2015	*2,890 81.8	*10.49 3.197

No flow July 12 - Sept. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	20	4.0	.55	.33	20	7.9	362	1.3	.75	.00	.00
2	17	225	3.8	.49	.33	79	7.8	32	1.2	.59	.00	.00
3	6.6	64	4.0	.50	.33	54	202	400	1.1	.46	.00	.00
4	3.8	25	3.8	.55	.33	20	427	58	1.1	.34	.00	.00
5	3.0	16	4.2	.55	.34	13	56	22	1.1	.27	.00	.00
6	1.9	11	4.2	.55	.38	13	54	12	1.1	.19	.00	.00
7	1.9	8.8	3.1	.55	.41	399	17	29	2.8	.11	.00	.00
8	1.3	159	2.9	.55	.44	89	8.2	21	2.2	.32	.00	.00
9	.77	539	2.3	.39	.44	38	4.7	8.5	1.5	.22	.00	.00
10	.75	52	1.9	.33	.44	25	6.5	3.9	1.1	.12	.00	.00
11	.74	23	1.7	.33	.44	19	9.4	314	.87	.08	.00	.00
12	.69	15	1.6	.38	.44	15	3.8	138	.75	.00	.00	.00
13	.66	10	1.5	.44	.47	12	2.5	16	.66	.00	.00	.00
14	.66	8.1	1.6	.44	.64	12	2.0	5.9	.63	.00	.00	.00
15	.48	6.6	1.6	.44	.39	13	1.7	3.2	.55	.00	.00	.00
16	.44	5.2	1.8	.60	.27	12	1.7	2.2	.48	.00	.00	.00
17	.44	5.5	1.6	.56	.19	11	2.5	1.9	.45	.00	.00	.00
18	.44	7.4	1.5	.45	.13	11	17	179	1.1	.00	.00	.00
19	.44	7.0	1.3	.44	.10	11	5.1	268	1.6	.00	.00	.00
20	.44	6.6	1.1	.36	.10	9.4	2.9	136	2.0	.00	.00	.00
21	.44	6.6	.99	.33	8.1	9.3	2.5	193	32	.00	.00	.00
22	.45	5.5	.91	.33	7.5	9.2	2.1	54	25	.00	.00	.00
23	.67	5.2	.98	.33	16	466	1.9	19	6.7	.00	.00	.00
24	5.0	4.8	.77	.44	17	664	1.8	8.1	2.6	.00	.00	.00
25	12	4.5	.77	.50	18	87	1.8	4.1	2.1	.00	.00	.00
26	11	4.5	.66	.55	13	40	1.8	2.4	2.1	.00	.00	.00
27	7.7	4.2	.66	.55	10	25	1.8	2.4	1.6	.00	.00	.00
28	5.5	4.2	.55	.48	21	19	1.9	6.9	1.2	.00	.00	.00
29	4.8	4.0	.55	.38	---	15	1.8	6.5	.98	.00	.00	.00
30	4.2	4.0	.55	.33	---	11	2.2	2.9	.85	.00	.00	.00
31	38	---	.55	.33	---	9.4	---	1.8	---	.00	.00	---
TOTAL	150.21	1261.7	57.34	14.00	1214.61	2230.3	859.3	2313.7	98.72	3.45	.00	.00
MEAN	4.85	42.1	1.85	.45	43.4	71.9	28.6	74.6	3.29	.11	.000	.000
MAX	38	539	4.2	.60	470	664	427	400	32	.75	.00	.00
MIN	.44	4.0	.55	.33	.33	9.2	1.7	1.8	.45	.00	.00	.00
AC-FT	298	2500	114	28	2410	4420	1700	4590	196	6.8	.00	.00
CAL YR 1977 TOTAL	5335.19			MEAN 14.6	MAX 1140	MIN .00	AC-FT 10580					
WTR YR 1978 TOTAL	8203.53			MEAN 22.5	MAX 664	MIN .00	AC-FT 16270					

ARKANSAS RIVER BASIN

243

07177000 HOMINY CREEK NEAR SKIATOOK, OK

LOCATION.--Lat 36°20'55", long 96°06'35", in SW¼SE¼ sec.27, T.22 N., R.11 E., Osage County, Hydrologic Unit 11070107, near left bank on downstream side of pier of bridge on State Highway 20, 1.0 mi (1.6 km) upstream from Tall Chief Creek, 6.0 mi (9.7 km) west of Skiatook, and at mile 16.7 (26.9 km).

DRAINAGE AREA.--340 mi² (881 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 619.66 ft (188.872 m) National Geodetic Vertical Datum of 1929. Prior to May 26, 1945, nonrecording gage and May 26, 1945, to Sept. 30, 1958, water-stage recorder at site 600 ft (182.9 m) upstream at same datum.

REMARKS.--Records poor.

COOPERATION.--Gage-height record and 14 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--34 years, 185 ft³/s (5.239 m³/s), 134,000 acre-ft/yr (165 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,600 ft³/s (1,010 m³/s) Oct. 3, 1959, gage height, 38.82 ft (11.832 m); no flow at times in 1946, 1952-58, 1963-66.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1943 reached a stage of 35.0 ft (10.67 m) from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Feb. 13	1715	6,360 180	26.95 8.214	June 22	1045	*6,580 186	*27.27 8.312
Apr. 4	2200	5,240 148	24.90 7.590				

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	8.5	20	6.6	3.4	10	96	51	1490	59	21	.00	.35
2	7.5	34	7.2	3.4	10	196	48	398	52	17	.41	.33
3	6.5	117	7.2	3.4	10	274	49	2540	43	13	2.0	.32
4	6.0	43	10	3.4	10	129	3450	1920	38	11	8.0	.30
5	5.6	26	21	3.4	11	72	2040	297	196	9.0	12	.28
6	5.6	19	18	3.4	11	61	806	156	170	8.0	20	.35
7	5.0	15	14	3.4	12	741	464	763	74	7.0	4.8	.50
8	4.5	14	9.2	3.4	12	994	154	395	51	6.0	3.2	.38
9	4.2	379	6.0	3.4	12	234	107	160	41	5.5	2.6	.41
10	4.0	559	5.8	3.7	12	126	88	94	34	5.0	2.0	.60
11	3.8	131	6.5	4.5	13	92	96	164	31	4.5	1.1	.83
12	3.5	75	6.5	10	596	75	79	927	28	4.2	.59	.91
13	3.0	57	6.2	8.0	5520	64	64	159	26	3.8	.30	.46
14	2.7	47	6.0	7.5	2290	58	55	64	24	3.5	.08	.28
15	2.5	20	5.6	7.0	327	55	48	36	23	3.1	.00	.16
16	2.3	14	5.2	7.0	169	52	120	28	22	2.8	.00	.14
17	2.3	13	5.0	7.0	100	50	163	24	21	2.4	.03	.19
18	2.2	10	4.8	7.0	85	48	107	478	1020	2.0	.50	.17
19	2.2	9.3	4.6	7.0	73	44	126	510	287	1.6	.70	.52
20	2.1	7.6	4.5	7.0	66	41	67	2400	209	1.3	.60	.82
21	2.0	6.4	4.3	7.0	62	38	48	812	2800	1.1	.65	.68
22	2.0	5.9	4.1	7.0	60	36	40	709	5950	.89	.70	.83
23	4.0	6.8	4.0	7.0	77	289	36	314	1140	.86	.70	1.1
24	8.0	6.5	3.9	7.0	229	3480	33	134	167	.71	.65	1.4
25	6.0	6.0	3.8	7.0	194	1430	30	81	97	.55	.60	2.0
26	5.0	5.8	3.7	8.0	121	247	28	59	69	.38	.55	1.1
27	4.5	6.9	3.6	10	79	138	29	54	51	.22	.50	.28
28	4.0	7.0	3.5	10	77	96	29	797	40	.10	.45	.00
29	3.5	6.8	3.5	11	---	80	29	587	32	.02	.42	.00
30	3.0	6.4	3.5	10	---	67	29	143	27	.00	.40	.00
31	3.0	---	3.5	10	---	59	---	80	---	.00	.37	---
TOTAL	129.0	1674.4	201.3	200.3	10248	9462	8513	16773	12822	136.53	64.90	15.69
MEAN	4.16	55.8	6.49	6.46	366	305	284	541	427	4.40	2.09	.52
MAX	8.5	559	21	11	5520	3480	3450	2540	5950	21	20	2.0
MIN	2.0	5.8	3.5	3.4	10	36	28	24	21	.00	.00	.00
AC-FT	256	3320	399	397	20330	18770	16890	33270	25430	271	129	31

CAL YR 1977 TOTAL 40880.85 MEAN 112 MAX 4950 MIN .50 AC-FT 81090
WTR YR 1978 TOTAL 60240.12 MEAN 165 MAX 5950 MIN .00 AC-FT 119500

LOCATION.--Lat 36°16'42", long 95°57'14", in NW¼NW¼ sec.29, T.21 N., R.13 E., Tulsa County, Hydro-logic Unit 11070107, on downstream side of right pier of county road bridge, 1.5 mi (2.4 km) upstream from Delaware Creek, 2.4 mi (3.9 km) downstream from Hominy Creek, 2.5 mi (4.0 km) southeast of Sperry, and at mile 25.0 (40.2 km).

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

REMARKS. - - Records good.

AVERAGE DISCHARGE.--40 years, 495 ft³/s (14.02 m³/s), 358,600 acre-ft/yr (442 hm³/yr).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1943, reached a stage of 31.68 ft (9.656 m), discharge 72,200 ft³/s (2,040 m³/s). Flood in 1915 reached a stage similar to flood of Oct. 31, 1941, 30.14 ft (9.187 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,100 ft³/s (286 m³/s) Feb. 14, gage height, 22.10 ft (6.736 m), no peaks above base of 11,000 ft³/s (312 m³/s); minimum, 1.4 ft³/s (0.040 m³/s) Sept. 20.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	259	172	27	18	21	328	325	2840	541	98	27	4.6
2	143	439	26	18	19	484	219	3220	363	89	23	4.6
3	102	1140	25	18	19	1030	211	4410	212	76	22	4.0
4	84	484	24	19	19	634	4460	6960	163	70	36	2.7
5	76	235	76	19	19	336	6820	1960	481	84	36	2.2
6	73	151	87	19	19	232	2180	894	856	105	28	2.2
7	72	113	75	19	19	1290	2380	4510	400	103	45	2.8
8	70	173	60	18	19	3610	1150	1930	229	108	38	3.8
9	67	2170	43	18	21	1050	892	957	177	68	31	5.4
10	63	2360	35	18	21	527	865	719	124	44	26	6.6
11	59	706	33	18	22	349	714	646	102	32	23	7.2
12	59	337	30	25	362	270	524	4590	81	27	18	7.2
13	58	217	30	28	7770	220	383	1560	70	24	16	7.2
14	41	163	29	22	8650	191	286	699	61	23	14	6.5
15	24	107	28	20	1970	172	212	487	53	24	12	6.5
16	16	156	26	20	773	158	276	314	44	23	11	6.3
17	12	128	23	19	496	136	431	198	41	21	9.2	5.2
18	9.4	90	23	19	350	129	347	776	3360	21	7.8	4.8
19	7.8	75	26	19	270	117	363	4620	3160	21	6.5	3.5
20	6.6	66	20	19	210	104	305	5990	621	21	6.5	2.7
21	6.3	55	21	19	190	96	205	5590	3510	21	6.8	1.8
22	5.1	47	18	19	174	88	162	3960	9410	19	10	1.8
23	13	38	18	19	167	111	134	2110	6700	21	11	2.7
24	15	40	18	19	671	6240	119	1350	831	19	10	4.5
25	8.5	39	18	19	960	6670	105	1070	425	19	10	5.8
26	7.2	34	18	21	692	1310	97	914	283	19	11	6.3
27	8.0	30	17	22	381	662	89	527	203	18	8.2	8.7
28	10	30	17	22	315	652	78	6960	167	29	6.5	10
29	9.4	29	17	23	---	647	69	2020	134	84	6.3	9.7
30	9.7	29	17	22	---	568	65	893	112	48	5.3	9.5
31	35	---	18	21	---	517	---	562	---	34	4.5	---
TOTAL	1429.0	9853	943	619	24619	28928	24466	74236	32914	1413	525.6	156.8
MEAN	46.1	328	30.4	20.0	879	933	816	2395	1097	45.6	17.0	5.23
MAX	259	2360	87	28	8650	6670	6820	6960	9410	108	45	10
MIN	5.1	29	17	18	19	88	65	198	41	18	4.5	1.8
AC-FT	2830	19540	1870	1230	48830	57360	48530	147200	65280	2800	1040	31.3

CAL YR 1977	TOTAL	98962.96	MEAN 271	MAX 9900	MIN .76	AC-FT	196300
WTR YR 1978	TOTAL	200102.40	MEAN 548	MAX 9410	MIN 1.8	AC-FT	396900

ARKANSAS RIVER BASIN

245

07178050 BIRD CREEK NEAR CATOOSA, OK

LOCATION (REVISED).--Lat 36°14'21", long 95°50'52", in NW¼SW¼ sec.5, T.20 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, at bridge on U.S. Highway 75, approximately 5.5 mi (8.8 km) northwest of Catoosa.

DRAINAGE AREA.--1,080 mi² (2,797 km²).

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

REMARKS.--Samples were collected on a monthly basis 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	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)
OCT									
18...	1130	636	7.5	17.0	--	5.3	55	200	17
18...	1131	620	7.5	17.0	16	5.3	55	--	--
NOV									
15...	1045	525	7.6	13.5	--	7.7	75	160	49
15...	1046	590	7.6	13.5	32	7.7	75	--	--
DEC									
20...	1015	645	7.6	7.5	--	8.4	70	180	64
20...	1016	680	7.6	7.5	16	8.4	70	--	--
JAN									
26...	1200	800	7.6	1.5	--	10.8	78	220	96
26...	1215	800	7.6	1.5	9	10.8	78	--	--
FEB									
22...	1150	534	7.7	2.5	--	13.0	97	150	53
22...	1151	565	7.7	2.5	8	13.0	97	--	--
MAR									
21...	1230	622	7.6	13.5	--	8.5	82	180	70
21...	1231	665	7.6	13.5	14	8.5	82	--	--
APR									
18...	0915	525	7.7	17.0	--	7.1	76	150	42
18...	0916	525	7.7	17.0	7	7.1	76	--	--
MAY									
24...	1115	330	7.5	23.5	--	6.8	80	110	32
24...	1116	330	7.5	23.5	13	6.8	80	--	--
JUN									
20...	1130	275	7.3	23.0	130	6.8	80	93	--
20...	1145	275	7.3	23.5	--	6.8	80	88	27
JUL									
25...	1100	540	7.0	28.0	10	2.4	31	--	--
25...	1101	540	7.0	28.0	--	2.4	31	160	64
AUG									
22...	1000	510	7.5	27.5	--	2.0	25	150	39
22...	1001	510	7.5	27.5	4	2.0	25	--	--
SEP									
25...	1350	600	6.8	25.0	--	3.9	47	160	68
25...	1351	600	6.8	25.0	5	3.9	47	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT										
18...	8.2	220	0	180	11	56	54	--	387	--
18...	--	--	--	--	--	--	--	.6	--	336
NOV										
15...	5.5	130	0	110	5.2	37	63	--	303	--
15...	--	--	--	--	--	--	--	.5	--	--
DEC										
20...	6.8	140	0	110	5.6	53	77	--	365	--
20...	--	--	--	--	--	--	--	.6	--	--
JAN										
26...	6.5	150	0	120	6.0	63	120	--	458	--
26...	--	--	--	--	--	--	--	.2	--	--
FEB										
22...	4.3	120	0	98	3.8	46	68	--	300	--
22...	--	--	--	--	--	--	--	.2	--	--
MAR										
21...	4.5	130	0	110	5.2	55	81	--	334	--
21...	--	--	--	--	--	--	--	.3	--	--
APR										
18...	4.6	130	0	110	4.2	39	51	--	265	--
18...	--	--	--	--	--	--	--	.1	--	--
MAY										
24...	3.2	95	0	78	4.8	26	36	--	195	--
24...	--	--	--	--	--	<1.0	29	.1	--	--
JUN										
20...	--	--	--	--	--	18	20	.1	--	--
20...	4.0	75	0	62	26	34	31	--	155	--
JUL										
25...	--	--	--	--	--	43	55	.6	--	--
25...	6.5	120	0	98	19	98	61	--	319	--
AUG										
22...	6.7	130	0	110	6.6	35	60	--	303	--
22...	--	--	--	--	--	--	--	.8	--	--
SEP										
25...	8.1	110	0	90	28	50	53	--	352	--
25...	--	--	--	--	--	--	--	.8	--	--

ARKANSAS RIVER BASIN

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07178050 BIRD CREEK NEAR CATOOSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (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									
18...	.53	--	--	--	--	--	--	--	--
18...	--	--	3.0	--	--	6.6	12	56	5.2
NOV									
15...	.41	--	--	--	--	--	--	--	--
15...	--	55	1.1	--	--	4.4	5.5	25	2.1
DEC									
20...	.50	--	--	--	--	--	--	--	--
20...	--	22	1.1	--	--	6.6	7.7	34	2.8
JAN									
26...	.62	--	--	--	--	--	--	--	--
26...	--	15	.60	--	--	7.8	8.4	37	2.0
FEB									
22...	.41	--	--	--	--	--	--	--	--
22...	--	25	.80	--	--	3.8	4.6	20	.98
MAR									
21...	.45	--	--	--	--	--	--	--	--
21...	--	64	.60	--	--	5.3	5.9	26	1.6
APR									
18...	.36	--	--	--	--	--	--	--	--
18...	--	199	1.7	--	--	3.0	4.7	21	--
MAY									
24...	.27	--	--	--	--	--	--	--	--
24...	--	224	.40	--	--	1.5	1.9	8.8	.28
JUN									
20...	--	265	.40	--	--	3.3	3.7	17	.49
20...	.21	--	--	--	--	--	--	--	--
JUL									
25...	--	40	1.0	5.0	3.4	8.4	9.4	42	2.2
25...	.43	--	--	--	--	--	--	--	--
AUG									
22...	.41	--	--	--	--	--	--	--	--
22...	--	24	1.5	--	--	5.7	7.2	32	2.9
SEP									
25...	.48	--	--	--	--	--	--	--	--
25...	--	11	1.1	--	--	1.3	2.4	11	5.0

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECIV- ERABLE (UG/L AS CD)	CHRO- MUM, TOTAL RECIV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECIV- ERABLE (UG/L AS CU)	IRON, TOTAL RECIV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECIV- ERABLE (UG/L AS PB)
OCT							
18...	1131	--	--	--	--	--	--
NOV							
15...	1046	--	--	--	--	2500	--
DEC							
20...	1016	--	--	--	--	--	--
JAN							
26...	1215	1	2	10	14	640	35
FEB							
22...	1151	--	--	--	--	--	--
MAR							
21...	1231	--	--	--	--	2600	--
APR							
18...	0916	--	--	--	--	--	--
MAY							
24...	1116	--	--	--	--	--	--
JUN							
20...	1150	--	--	--	--	1740	--
JUL							
25...	1100	--	--	--	--	--	--
AUG							
22...	1001	2	3	25	10	580	11
SEP							
25...	1351	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07178050 BIRD CREEK NEAR CATOOSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NT)	SILVER, TOTAL RECOVERABLE (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 18...	--	--	--	--	--	--	31
NOV 15...	25	--	--	--	--	--	--
DEC 20...	--	--	--	--	--	--	14
JAN 26...	180	2.0	30	<1	2	30	10
FEB 22...	--	--	--	--	--	--	6.0
MAR 21...	280	--	--	--	--	--	7.0
APR 18...	--	--	--	--	--	--	2.0
MAY 24...	--	--	--	--	--	--	26
JUN 20...	270	--	--	--	--	--	14
JUL 25...	--	--	--	--	--	--	18
AUG 22...	140	<.5	10	<1	<2	36	--
SEP 25...	--	--	--	--	--	--	12

ARKANSAS RIVER BASIN

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07178400 BIRD CREEK AT CATOOSA, OK

LOCATION.--Lat 36°12'14", long 95°45'41", on west line NW¼, sec.19, T.20 N., R.14 E., Rogers County, Hydrologic Unit 11070107, at county road bridge, 1 mi (1.6 km) northwest of Gatoosa.

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, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER CENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS Ca)	CALCIUM DIS-SOLVED (MG/L AS CaCO3)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS Mg)
OCT 18...	1245	530	7.5	16.0	--	4.8	49	--	--	--	--	--
NOV 15...	0945	540	7.6	14.0	--	6.7	66	--	--	--	--	--
DEC 20...	0915	620	7.7	7.5	--	6.6	55	55	--	--	--	--
JAN 26...	1800	700	7.7	1.0	15	9.4	67	33	--	--	--	--
FEB 22...	1600	560	7.7	3.5	8	12.0	92	28	--	--	--	--
MAR 21...	1045	610	7.6	11.5	4	7.4	68	28	--	50	--	11
APR 18...	1100	532	7.6	17.5	13	5.8	62	25	168	49	124	10
MAY 24...	1000	340	7.3	23.5	55	6.6	78	40	--	--	--	--
JUN 20...	1500	260	7.2	24.0	120	5.1	61	35	47	3.0	7	8.0
JUL 25...	1000	590	8.0	29.0	8	5.5	71	38	--	--	--	--
AUG 22...	1100	670	7.6	28.5	4	3.4	44	29	163	50	126	8.8
SEP 25...	1445	540	6.9	25.0	8	5.8	70	34	--	--	--	--

DATE	SODIUM, TOTAL RECOVERABLE (MG/L AS Na)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (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 18...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 15...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 20...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 26...	--	--	61	97	.3	18	.50	7.8	8.3	37	2.0	--
FEB 22...	--	--	48	68	.1	19	26	3.2	29	133	.79	--
MAR 21...	44	4.4	54	68	.2	50	.70	4.7	5.4	24	1.2	<1
APR 18...	31	3.8	63	54	.2	133	.50	2.9	3.1	15	.49	--
MAY 24...	--	--	<1.0	22	.1	208	.30	1.5	1.8	8.0	.34	--
JUN 20...	21	3.5	11	18	.1	279	.40	2.4	2.8	13	.25	--
JUL 25...	--	--	52	68	.7	22	.90	1.9	2.8	13	2.2	--
AUG 22...	55	6.8	48	31	.6	10	1.1	5.6	6.7	30	4.4	1
SEP 25...	--	--	48	73	.7	14	1.5	<1.0	--	--	3.8	--

07178400 BIRD CREEK AT CATOOSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

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07178620 VERDIGRIS RIVER NEAR INOLA, OK
(National stream-quality accounting network station)

LOCATION.--Lat 36°09'43", long 95°37'07", in NW¼NW¼ sec.4, T.9 N., R.16 E., Rogers County, Hydrologic Unit 11070105, at bridge on State Highway 33, 6.0 mi (9.6 km) west of Inola, and at navigation channel mile 36.6 (58.9 km).

DRAINAGE AREA.--7,911 mi² (20,489 km²).

PERIOD OF RECORD.--Water years 1972 to current year. Prior to October 1976, published as Newt Graham Lock and Dam near Inola.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1971 to September 1976.

WATER TEMPERATURE: December 1971 to September 1976.

REMARKS.--Prior to January 1977, sampling site was 9.9 mi (15.9 km) downstream, in the same pool, at Newt Graham Lock and Dam. Samples were collected on a monthly basis 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	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	COLIFORM, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
OCT 18...	0845	325	8.0	16.0	30	--	8.7	88	K34	--
NOV 17...	1430	320	7.5	14.0	35	--	10.3	100	--	200
DEC 28...	0915	445	7.7	1.5	25	--	12.9	92	180	55
JAN 11...	1100	490	7.9	.5	35	--	13.6	106	110	--
FEB 02...	0900	463	8.2	.5	20	--	13.2	94	500	K10
MAR 02...	0830	404	7.7	7.0	40	--	13.2	110	K1300	390
APR 11...	1200	398	8.0	15.0	70	--	9.7	97	4800	3000
MAY 10...	0900	360	7.5	17.0	90	--	9.3	97	K1100	520
JUN 22...	1330	189	6.9	23.0	--	360	6.6	77	91	87
JUL 19...	1000	430	7.6	29.0	--	28	7.1	92	K12000	K15000
AUG 10...	1000	509	8.3	27.5	--	6.5	8.1	102	5900	8800
SEP 20...	1330	560	7.8	28.0	--	6.6	9.0	115	400	K26

DATE	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM DIS-SOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)
OCT 18...	110	8	36	6.0	15	21	.6	4.2	130	0
NOV 17...	130	26	42	6.6	12	16	.5	4.2	130	0
DEC 28...	140	35	44	7.8	21	24	.8	4.4	130	0
JAN 11...	160	40	49	8.0	22	23	.8	4.5	140	0
FEB 02...	170	50	55	8.7	25	23	.8	4.4	150	0
MAR 02...	160	38	50	8.7	25	25	.9	3.7	150	0
APR 11...	150	45	48	7.6	19	21	.7	3.5	130	0
MAY 10...	140	31	43	7.3	17	21	.6	2.9	130	0
JUN 22...	69	21	21	4.0	10	23	.5	3.1	--	--
JUL 19...	160	42	50	8.9	22	22	.8	3.6	--	--
AUG 10...	170	41	53	9.4	30	27	1.0	4.4	--	--
SEP 20...	180	51	57	9.4	34	26	1.1	4.5	--	--

ARKANSAS RIVER BASIN

07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ALKA- LITY (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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 18...	110	2.1	26	18	.2	7.8	181	177	.25	1.0
NOV 17...	110	6.6	25	15	.2	7.9	180	177	.24	.63
DEC 28...	110	4.2	40	28	.2	9.3	244	219	.33	.78
JAN 11...	110	2.8	42	29	.2	8.8	243	233	.33	.75
FEB 02...	120	1.5	40	48	.2	8.7	273	264	.37	.53
MAR 02...	120	4.8	39	30	.2	8.7	254	239	.35	.54
APR 11...	110	2.1	41	26	.1	6.3	219	216	.30	.65
MAY 10...	110	6.6	33	25	.1	6.9	212	199	.29	.72
JUN 22...	48	--	19	21	.1	7.1	108	108	.15	.47
JUL 19...	120	--	50	27	.2	5.2	236	239	.32	.47
AUG 10...	130	--	51	46	.4	5.6	293	278	.40	.66
SEP 20...	130	--	53	46	.4	--	307	283	.42	.82

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT 18...	.01	--	--	--	.66	--	--	.25	.23
NOV 17...	.12	--	--	--	.38	--	--	.12	.06
DEC 28...	.67	--	--	--	1.0	--	--	.37	.31
JAN 11...	.75	1.3	2.0	.50	1.5	2.8	12	.50	.39
FEB 02...	.88	.42	1.3	.10	1.2	1.8	8.1	.40	.34
MAR 02...	.23	.43	.66	.00	.79	1.2	5.3	.20	2.1
APR 11...	.18	.64	.82	.29	.53	1.5	6.5	.19	.05
MAY 10...	.04	.93	.97	.40	.57	1.7	7.5	.14	.04
JUN 22...	.08	1.8	1.9	1.3	.59	2.4	.11	.43	.06
JUL 19...	.02	.67	.69	.24	.45	1.2	5.1	.09	.03
AUG 10...	.02	1.2	1.2	.51	.69	1.9	8.2	.33	.25
SEP 20...	.06	.75	.81	.00	2.5	1.6	7.2	.48	.35

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	LEAD, DIS- SOLVED (UG/L AS PR)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)
OCT 18...	--	--	--	--	--	--	--	--	--	--	--
NOV 17...	66	100	100	4	.0	.0	.0	1	0	1	0
DEC 28...	--	--	--	--	--	--	--	--	--	--	--
JAN 11...	--	--	--	--	--	--	--	--	--	--	--
FEB 02...	14	80	30	50	.1	.1	.0	1	1	0	0
MAR 02...	--	--	--	--	--	--	--	--	--	--	--
APR 11...	--	--	--	--	--	--	--	--	--	--	--
MAY 10...	5	160	150	10	.0	.0	.0	0	0	0	0
JUN 22...	--	--	--	--	--	--	--	--	--	--	--
JUL 19...	--	--	--	--	--	--	--	--	--	--	--
AUG 10...	15	60	60	<1	.0	.0	.0	1	0	1	1
SEP 20...	--	--	--	--	--	--	--	--	--	--	--
DATE	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE 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- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SFO. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 18...	--	--	--	--	--	4.3	--	--	--	50	98
NOV 17...	0	0	40	20	20	--	5.0	.0	--	105	74
DEC 28...	--	--	--	--	--	5.5	--	--	--	31	96
JAN 11...	--	--	--	--	--	5.5	--	--	--	42	90
FEB 02...	0	0	30	10	20	--	24	.7	--	28	96
MAR 02...	--	--	--	--	--	--	--	--	170	88	94
APR 11...	--	--	--	--	--	8.5	--	--	--	128	98
MAY 10...	0	0	40	30	10	--	7.9	--	1800	173	98
JUN 22...	--	--	--	--	--	18	--	--	--	772	99
JUL 19...	--	--	--	--	--	8.1	--	--	--	45	94
AUG 10...	1	0	20	10	8	--	--	--	--	31	96
SEP 20...	--	--	--	--	--	7.0	--	--	--	27	92

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ALDRIN, TOTAL		CHLOR-DANE, TOTAL		DDD, TOTAL		DDE, TOTAL		DDT, TOTAL	
		ALDRIN, TOTAL (UG/L) (39330)	IN BOT-TOM MA-TERIAL (UG/KG) (39333)	ATRA-ZINE, TOTAL (UG/L) (39630)	CHLOR-DANE, TOTAL (UG/L) (39350)	IN BOT-TOM MA-TERIAL (UG/KG) (39351)	DDD, TOTAL (UG/L) (39360)	IN BOT-TOM MA-TERIAL (UG/KG) (39363)	DDE, TOTAL (UG/L) (39365)	IN BOT-TOM MA-TERIAL (UG/KG) (39368)	DDT, TOTAL (UG/L) (39370)
NOV 17...	1430	ND	--	ND	ND	--	ND	--	ND	--	ND
MAY 10...	0900	ND	--	--	ND	--	ND	--	ND	--	ND
DATE		DI-AZINON, TOTAL		DI-ELDRIN, TOTAL		ENDRIN, TOTAL		ETHION, TOTAL		HEPTA-CHLOR, TOTAL	
		DI-AZINON, TOTAL (UG/L) (39570)	IN BOT-TOM MA-TERIAL (UG/KG) (39571)	DI-ELDRIN, TOTAL (UG/L) (39380)	IN BOT-TOM MA-TERIAL (UG/KG) (39383)	ENDRIN, TOTAL (UG/L) (39390)	IN BOT-TOM MA-TERIAL (UG/KG) (39393)	ETHION, TOTAL (UG/L) (39398)	IN BOT-TOM MA-TERIAL (UG/KG) (39399)	HEPTA-CHLOR, TOTAL (UG/L) (39410)	IN BOT-TOM MA-TERIAL (UG/KG) (39413)
NOV 17...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 10...	--	ND	--	ND	--	ND	--	ND	--	ND	--
DATE		HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL.		LINDANE TOT. IN BOT-TOM MA-TERIAL		MALA-THION, TOT. IN BOT-TOM MA-TERIAL		METH-UXY-CHLOR, TOT. IN BOTTOM MATL.		METHYL PARA-THION, TOT. IN BOTTOM MATL.	
		HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/L) (39420)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG) (39423)	LINDANE TOT. IN BOT-TOM MA-TERIAL (UG/L) (39340)	LINDANE TOT. IN BOT-TOM MA-TERIAL (UG/KG) (39343)	MALA-THION, TOT. IN BOT-TOM MA-TERIAL (UG/L) (39530)	MALA-THION, TOT. IN BOT-TOM MA-TERIAL (UG/KG) (39531)	METH-UXY-CHLOR, TOT. IN BOTTOM MATL. (UG/L) (39480)	METH-UXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG) (39481)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/L) (39600)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG) (39601)
NOV 17...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 10...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
DATE		METHYL TRI-THION, TOT. IN BOTTOM MATL.		PARA-THION, TOT. IN BOT-TOM MA-TERIAL		TOXA-PHENE, TOT. IN BOT-TOM MA-TERIAL		TRI-THION, TOT. IN BOT-TOM MA-TERIAL		2,4-D, 2,4,5-T TOTAL	
		METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG) (39791)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/L) (39540)	PARA-THION, TOT. IN BOT-TOM MA-TERIAL (UG/L) (39541)	PARA-THION, TOT. IN BOT-TOM MA-TERIAL (UG/KG) (39541)	TOXA-PHENE, TOT. IN BOT-TOM MA-TERIAL (UG/L) (39400)	TOXA-PHENE, TOT. IN BOT-TOM MA-TERIAL (UG/KG) (39403)	TRI-THION, TOT. IN BOT-TOM MA-TERIAL (UG/L) (39786)	TRI-THION, TOT. IN BOT-TOM MA-TERIAL (UG/KG) (39787)	2,4-D, 2,4,5-T TOTAL (UG/L) (39730)	2,4-D, 2,4,5-T TOTAL (UG/KG) (39740)
NOV 17...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 10...	--	ND	--	ND	--	ND	--	ND	--	ND	--

ARKANSAS RIVER BASIN

07178620 VERDIGRIS RIVER NEAR INCL4, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	MAR 2,78 0830	MAY 10,78 0900	JUN 22,78 1330	AUG 10,78 1000	SEP 28,78 1330
TOTAL CELLS/ML	170	1100	830	12000	15000
DIVERSITY: DIVISION	0.9	1.4	0.3	1.1	1.5
..CLASS	0.9	1.4	0.3	1.1	1.5
..ORDER	1.8	2.0	0.3	1.7	1.8
...FAMILY	2.7	2.0	0.3	1.8	1.9
....GENUS	3.2	2.2	0.3	1.9	2.5

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	--	-	--	-	--	-	* 0		* 0	
...OOCYSTACEAE										
....ANKISTRODESMUS	9	6	--	-	--	-	* 0		230	2
....CLOSTERIOPSIS	* 0		--	-	--	-	--	-	120	1
...OOCYSTIS	* 0		32	3	--	-	* 0		230	2
....SELENASTRUM	9	6	32	3	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	* 0		--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	330	3	--	-
...SCENEDESMUS	--	-	--	-	--	-	100	1	1400	9
...TETRASPORALES					27	3				
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	--	-	--	-	230	2
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	--	-	--	-	250	2	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	28#	17	--	-	--	-	320	3	--	-
...VOLVOCAEAE										
....GONIUM	--	-	--	-	--	-	170	1	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	19	11	32	3	--	-	170	1	3800#	25
....MELUSIRA	28#	17	430#	39	--	-	900	8	1400	9
...STEPHANODISCUS	--	-	--	-	--	-	--	-	810	5
...PENNALES										
...FRAGILARIACEAE										
....FRAGILARIA	19	11	--	-	--	-	--	-	--	-
....SYNEDRA	9	6	--	-	--	-	--	-	--	-
...GOMPHONEMACEAE										
....GOMPHONEMA	9	6	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	--	-	32	3	14	2	--	-	--	-
...NITZSCHACEAE										
....NITZSCHIA	19	11	16	1	--	-	* 0		--	-
...SURIRELLACEAE										
....SURIRELLA	19	11	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
...CRYPTOMONODACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	130	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHRONOCOCCALES										
...CHRONOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	1300	11	--	-
....ANACYSTIS	--	-	190#	17	--	-	100	1	760	5
...HORMOGONALES										
...OSCILLATORIACEAE										
....LYNGBYA	--	-	340#	30	--	-	--	-	--	-
...OSCILLATORIA	--	-	--	-	790#	95	7800#	66	5800#	39
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....TRACHELUMONAS	--	-	16	1	--	-	* 0		--	-
PYRRHOPHYTA (FIRE ALGAE)										
..PYRRHOPHYCEAE										
...PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	--	-	--	-	--	-	73	1	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

257

07185000 NEOSHO RIVER NEAR COMMERCE, OK

LOCATION.--Lat 36°55'43", long 94°57'26", in SWSEK sec.5, T.28 N., R.22 E., Ottawa County, Hydro-logic Unit 11070206, on downstream side of left pier of county road bridge, 1.3 mi (2.1 km) upstream from Mud Creek, 2.2 mi (3.5 km) downstream from Four Mile Creek, 4.5 mi (7.2 km) west of Commerce, and at mile 153.4 (246.8 km).

DRAINAGE AREA.--5,876 mi² (15,219 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1939 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 748.97 ft (228.286 m) Corps of Engineers datum.

REMARKS.--Records good except for period of no gage height record Jan. 9 - Feb. 13 which is poor. Flow regulated to some extent since 1963 by John Redmond Reservoir in Kansas, 190 mi (306 km) upstream.

AVERAGE DISCHARGE.--39 years, 3,552 ft³/s (100.6 m³/s), 2,573,000 acre-ft/vr (3.17 km³/vr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 267,000 ft³/s (7,560 m³/s) July 15, 1951, computed by flood-routing methods from hydrograph defined at Miami, mile 144.2 (232.0 km), by several discharge measurements, gage-height record, and by comparison with computed inflow into Lake O' The Cherokees; maximum gage height, 34.03 ft (10.327 m) July 16, 1951, from floodmark; no flow at times in 1953-54, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20,000 ft³/s (566 m³/s) and maximum (*);

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Nov. 3	2315	*29,800 844	*18.75 5.715	Mar. 26	0130	28,300 801	18.36 5.596
Nov. 10	2015	24,600 697	16.98 5.176				

Minimum discharge, 40 ft³/s (1.13 m³/s) Sept. 30

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6750	24300	1880	582	420	10800	7550	7130	1900	593	71	113
2	2710	27500	1420	577	472	9700	7210	3380	1570	573	66	91
3	2050	29100	1510	608	382	10900	6940	2690	980	667	64	81
4	1840	28800	1280	499	403	9510	11000	2960	816	1290	99	74
5	1750	21700	1340	528	402	7510	10600	2270	956	1340	172	69
6	1700	5260	1140	562	396	5570	11900	1890	980	1270	210	64
7	1720	3360	929	560	396	5260	12500	6120	985	1290	187	50
8	1800	3100	837	549	402	6200	9950	10600	1520	2050	145	48
9	1780	13000	793	490	420	5610	7140	9880	2460	2210	123	46
10	1690	23500	755	440	394	5080	15200	4850	2430	2130	105	45
11	1720	24100	691	441	391	5040	17100	3030	2360	2040	89	43
12	1610	22600	629	471	382	5040	13900	2920	2320	1990	90	42
13	1490	6990	609	538	590	5370	9140	2930	2270	1980	88	40
14	1370	5530	683	537	4180	5270	6630	6590	2230	2160	85	46
15	1230	5610	696	476	5780	5080	5840	5020	2120	2180	81	151
16	1100	5290	710	450	2400	4910	5380	2370	1370	1980	79	368
17	929	5020	722	450	2100	4710	5500	1870	758	1570	74	360
18	748	4750	711	404	2600	4190	6520	2090	7360	1290	64	284
19	675	4160	700	405	2950	3130	7150	4430	5790	1170	68	197
20	604	3170	680	414	2750	2040	6050	6940	4870	997	73	127
21	575	2880	660	476	2470	1630	5220	5080	6830	826	69	95
22	565	2790	897	463	2640	1530	4800	3690	2650	693	65	73
23	546	2680	1770	476	2500	1810	4330	4360	2090	485	62	63
24	1080	2580	1790	477	3260	14900	3020	7730	1360	317	62	57
25	6490	2540	1830	450	8520	26600	2490	9540	968	247	58	54
26	4970	2940	1320	448	13500	27900	2280	6390	806	187	48	51
27	2100	3080	780	447	10700	26400	2190	3290	720	149	142	49
28	1400	2980	631	460	11800	11500	2090	2790	676	114	1100	46
29	1050	2900	570	461	---	4630	1790	2380	630	101	742	42
30	895	2690	570	448	---	4490	1710	2140	602	87	286	40
31	12800	---	571	447	---	7360	---	2010	---	77	156	---
TOTAL	67737	294900	29904	15034	83530	249670	213120	139360	63377	34053	4828	2913
MEAN	2185	9830	965	485	2983	8054	7104	4495	2113	1098	156	97.1
MAX	12800	29100	1880	608	13500	27900	17100	10600	7360	2210	1100	368
MIN	546	2540	570	404	382	1530	1710	1870	602	77	48	40
AC-FT	134400	584900	59310	29820	165700	495200	422700	276400	125700	67540	9580	5780

CAL YR 1977	TOTAL	1489108	MEAN	4080	MAX	56600	MIN	47	AC-FT	2954000
WTR YR 1978	TOTAL	1198426	MEAN	3283	MAX	29100	MIN	40	AC-FT	2377000

ARKANSAS RIVER BASIN

07185000 NEOSHO RIVER NEAR COMMERCE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-54, 1960-73, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1947 to September 1954.

WATER TEMPERATURE: November 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 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)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	HARD- NESS (MG/L AS CACO3)
OCT 18...	1030	770	450	7.6	15.0	39	8.3	83	17	--	224
NOV 15...	1040	5620	320	7.1	9.0	92	9.3	83	28	--	--
DEC 20...	0930	678	570	7.3	4.0	5	10.0	77	12	--	303
FEB 22...	1030	2360	500	7.2	.5	5	12.9	91	39	--	199
MAR 21...	1030	1620	400	7.1	10.0	12	11.6	104	26	--	--
APR 18...	1000	6310	420	7.4	15.0	28	9.6	97	23	--	188
MAY 24...	1015	7350	400	7.0	22.0	21	9.0	105	37	--	--
JUN 20...	0930	2210	210	7.1	23.0	95	6.9	81	--	86	107
JUL 25...	0915	255	511	7.7	28.0	27	6.5	83	20	--	--
AUG 22...	0945	66	610	7.2	28.0	16	5.6	70	20	--	535
SEP 20...	0930	127	490	7.4	27.0	21	7.1	90	19	--	--

DATE	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACU3)	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 18...	60	150	17	15	3.9	61	16	.2	301	--
NOV 15...	--	--	--	--	--	13	10	--	--	131
DEC 20...	90	226	18	20	3.5	87	19	.2	--	11
FEB 22...	59	148	11	30	5.5	62	39	.2	--	23
MAR 21...	--	--	--	--	--	63	11	.1	--	78
APR 18...	53	133	11	10	3.3	61	16	.2	--	214
MAY 24...	--	--	--	--	--	63	8.0	.1	--	417
JUN 20...	29	72	7.0	11	3.4	27	2.0	.1	--	888
JUL 25...	--	--	--	--	--	84	19	.3	--	95
AUG 22...	140	350	44	28	4.2	184	<1.0	.3	--	63
SEP 20...	--	--	--	--	--	137	8.0	.2	--	63

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07188000 SPRING RIVER NEAR QUAPAW, OK

LOCATION.--Lat 36°56'04", long 94°44'45", in NE¼SW¼ sec.5, T.28 N., R.24 E., Ottawa County, Hydro-logic Unit 11070207, near center of span on downstream side of pier of county road bridge, 0.1 mi (0.2 km) upstream from Rock Creek, 3.0 mi (4.8 km) southeast of Quapaw, and at mile 13.9 (22.4 km). Records include flow of Rock Creek.

DRAINAGE AREA.--2,510 mi² (6,501 km²), includes that of Rock Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1939 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 746.25 ft (227.457 m) National Geodetic Vertical Datum of 1929. Nonrecording gage on right bank at same datum used May 20 to Nov. 16, 1943.

REMARKS.--Records good. Occasional releases from flood gates at old Riverton Hydroelectric plan, 15 mi (24 km) above station.

AVERAGE DISCHARGE.--39 years, 1,953 ft³/s (55.31 m³/s), 10.57 in/yr (268 mm/yr), 1,415,000 acre-ft/yr (1.74 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 190,000 ft³/s (5,380 m³/s) May 19, 1943, gage height, 43.4 ft (13.23 m), from floodmark, from rating curve extended above 54,000 ft³/s (1,530 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 5.8 ft³/s (0.16 m³/s) July 8, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,400 ft³/s (833 m³/s) at 1830 Mar. 25, gage height, 19.43 ft (5.922 m), no other peaks above base of 18,000 ft³/s (510 m³/s); minimum, 262 ft³/s (7.42 m³/s) Aug. 25.

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	5790	10900	777	726	509	5620	3430	2840	2260	896	540	448
2	3610	7940	1050	714	502	5910	2970	3420	2100	867	526	426
3	3040	6770	1110	702	502	7250	2930	2910	3190	826	524	413
4	2620	3630	1100	681	501	5030	5150	2790	2560	791	750	403
5	2310	2060	2750	660	492	3680	7050	2870	4100	764	1970	397
6	2110	1800	3660	650	487	3050	5560	2760	3120	734	1310	387
7	1960	1580	2640	639	485	2810	5490	4020	2990	704	862	372
8	1850	1480	2190	608	484	3360	3840	6820	2690	686	697	360
9	1760	3270	1930	597	483	3970	3270	6390	2360	672	621	352
10	1640	3240	1750	597	483	3270	7180	3540	1820	655	575	347
11	1480	2470	1610	597	486	2980	15600	2320	1830	633	545	349
12	1270	2010	1520	588	498	2890	10800	1890	1720	614	666	370
13	1300	1710	1460	571	734	2690	5960	1780	1590	597	851	351
14	1150	1490	1250	555	965	2500	4380	1400	1490	590	654	966
15	1120	1320	1190	555	1070	2500	3860	1330	1410	669	582	1300
16	1060	1180	1290	560	1090	2390	3480	1220	1350	2070	556	788
17	1000	1100	1220	565	1060	2170	3250	1120	1280	2680	529	604
18	943	1080	1230	565	988	2010	3020	2700	1430	1190	510	489
19	892	1000	1180	565	933	1600	2820	3070	1400	812	488	421
20	850	951	1090	558	912	1520	2690	4630	2300	694	484	386
21	816	903	1020	546	873	1690	2490	5320	2500	635	476	360
22	783	838	971	550	844	1910	2350	3660	2030	596	465	417
23	990	821	921	552	835	2820	2250	7780	1780	576	447	398
24	1840	799	880	546	1360	16500	2160	14100	1490	577	312	391
25	1560	774	840	543	5260	27500	2060	10300	1340	597	269	380
26	1270	755	814	531	5290	21300	1710	5410	1240	626	357	361
27	1070	726	789	525	4310	10600	1730	4510	1170	994	789	349
28	956	717	764	519	6990	5860	1720	3490	1030	654	1870	334
29	872	711	751	512	---	4860	1670	3140	759	583	840	318
30	828	714	751	508	---	4230	1870	2790	919	587	566	325
31	3750	---	744	509	---	3750	---	2410	---	563	488	---
TOTAL	52490	64739	41242	18094	39426	168220	122740	122730	57248	25132	21121	13562
MEAN	1693	2158	1330	584	1408	5426	4091	3959	1908	811	681	452
MAX	5790	10900	3660	726	6990	27500	15600	14100	4100	2680	1970	1300
MIN	783	711	744	508	483	1520	1670	1120	759	563	269	318
CFSM	.68	.86	.53	.23	.56	2.16	1.63	1.58	.76	.32	.27	.18
IN.	.78	.96	.61	.27	.58	2.49	1.82	1.82	.85	.37	.31	.20
AC-FT	104100	128600	81800	35890	78200	333700	243500	243400	113600	49850	41890	26900

CAL YR 1977 TOTAL 600131 MEAN 1655 MAX 26200 MIN 171 CFSM .66 IN 8.95 AC-FT 1198000
WTR YR 1978 TOTAL 746744 MEAN 2046 MAX 27500 MIN 269 CFSM .82 IN 11.07 AC-FT 1481000

ARKANSAS RIVER BASIN

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07188000 SPRING RIVER NEAR QUAPAW, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-58, 1960-63, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1947 to September 1949.

WATER TEMPERATURE: October 1947 to September 1949.

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, 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 18...	0930	842	390	7.8	14.0	4	8.4	82	4	185	
NOV 15...	0945	1320	400	7.0	12.0	16	9.4	90	10	--	
DEC 20...	0810	1030	340	7.3	6.0	6	10.4	84	<3	189	
JAN 26...	0930	527	430	7.1	1.0	3	12.9	92	5	--	
FEB 22...	0920	850	460	7.7	.5	2	12.0	84	9	201	
MAR 21...	0935	1730	360	7.4	11.0	5	9.6	88	7	--	
APR 18...	0900	3120	340	7.3	15.0	13	10.0	101	5	147	
MAY 24...	0915	15100	200	6.8	20.0	79	8.3	92	68	--	
JUN 20...	0830	1530	300	7.5	24.0	13	7.0	84	4	147	
JUL 25...	0830	597	304	7.3	27.0	8	6.8	86	10	--	
AUG 22...	0855	465	340	7.4	27.0	2	5.2	66	9	175	
SEP 20...	0830	392	320	7.2	27.0	10	5.9	75	8	--	
DATE		CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT 18...	62	156	6.9	10	1.8	42	11	.2	235	--	
NOV 15...	--	--	--	--	--	--	54	8.0	--	--	21
DEC 20...	65	164	6.0	19	1.7	56	10	.1	--	--	10
JAN 26...	--	--	--	--	--	--	72	12	.1	--	8
FEB 22...	67	168	7.9	17	1.8	84	13	8.0	--	--	8
MAR 21...	--	--	--	--	--	--	46	11	.3	--	14
APR 18...	91	129	4.5	<10	1.4	45	9.0	.1	--	--	19
MAY 24...	--	--	--	--	--	--	<1.0	6.0	.1	--	715
JUN 20...	92	130	4.0	<10	1.5	22	2.0	.1	--	--	74
JUL 25...	--	--	--	--	--	--	36	7.0	.1	--	21
AUG 22...	61	153	4.7	14	1.7	35	<1.0	.1	--	--	22
SEP 20...	--	--	--	--	--	--	61	3.0	.2	--	24

ARKANSAS RIVER BASIN

263

07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'50", long 94°35'12", in NE¼ sec.22, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, on downstream side of right pier of bridge on State Highway 43, 0.8 mi (1.3 km) downstream from Blackfoot Branch, 2.8 mi (4.5 km) upstream from Buffalo Creek, 3.0 mi (4.8 km) southeast of Tiff City, and at mile 15.8 (25.4 km).

DRAINAGE AREA.--872 mi² (2,258 km²).

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 927: 1940. WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 750.61 ft (228.786 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Sept. 6, 1960 to Aug. 24, 1961, at site 100 ft (30.5 m) downstream.

REMARKS.--Records good.

AVERAGE DISCHARGE.--39 years, 803 ft³/s (22.74 m³/s), 12.50 in/yr (318 mm/yr), 581,800 acre-ft/yr (717 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 137,000 ft³/s (3,880 m³/s) Apr. 19, 1941, gage height, 28.4 ft (8.66 m), from floodmark, from rating curve extended above 60,000 ft³/s (1,700 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 5.1 ft³/s (0.14 m³/s), Sept. 5, 6, 1954.

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

DATE		(ft ³ /s)	(m ³ /s)	(ft)	(m)	TIME	DISCHARGE	(ft ³ /s)	GAGE	HEIGHT	DATE
Mar. 25	0100	25,700	728	18.65	5.685	Apr. 10	2045	*27,300	773	19.08	5.816

Minimum discharge, 102 ft³/s (2.89 m³/s) Sept. 8, 9.

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	1970	168	405	274	315	1420	1460	3630	434	520	165	131
2	1420	292	480	266	306	1620	1300	5540	555	482	155	127
3	1090	506	550	254	295	2300	1150	3320	603	449	151	125
4	872	657	644	246	280	2560	4730	3320	532	420	159	121
5	726	626	950	240	269	2120	4710	3630	515	394	171	117
6	628	567	1010	239	257	1790	3260	2810	552	365	164	113
7	548	506	935	235	250	1610	2950	4160	1220	344	155	108
8	495	455	815	224	244	1940	2310	6560	1250	324	147	105
9	442	485	717	218	240	2550	1950	4300	994	303	142	106
10	394	548	663	221	234	2380	20100	2920	815	286	142	130
11	350	625	625	218	226	2140	15400	2210	689	271	140	119
12	313	619	600	203	235	1910	6400	1850	596	257	175	122
13	285	566	566	195	370	1690	4150	1640	517	246	308	117
14	260	512	522	192	595	1540	3050	1400	463	239	314	173
15	238	533	503	189	737	1400	2380	1220	422	251	272	199
16	217	650	488	200	768	1300	1970	1100	388	312	242	179
17	203	779	479	200	742	1220	1720	981	360	327	214	160
18	188	844	473	199	706	1160	1590	932	1450	284	191	142
19	177	765	461	198	666	1120	1400	917	1890	256	177	127
20	171	690	441	197	615	1090	1270	831	1450	237	166	119
21	160	638	424	192	582	1720	1170	765	3120	218	158	120
22	157	644	403	189	546	2840	1080	747	3320	204	151	128
23	164	566	384	183	518	2570	1010	725	2000	214	143	139
24	157	470	369	183	537	13900	915	844	1430	227	138	142
25	145	414	352	212	628	16500	833	738	1150	218	144	138
26	138	386	334	244	783	6130	774	664	961	214	137	130
27	136	363	317	267	827	3970	727	611	815	226	145	125
28	130	345	301	300	1040	2990	693	577	705	201	155	119
29	128	334	295	326	---	2370	676	549	625	196	159	114
30	127	337	293	326	---	1980	649	503	569	181	149	110
31	126	---	287	319	---	1680	---	463	---	173	140	---
TOTAL	12557	15890	16086	7149	13811	91510	91777	60457	30390	8839	5369	3905
MEAN	405	530	519	231	493	2952	3059	1950	1013	285	173	130
MAX	1970	844	1010	326	1040	16500	20100	6560	3320	520	314	199
MIN	127	168	287	183	226	1090	649	463	360	173	137	105
CF8M	.46	.61	.60	.27	.57	3.39	3.51	2.24	1.16	.33	.20	.15
IN	.54	.68	.69	.30	.59	3.90	3.92	2.58	1.30	.38	.23	.17
AC-FT	24910	31520	31910	14180	27390	161500	162000	119900	60280	17530	10650	7750

CAL YR 1977	TOTAL	137073	MEAN	376	MAX	3780	MIN	86	CF8M	.43	IN	5.85	AC-FT	271900
WTR YR 1978	TOTAL	357740	MEAN	980	MAX	20100	MIN	105	CF8M	1.12	IN	15.26	AC-FT	709600

07190000 LAKE O' THE CHEROKEES AT LANGLEY, OK

LOCATION.--Lat 36°28'17", long 95°02'19", in SW¼ sec.14, T.23 N., R.21 E., Mayes County, Hydrologic Unit 11070209, on upstream side of pier at intake structure near right end of Pensacola Dam on Neosho River at Langley, 9.9 mi (15.9 km) upstream from Big Cabin Creek, and at mile 77.0 (123.9 km).

DRAINAGE AREA.--10,298 mi² (26,672 km²).

PERIOD OF RECORD.--March 1940 to current year. Prior to October 1940, published as Grand Lake at Langley.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.10 ft (0.335 m) Corps of Engineers datum. Prior to Nov. 14, 1941, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by multiple-arch concrete dam, with top of taintor-type spillway gates at gage height 755.0 ft (230.12 m). Storage began Mar. 21, 1940; power-pool was first filled Apr. 19, 1941. Capacity between gage heights 682.0 ft (207.87 m), sill of powerhouse penstock, and 745.0 ft (227.08 m), maximum power pool is 1,492,000 acre-ft (1.84 km³). Capacity between gage heights 745.0 ft (227.08 m), and 755.0 ft (230.12 m) is 525,000 acre-ft (647 hm³) and is reserved for flood control. Dead storage below gage height 682.0 ft (207.87 m) is 180,200 acre-ft (222 hm³). Figures given herein represent total contents. Reservoir is utilized for power development and flood control.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,213,000 acre-ft (2.73 km³), May 25, 1957, gage height, 755.27 ft (230.206 m), minimum since power-pool was first filled, 642,900 acre-ft (793 hm³) Sept. 28, 1954, gage height, 713.41 ft (217.447 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,889,000 acre-ft (2.33 km³) Mar. 28 gage-height, 749.45 ft (228.432 m); minimum, 1,278,000 acre-ft (1.58 km³) Sept. 30, gage height, 735.57 ft (224.202 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

735	1,257,000	744	1,626,000
738	1,371,000	747	1,767,000
741	1,494,000	750	1,917,000

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	1693000	1512000	1481000	1488000	1449000	1566000	1794000	1600000	1628000	1650000	1537000	1409000
2	1687000	1570000	1475000	1490000	1449000	1546000	1778000	1604000	1628000	1652000	1537000	1404000
3	1681000	1609000	1477000	1489000	1451000	1610000	1775000	1606000	1626000	1654000	1535000	1399000
4	1668000	1687000	1484000	1481000	1453000	1620000	1789000	1603000	1626000	1657000	1533000	1395000
5	1654000	1716000	1492000	1472000	1457000	1624000	1797000	1601000	1628000	1655000	1531000	1390000
6	1638000	1715000	1481000	1463000	1454000	1622000	1801000	1593000	1625000	1651000	1529000	1379000
7	1622000	1706000	1478000	1468000	1447000	1622000	1794000	1607000	1625000	1650000	1529000	1377000
8	1604000	1706000	1474000	1468000	1438000	1622000	1777000	1636000	1635000	1650000	1524000	1373000
9	1595000	1708000	1468000	1455000	1434000	1623000	1768000	1662000	1639000	1648000	1519000	1368000
10	1590000	1730000	1465000	1455000	1436000	1622000	1838000	1666000	1643000	1650000	1514000	1363000
11	1574000	1749000	1466000	1441000	1437000	1621000	1874000	1663000	1641000	1649000	1512000	1359000
12	1556000	1763000	1459000	1442000	1443000	1619000	1872000	1655000	1641000	1644000	1499000	1359000
13	1538000	1748000	1461000	1441000	1443000	1616000	1844000	1648000	1640000	1640000	1497000	1349000
14	1520000	1723000	1460000	1443000	1448000	1612000	1812000	1646000	1636000	1633000	1492000	1347000
15	1502000	1717000	1456000	1447000	1450000	1607000	1787000	1643000	1629000	1630000	1493000	1346000
16	1484000	1710000	1452000	1450000	1447000	1600000	1761000	1629000	1626000	1628000	1488000	1339000
17	1463000	1700000	1458000	1450000	1441000	1593000	1734000	1615000	1627000	1626000	1483000	1334000
18	1445000	1688000	1462000	1449000	1436000	1580000	1712000	1607000	1671000	1616000	1477000	1326000
19	1441000	1674000	1465000	1445000	1440000	1572000	1707000	1604000	1672000	1608000	1478000	1319000
20	1438000	1663000	1464000	1441000	1443000	1561000	1704000	1610000	1680000	1600000	1476000	1316000
21	1436000	1647000	1464000	1442000	1438000	1549000	1698000	1616000	1694000	1589000	1469000	1316000
22	1444000	1630000	1461000	1445000	1441000	1538000	1690000	1615000	1691000	1586000	1465000	1313000
23	1448000	1614000	1470000	1446000	1449000	1542000	1681000	1619000	1680000	1589000	1457000	1308000
24	1445000	1597000	1476000	1450000	1457000	1468000	1669000	1640000	1667000	1589000	1448000	1305000
25	1448000	1581000	1481000	1450000	1478000	1766000	1656000	1664000	1652000	1578000	1446000	1306000
26	1448000	1562000	1486000	1443000	1506000	1842000	1642000	1669000	1654000	1570000	1443000	1300000
27	1445000	1546000	1486000	1443000	1526000	1881000	1625000	1684000	1656000	1566000	1449000	1294000
28	1444000	1531000	1485000	1446000	1547000	1884000	1611000	1653000	1655000	1558000	1447000	1288000
29	1448000	1513000	1484000	1448000	---	1856000	1595000	1640000	1654000	1550000	1436000	1283000
30	1454000	1497000	1483000	1450000	---	1828000	1585000	1629000	1654000	1544000	1424000	1280000
31	1463000	---	1487000	1449000	---	1806000	---	1627000	---	1542000	1415000	---
MAX	1693000	1763000	1492000	1490000	1547000	1884000	1874000	1669000	1694000	1657000	1537000	1409000
MIN	1436000	1497000	1452000	1441000	1434000	1538000	1585000	1593000	1625000	1542000	1415000	1280000
†	740.26	741.07	740.83	739.93	742.23	747.80	743.08	744.02	744.60	742.12	739.09	735.61
‡	-211,000	+34,000	-10,000	-58,000	+98,000	+259,000	-221,000	+42,000	+27,000	-112,000	-127,000	-135,000
CAL YR 1977	MAX	1888000	MIN	1173000	‡	+296,000						
WTR YR 1978	MAX	1884000	MIN	1280000	‡	-394,000						

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

265

07190500 NEOSHO RIVER NEAR LANGLEY, OK

LOCATION.--Lat 36°26'15", long 95°02'44", in SE¼ sec.27, T.23 N., R.21 E., Mayes County, Hydrologic Unit 11070209, in concrete stilling well on left bank, 0.5 mi (0.8 km) upstream from bridge on State Highway 82, 1.5 mi (2.4 km) south of Langley, 3.6 mi (5.8 km) downstream from Pensacola Dam, 6.3 mi (10.1 km) upstream from Big Cabin Creek, and at mile 73.4 (118.1 km).

DRAINAGE AREA.--10,335 mi² (26,768 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. datum of gage is 607.65 ft (185.212 m) Corps of Engineers datum. Prior to Feb. 16, 1940, nonrecording gage at site 0.1 mile (0.2 km) upstream at same datum. Feb. 10, 1954, to Sept. 30, 1963, water-stage recorder at site 0.5 mi (0.8 km) downstream at same datum. Auxiliary water-stage recorders at sites 2.0 and 3.0 mi (3.2 and 4.8 km) upstream at same datum.

REMARKS.--Records good. Low flow values of 25 ft³/s (0.71 m³/s) consist of estimated base flow (since July 1964). Flow regulated since 1940 by Lake O' The Cherokees (station 07190000).

AVERAGE DISCHARGE.--39 years, 7,032 ft³/s (199.1 m³/s), 5,095,000 acre-ft/yr (6.28 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 300,000 ft³/s (8,500 m³/s) May 20, 1943, gage height, 45.5 ft (13.87 m), from floodmarks, from computation of outflow from Lake O' The Cherokees; minimum daily, 9 ft³/s (0.25 m³/s), Mar. 25, 1940 (caused by closure of Pensacola Dam).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36,500 ft³/s (1,030 m³/s) Apr. 12, gage height, 21.80 ft (6.645 m); minimum daily, 25 ft³/s (0.71 m³/s) 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	12200	12300	12400	97	1840	10500	20200	12400	5490	3540	2310	2580
2	11600	12500	6250	32	980	10500	19600	12600	5170	143	101	3000
3	9900	12600	3050	2670	45	10900	19200	12700	6080	1850	2720	2800
4	10700	12500	1330	5830	275	12300	20100	12600	4740	74	2160	2690
5	12100	12600	7720	6620	35	12400	20800	12600	5350	4000	2970	2690
6	12200	12600	8180	6550	3390	12400	23300	12400	7880	3450	2170	5970
7	12200	10400	6530	28	5200	12500	24800	12500	4970	2550	1180	1780
8	12300	12300	7320	45	6250	12400	24100	12600	723	3130	3350	1910
9	12200	13500	6680	8740	7650	12500	27100	12700	4140	3500	3020	2950
10	11000	18700	4170	5400	115	12500	27300	12600	3140	2520	3500	2690
11	12200	19400	3190	3110	836	12500	35500	12700	5900	2780	3880	1930
12	12200	20300	7120	1070	297	12600	36500	12700	4520	4610	4900	26
13	12300	20300	2340	1660	5440	12600	35200	12500	4710	4540	1770	5650
14	12400	19500	4070	29	4860	12400	28500	12600	6610	5600	3710	3240
15	12400	14300	3990	35	6350	12500	25000	12500	6390	4940	32	2600
16	12400	12500	3840	1110	7750	12500	24000	12600	3670	4390	3470	4690
17	12300	12600	1460	1020	8220	12500	23200	12500	1710	5400	2370	3550
18	12200	12600	1360	2170	7510	12400	22300	12500	5190	6670	4360	4350
19	3950	12500	1440	3260	544	12200	14500	12500	17600	6020	30	4180
20	3110	12500	2260	3470	3180	12000	12700	12500	12600	5900	1680	2180
21	2730	12400	2340	30	6700	12100	12700	12600	12800	6540	3440	25
22	25	12500	2160	35	1920	12900	12700	12600	12700	2120	2670	1510
23	105	12500	859	860	690	12300	12700	12600	12500	25	3710	2720
24	5460	12500	164	25	2360	12400	12600	12600	12500	682	4780	2050
25	7010	12500	30	510	2950	17100	12500	12500	11800	6570	1420	25
26	7210	12400	53	5520	5770	23100	12500	12500	2870	6230	998	3270
27	5580	12400	2450	1160	7480	24700	12500	12500	2650	2890	333	3420
28	3410	12400	2320	190	10300	25100	12500	12600	3270	4610	5920	3330
29	25	12400	2770	85	---	25100	12500	12500	3250	4110	6620	2680
30	105	12400	2690	345	---	24600	12300	11400	2380	4470	6440	2120
31	7710	---	367	2560	---	22800	---	6250	---	734	5300	---
TOTAL	261230	410900	110903	63766	103937	455300	605400	381950	188343	114588	91314	82606
MEAN	8427	13700	3578	2057	3712	14690	20180	12320	6278	3696	2946	2754
MAX	12400	20300	12400	8240	10300	25100	36500	12700	12800	6670	6620	5970
MIN	25	10400	30	25	35	10500	12300	6250	723	25	30	25
AC-FT	518100	815000	220000	126500	206200	903100	1201000	757600	373600	227300	181100	163800
CAL YR 1977	TOTAL	2321765	MEAN	6361	MAX	64900	MIN	25	AC-FT	4605000		
WTR YR 1978	TOTAL	2870237	MEAN	7864	MAX	36500	MIN	25	AC-FT	5693000		

ARKANSAS RIVER BASIN

07190500 NEOSHO RIVER NEAR LANGLEY, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-59, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1951 to September 1954, May 1956 to September 1959.

WATER TEMPERATURE: October 1951 to September 1954, May 1956 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, 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 CACU3)	
OCT 18...	0755	12300	290	7.2	17.0	6	7.9	81	9	124	
NOV 15...	0730	19400	300	7.2	15.0	16	7.9	80	9	--	
DEC 19...	0800	15	320	6.8	9.0	16	8.6	77	8	146	
JAN 26...	0730	5520	270	6.7	1.0	12	13.3	95	11	--	
FEB 22...	0730	8860	300	7.5	1.0	1	11.6	83	11	120	
MAR 21...	0745	12500	350	7.5	4.0	4	12.2	94	10	--	
APR 17...	0800	23400	300	7.1	14.0	11	8.9	89	13	117	
MAY 23...	0800	12700	290	7.3	17.0	4	8.0	85	9	--	
JUN 19...	0730	12700	290	7.3	20.0	4	7.0	78	9	143	
JUL 24...	0745	15	304	7.4	22.0	20	6.2	72	8	--	
AUG 21...	0815	15	280	7.5	23.0	2	4.7	55	10	125	
SEP 19...	0800	10300	280	6.8	24.0	2	4.2	51	6	--	
DATE		CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACU3)	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 18...	38	96	6.7	<5.0	2.8	33	10	.2	174	--	--
NOV 15...	--	--	--	--	--	20	6.0	--	--	--	20
DEC 19...	47	118	6.6	13	3.8	41	8.0	.1	--	--	9
JAN 26...	--	--	--	--	--	35	7.0	.1	--	--	100
FEB 22...	38	96	5.6	9.0	3.8	35	6.0	8.0	--	--	<1
MAR 21...	--	--	--	--	--	48	10	.2	--	--	21
APR 17...	38	95	5.1	<10	2.6	43	7.0	<6.0	--	--	14
MAY 23...	--	--	--	--	--	13	6.0	.1	--	--	6
JUN 19...	47	118	6.0	<10	2.3	27	2.0	.1	--	--	<1
JUL 24...	--	--	--	--	--	19	7.0	.1	--	--	1
AUG 21...	41	103	5.5	14	1.8	35	<1.0	.1	--	--	5
SEP 19...	--	--	--	--	--	7.0	9.0	.1	--	--	<1

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO ₂ +NO ₃ TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (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 NO ₃)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
OCT 18...	.60	--	--	1.4	2.0	9.0	.13	--	--	--
NOV 15...	1.1	--	--	1.1	2.2	9.8	.11	--	--	--
DEC 19...	1.0	--	--	.99	1.9	8.8	.11	--	--	--
JAN 26...	.80	--	--	1.7	2.5	11	.11	--	--	--
FEB 22...	1.0	--	--	1.1	2.1	9.4	.12	1	<1	21
MAR 21...	1.1	--	--	1.5	2.6	12	.13	--	--	--
APR 17...	1.7	--	--	1.5	3.2	14	.17	--	--	--
MAY 23...	1.5	--	--	1.0	2.5	12	.13	--	--	--
JUN 19...	1.4	--	--	1.2	2.6	12	7.0	--	--	--
JUL 24...	.80	3.7	2.1	2.1	2.9	13	6.0	--	--	--
AUG 21...	.40	--	--	1.0	1.4	6.2	7.0	<1	<1	13
SEP 19...	.20	--	--	<1.0	.20	--	<.10	--	--	--

[illegible]

ARKANSAS RIVER BASIN

07191000 BIG CABIN CREEK NEAR BIG CABIN, OK

LOCATION.--Lat 36°34'06", long 95°09'07", in NE¼NE¼ sec.15, T.24 N., R.20 E., Craig County, Hydro-logic Unit 11070209, near downstream side of right bank end of county road bridge, 4.9 mi (7.9 km) north-east of Big Cabin, 0.9 mi (1.5 km) downstream from White Oak Creek, 6.8 mi (10.9 km) upstream from Mustang Creek and at mile 13.0 (20.9 km).

DRAINAGE AREA.--450 mi² (1,165 km²).

PERIOD OF RECORD.--October 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 622.00 ft (189.586 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Sept. 30, 1972, water-stage recorder at site 4.5 mi (7.2 km) downstream at same datum and present site used as supplemental gage.

REMARKS.--Records good. Low flow sustained by sewage from City of Vinita.

AVERAGE DISCHARGE.--31 years, 326 ft³/s (9.232 m³/s), 9.50 in/yr (241 mm/yr), 236,200 acre-ft/yr (291 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,000 ft³/s (1,470 m³/s) Oct. 3, 1959, gage height, 34.55 ft (10.531 m), at former site; maximum gage height, 44.58 ft (13.588 m) Nov. 4, 1974; minimum, 0.10 ft³/s (0.003 m³/s) at times in 1954, 1956 and 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1943, reached a stage of 34.96 ft (10.656 m) at former site, discharge, 63,000 ft³/s (1,780 m³/s), by slope-area measurement of peak flow.

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

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 24	1715	*11,600 329	*32.97 10.049	Apr. 10	1945	11,400 323	32.81 10.000
Apr. 4	1415	9,430 267	31.04 9.461				

Minimum discharge, 1.0 ft³/s (0.028 m³/s) Aug. 26, 27.

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	518	659	66	28	42	655	160	1980	301	19	3.5	8.4
2	239	1360	80	27	40	1070	140	1410	438	16	3.5	6.8
3	156	2880	73	27	37	1580	140	1110	91	18	3.0	6.0
4	115	710	70	27	35	374	7320	1090	127	21	3.0	5.0
5	88	356	1130	27	35	261	2060	462	194	21	3.0	4.2
6	74	249	428	23	33	226	760	274	104	19	3.0	3.9
7	66	201	179	23	32	1490	495	2670	166	14	3.9	3.6
8	64	239	137	21	34	2050	306	2320	80	10	6.4	3.2
9	64	4820	118	17	30	568	390	457	51	6.6	6.2	3.0
10	60	2650	84	13	26	346	9130	261	35	6.0	4.8	3.0
11	52	518	67	12	24	262	6590	254	24	5.5	3.7	3.0
12	43	317	64	12	3110	211	710	2310	19	4.7	3.2	3.0
13	38	237	74	12	1770	177	412	759	17	4.4	3.1	3.0
14	33	194	81	12	702	170	293	290	15	4.2	2.8	91
15	30	172	69	13	209	159	225	181	13	4.6	2.3	145
16	27	663	61	14	72	137	204	136	12	4.5	2.1	39
17	20	289	58	15	73	119	195	107	11	4.2	1.9	21
18	18	181	52	15	104	102	178	265	1900	3.9	1.5	14
19	16	141	47	15	115	95	157	718	912	3.4	1.4	11
20	15	122	45	15	102	85	138	767	919	3.0	1.4	8.7
21	13	115	39	15	74	91	116	2240	3910	2.8	1.4	6.8
22	12	116	38	16	128	79	104	2230	1100	2.5	1.4	5.5
23	10	102	35	18	326	668	96	1060	407	2.6	1.3	4.4
24	51	94	37	24	903	8850	84	371	191	6.2	1.2	3.5
25	78	85	40	32	786	5960	74	201	124	4.9	1.1	3.0
26	63	78	37	43	394	821	66	136	76	3.6	1.1	2.7
27	61	85	36	44	251	474	60	100	54	10	6.0	2.4
28	61	79	35	50	993	340	55	84	42	7.2	100	2.2
29	60	52	35	49	---	274	55	73	34	5.5	43	2.1
30	130	50	33	46	---	219	55	58	26	3.6	20	2.0
31	1280	---	30	44	---	187	---	47	---	3.2	11	---
TOTAL	3563	17814	3378	749	10480	28100	30768	24421	11393	245.1	251.2	420.4
MEAN	115	594	109	24.2	374	906	1026	788	380	7.91	8.10	14.0
MAX	1280	4820	1130	50	3110	8850	9130	2670	3910	21	100	145
MIN	12	50	30	12	24	79	55	47	11	2.5	1.1	2.0
CF8M	.25	1.30	.24	.05	.82	1.98	2.25	1.72	.83	.02	.02	.03
IN.	.29	1.45	.27	.06	.85	2.29	2.50	1.99	.93	.02	.02	.03
AC-FT	7070	35330	6700	1490	20790	55740	61030	48440	22600	486	498	834

CAL YR 1977	TOTAL	75911.4	MEAN 208	MAX 5410	MIN 1.0	CF8M .46	IN 6.18	AC-FT 150600
WTR YR 1978	TOTAL	131582.7	MEAN 361	MAX 9130	MIN 1.1	CF8M .79	IN 10.71	AC-FT 261000

ARKANSAS RIVER BASIN

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07191220 SPAVINAW CREEK NEAR SYCAMORE, OK

LOCATION.--Lat 36°19'57", long 94°38'24", in NE¼SW¼ sec.4, T.21 N., R.25 E., Delaware County, Hydrologic Unit 11070209, on right bank 1.8 mi (2.9 km) upstream from Cherokee Creek, 4.8 mi (7.7 km) northeast of Row, 6.5 mi (10.5 km) southeast of Sycamore, and at mile 35.0 (56.3 km).

DRAINAGE AREA.--133 mi² (344 km²).

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

REVISED RECORDS.--WSP 2121: 1965(M).

GAGE.--Water-stage recorder. Altitude of gage is 875 ft (266.7 m), from topographic map.

REMARKS.--Records good except for period of no gage height record Nov. 11 to Dec. 13 which is poor.

AVERAGE DISCHARGE.--17 years, 114 ft³/s (3.228 m³/s), 11.64 in/yr (296 mm/yr), 82,590 acre-ft/yr (102 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,800 ft³/s (1,130 m³/s), July 27, 1975, gage height, 22.07 ft (6.727 m); minimum, 1.2 ft³/s (34.0 l/s) Aug. 9, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--According to local residents, a flood of approximately the same magnitude as the July 27, 1975 flood occurred in the early 1880's.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 24	1200	2,850 80.7	10.03 3.057	Apr. 10	0530	*7,430 210	*13.21 4.026

Minimum discharge, 24 ft³/s (0.68 m³/s) 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	435	109	125	38	48	207	218	175	82	97	42	27
2	311	231	82	37	47	234	197	227	80	91	40	27
3	230	280	47	37	47	324	183	268	79	87	40	27
4	177	172	49	36	46	322	353	330	78	83	39	27
5	140	111	66	35	44	269	319	301	80	80	38	27
6	118	76	84	34	43	224	530	254	375	76	38	27
7	105	68	79	34	42	206	472	265	383	72	39	26
8	93	69	71	33	41	310	377	298	247	71	38	26
9	83	181	69	33	40	371	377	287	191	68	38	25
10	77	89	66	32	39	331	4530	247	157	66	38	25
11	71	67	64	32	38	293	1250	215	132	64	37	24
12	66	66	63	31	40	250	710	210	112	62	37	24
13	62	63	62	31	55	216	504	193	100	60	37	24
14	57	55	62	30	120	188	424	172	93	59	38	24
15	53	44	64	30	195	166	366	155	86	58	39	25
16	50	60	62	30	177	151	313	141	80	57	38	26
17	47	113	59	31	156	138	273	131	76	56	37	27
18	44	92	57	31	137	128	249	153	420	55	36	27
19	42	72	55	32	122	120	227	176	503	54	35	27
20	40	62	53	33	112	122	205	158	379	53	34	26
21	38	60	51	33	102	257	187	142	775	51	33	25
22	37	55	49	33	94	307	174	130	636	49	32	24
23	36	52	47	33	90	307	161	120	395	48	31	25
24	35	49	46	33	91	1890	150	112	292	47	31	26
25	33	46	44	34	100	989	140	106	231	46	30	27
26	32	42	43	35	114	646	132	102	185	46	30	27
27	31	37	42	36	121	496	125	99	154	46	36	26
28	30	35	41	39	158	404	121	96	133	45	43	25
29	30	51	40	42	---	335	121	92	117	44	42	25
30	33	60	39	45	---	284	118	88	106	44	32	24
31	43	---	38	48	---	247	---	85	---	43	31	---
TOTAL	2679	2567	1819	1071	2459	10732	13506	5528	6757	1878	1129	772
MEAN	86.4	85.6	58.7	34.5	87.8	346	450	178	225	60.6	36.4	25.7
MAX	435	280	125	48	195	1890	4530	330	775	97	43	27
MIN	30	35	38	30	38	120	118	85	76	43	30	24
CFBM	.65	.64	.44	.26	.66	2.60	3.38	1.34	1.69	.46	.27	.19
IN.	.75	.72	.51	.30	.69	3.00	3.78	1.55	1.89	.53	.32	.22
AC=FT	5310	5090	3610	2120	4880	21290	26790	10960	13400	3730	2240	1530

CAL YR 1977	TOTAL	21434.7	MEAN	58.7	MAX	4910	MIN	9.3	CFBM	.44	IN	6.00	AC=FT	42520
WTR YR 1978	TOTAL	50897.0	MEAN	139	MAX	4530	MIN	24	CFBM	1.05	IN	14.24	AC=FT	101000

ARKANSAS RIVER BASIN

07191400 LAKE HUDSON NEAR LOCUST GROVE, OK

LOCATION.--Lat 36°13'54", long 95°11'36", in SE¼NW¼ sec.9, T.20 N., R.20 E., Mayes County, Hydrologic Unit 11070209, at left side of Robert S. Kerr dam on Neosho River, 2.0 mi (3.2 km) northwest of Locust Grove, 3.5 mi (5.6 km) downstream from Salina Creek, and at mile 47.3 (76.1 km).

DRAINAGE AREA.--11,534 mi² (29,873 km²).

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

GAGE.--Remote-controlled indicator and non-recording gage. Datum of gage is at National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earth dam and concrete spillway controlled by 17 22-foot (6.706 m) taintor gates. Storage began Nov. 12, 1963; power pool first filled June 12, 1964. Capacity, 444,500 acre-ft (548 hm³) at elevation 636.0 ft (193.85 m), top of taintor gates, 200,300 acre-ft (247 hm³) at elevation 619.0 ft (188.67 m) power pool, and 48,630 acre-ft (60.0 hm³) at elevation 599.0 ft (182.58 m), top of spillway crest. Figures given herein represent total contents. Reservoir was designed for flood control and power development.

COOPERATION.--Records furnished by Grand River Dam Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 436,300 acre-ft (538 hm³) Nov. 9, 1974, elevation, 635.56 ft (193.719 m); minimum since power pool first filled, 183,100 acre-ft (226 hm³) Dec. 24, 1967, elevation, 617.38 ft (188.177 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 302,800 acre-ft (373 hm³/s) Apr. 12, elevation, 627.28 ft (191.195 m); minimum, 191,200 acre-ft (236 hm³/yr) Oct. 3, elevation, 618.15 (188.412 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	619.27	203,200	--
Oct. 31	619.15	201,900	-1,300
Nov. 30	619.27	203,200	+1,300
Dec. 31	620.04	211,800	+8,600
CAL YR 77	--	--	+1,700
Jan. 31	619.65	207,400	-4,400
Feb. 28	619.07	201,100	-6,300
Mar. 31	623.78	256,300	+55,200
Apr. 30	618.82	198,300	-58,000
May 31	619.55	206,300	+8,000
June 30	620.32	215,000	+8,700
July 31	619.45	205,200	-9,800
Aug. 31	619.60	206,900	+1,700
Sept. 30	619.50	205,800	-1,100
WTR YR 78	--	--	+2,600

ARKANSAS RIVER BASIN

271

07191500 NEOSHO RIVER NEAR CHOUTEAU, OK

LOCATION.--Lat 36°13'45", long 95°10'59", in SE¼NW¼ sec.9, T.20 N., R.20 E., Mayes County, Hydrologic Unit 11070209, on left bank, 300 ft (91.4 m) downstream from Robert S. Kerr Dam, 2.2 mi (3.5 km) northwest of Locust Grove, and 10 mi (16.1 km) northeast of Chouteau, and at mile 47.2 (75.9 km).

DRAINAGE AREA.--11,534 mi² (29,873 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1937 to September 1950, October 1963 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 554.00 ft (168.859 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Apr. 3, 1941 nonrecording gage at bridge on State Highway 33, 8.2 mi (13.2 km) downstream, at datum 17.63 ft (5.374 m) lower. Apr. 3, 1941 to Sept. 30, 1950; Oct. 1963 to Apr. 6, 1964 at site 2.5 mi (4.0 km) downstream at datum 2.17 ft (0.661 m) lower (now used as supplementary gage). Supplemental water-stage recorder Oct. 4, 1963, to July 10, 1973 at site 8.2 mi (13.2 km) downstream.

REMARKS.--Records good. Flow regulated since 1940 by Lake O' The Cherokees (station 07190000), and completely regulated since 1963 by Lake Hudson (station 07191400).

AVERAGE DISCHARGE.--(since regulation by Lake Hudson), 15 years (water years 1964-78), 8,067 ft³/s (228.5 m³/s), 5,845,000 acre-ft/yr (7.21 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 400,000 ft³/s (11,328 m³/s) May 20, 1943, gage height 45.00 ft (13.716 m), site and datum then in use, from rating curve extended above 140,000 ft³/s (3,965 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 12 ft³/s (.32 m³/s) Nov. 13, 1963 (caused by closure of Robert S. Kerr Dam).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,900 ft³/s (1,190 m³/s) Apr. 15, gage height, 18.54 ft (5.651 m); minimum daily, 105 ft³/s (2.97 m³/s) Oct. 30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18900	16300	12900	135	1500	9930	20700	12200	4470	5910	2350	2020
2	11800	10700	5750	949	900	12800	23000	16200	3390	240	226	4900
3	11400	20400	2570	2430	207	14600	25200	14500	7140	1620	1920	2180
4	10100	14300	632	5610	415	11700	33100	17800	1490	227	1060	3350
5	11900	8540	10300	6050	948	10800	29400	16600	5130	4550	3160	3390
6	12500	15200	10500	6770	2480	12300	31600	16800	8910	4400	2910	6260
7	13300	10400	8640	228	3890	17100	35500	15000	9900	2900	238	1400
8	9250	14700	10500	131	7830	16800	27300	22300	223	2380	213	997
9	11900	15200	3000	12100	1950	10500	32400	9680	6600	2340	5000	331
10	13000	17500	3020	4760	148	17100	35900	13400	1720	1460	2460	2040
11	15300	21900	1290	3410	491	14500	37700	14500	9600	3640	4600	2120
12	13000	23300	7300	1110	144	11400	40400	15900	3380	4700	2000	157
13	9100	18600	2860	231	9190	15500	40100	18600	5700	8790	2010	4410
14	11200	16800	3580	158	7260	15900	40400	9770	6410	300	2370	3030
15	11700	23400	4250	155	5790	7060	36500	14700	6650	2560	1150	4790
16	11400	17300	3900	585	8050	13700	34300	8740	4230	5020	4630	5630
17	14200	14500	1760	531	8050	10800	33500	18300	989	8990	2050	327
18	9830	14000	2010	2050	6170	9450	33700	10500	8300	9350	4390	5450
19	3710	12400	1630	3740	564	11600	30600	16400	21100	4270	289	3750
20	2730	13200	2100	2720	3490	16100	11900	14800	18200	5660	732	908
21	3020	11900	1020	228	8390	9970	13900	10200	17200	5780	4590	152
22	170	12600	1710	121	1160	12400	13100	18800	28300	210	1340	1190
23	106	15100	527	610	337	16600	12300	14400	18300	196	3310	2650
24	6600	10800	135	133	3000	23800	21000	16200	9870	425	5110	1160
25	6940	15900	131	125	3510	23000	12200	15100	10200	3280	638	816
26	6000	13700	131	3710	5950	22500	13000	15300	4050	13800	222	1740
27	6630	8640	2380	1960	10800	21800	14600	7390	1560	219	208	3580
28	3420	12900	2430	876	10700	27500	11400	15500	3810	5240	3800	5060
29	289	12500	2780	150	---	33800	14700	11400	4570	3060	6200	3870
30	105	12200	1480	130	---	34200	12800	15800	1110	2930	7690	2470
31	9200	---	176	2000	---	33700	---	3330	---	239	4300	---
TOTAL	268700	444680	111392	63896	113314	518910	776200	440110	232702	114686	81366	77898
MEAN	8668	14820	3593	2061	4047	16740	25870	14200	7757	3700	2625	2597
MAX	18900	23400	12900	12100	10800	34200	40400	22300	28300	13800	7690	6260
MIN	105	8540	131	121	144	7060	11400	3330	223	196	208	152
AC=FT	533000	882000	220900	126700	224800	1029000	1540000	873000	461600	227500	161400	154500
CAL YR 1977	TOTAL	2394451	MEAN	6560	MAX	57200	MIN	102	AC=FT	4749000		
WTR YR 1978	TOTAL	3243854	MEAN	8867	MAX	40400	MIN	105	AC=FT	6434000		

ARKANSAS RIVER BASIN

07191500 NEOSHO RIVER NEAR CHOUTEAU, OK--Continued

LOCATION.--Samples collected at county road bridge 2.5 mi (4.0 km) downstream from gaging station.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-58, 1960, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1950 to September 1951.

WATER TEMPERATURE: October 1950 to September 1951.

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- MMOS)	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										
17...	0805	14700	290	7.4	15.0	16	7.1	71	11	122
NOV										
14...	1335	23500	300	7.0	15.0	25	9.1	91	13	--
DEC										
19...	1445	1630	320	6.9	7.0	17	10.4	88	7	115
JAN										
25...	1245	128	330	7.1	1.0	10	14.6	106	9	--
FEB										
21...	1300	27300	300	7.9	1.0	12	15.0	106	17	132
MAR										
20...	1400	40700	340	7.6	6.0	6	11.6	95	10	--
APR										
17...	1345	54400	290	7.3	13.0	10	9.3	91	14	120
MAY										
23...	1330	53600	280	7.2	19.0	9	8.8	97	10	--
JUN										
19...	1245	53000	280	7.5	26.0	10	8.0	93	9	116
JUL										
24...	1330	2840	304	7.1	26.0	5	7.2	90	7	--
AUG										
21...	1345	22700	280	7.4	28.0	8	6.2	79	9	118
SEP										
19...	1400	2550	290	7.3	27.0	6	6.3	80	7	--

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, DIS- SOLVED 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										
17...	38	95	6.4	10	3.2	28	9.0	.1	208	--
NOV										
14...	--	--	--	--	--	17	6.0	--	--	27
DEC										
19...	36	90	5.8	22	3.7	41	18	.1	--	11
JAN										
25...	--	--	--	--	--	34	14	.2	--	6
FEB										
21...	41	104	6.0	17	3.9	36	11	.1	--	96
MAR										
20...	--	--	--	--	--	44	8.0	.2	--	18
APR										
17...	38	95	5.6	<10	2.6	40	16	.1	--	44
MAY										
23...	--	--	--	--	--	11	10	.1	--	35
JUN										
19...	38	95	5.0	<10	23	27	2.0	.1	--	29
JUL										
24...	--	--	--	--	--	19	13	.1	--	3
AUG										
21...	38	95	5.3	12	1.8	31	<1.0	.1	--	15
SEP										
19...	--	--	--	--	--	6.0	12	.1	--	2

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07193000 FORT GIBSON LAKE NEAR FORT GIBSON, OK

LOCATION.--Lat 35°52'16", long 95°13'43", in NW¼NW¼ sec.18, T.16 N., R.20 E., Cherokee County, Hydro-logic Unit 11070209, in control tower near left end of Fort Gibson Dam on Neosho River, 4.0 mi (6.4 km) north of Fort Gibson, and at mile 7.7 (12.4 km).

DRAINAGE AREA.--12,492 km² (32,354 km²).

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1970 published as Fort Gibson Reservoir near Fort Gibson.

REVISED RECORDS.--WSP 1731: 1950(M).

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929. Prior to Jan. 13, 1950, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete-gravity and earth-fill dam. Spillway is concrete ogee-type weir controlled by thirty 40-foot (12.2 m) taintor gates, outlet works consists of ten 5'8" x 7.0 ft sluice gates. Regulated storage began Sept. 5, 1949; power pool was first maintained in 1953. Capacity, 1,284,000 acre-ft (1,583 hm³) at elevation 582.0 ft (177.39 m), flood-control pool, 365,200 acre-ft (450 hm³) at elevation 554.0 ft (168.86 m), maximum power pool, and 311,300 acre-ft (384 hm³) at elevation 551.0 ft (167.94 m) (minimum power pool). Figures given herein represent total contents. Reservoir was designed for flood control and power development.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,278,000 acre-ft (1.58 km³) May 12, 1961, elevation, 581.88 ft (177.357 m); minimum since first use of power pool, 303,800 acre-ft (375 hm³) May 26, 1955, elevation, 550.56 ft (167.811 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 504,800 acre-ft (622 hm³) June 24, elevation, 560.51 ft (170.843 m); minimum, 342,500 acre-ft (422 hm³) Jan. 31, elevation, 552.70 ft (168.463 m).

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

552	328,500	558	447,000
554	365,200	560	492,600
556	404,500	561	516,600

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	406300	377000	396700	345200	348500	385500	468200	401300	361000	381100	355700	363300
2	394100	373900	385100	344900	349200	393900	451000	403700	357600	377700	353200	366000
3	382900	389300	372000	347000	347600	394900	441300	416600	370500	367500	353600	367100
4	375500	390500	362000	350100	347000	395100	447400	425800	375300	357600	351900	369200
5	376600	378500	379500	351400	349200	388500	446600	429400	380500	357000	354000	369000
6	377900	380900	385100	351700	348500	389300	449200	430400	403900	358000	361000	377000
7	384300	373800	391100	348700	352500	396500	453600	433400	412800	356300	357600	372800
8	379900	381100	400900	347200	362000	416700	440000	442600	394500	355900	353800	366000
9	381500	388800	385100	360300	355700	403700	436900	416700	386500	355300	357800	362900
10	386900	384700	371800	356600	342900	405500	465000	392700	372800	351500	358400	365600
11	394700	388100	365000	355900	344300	403300	484400	376800	384100	351900	361000	364600
12	398100	392700	365400	355500	348500	397500	496700	379100	382500	354000	360400	361000
13	392900	389300	364600	355300	372200	393700	497900	394100	384900	362700	358600	366500
14	393100	379100	364800	354800	360900	396700	498600	390100	386900	355500	353800	369200
15	393900	391700	361000	355100	360100	377000	489700	396300	388900	351900	352800	372800
16	394100	400900	357200	355300	377600	379700	470600	386300	386300	357600	357800	377000
17	399500	398900	354400	351000	380300	371800	446300	398700	383500	366700	356800	372600
18	398700	394900	355700	353200	377900	364600	432300	396100	403900	375600	360300	373900
19	383100	391500	356600	356600	363100	363900	421800	398500	429000	376800	359700	374500
20	365600	390500	356600	358300	355300	380500	390500	391700	442600	378500	360800	369200
21	351500	382900	355100	351900	361400	385700	381900	381900	456500	380900	365400	361200
22	352700	380900	352300	352300	363500	386500	381900	394500	493300	369400	362200	359500
23	353400	388300	351500	348800	361000	394700	378300	398500	503900	356400	361800	361600
24	351900	386100	352100	347200	367900	444100	391100	402100	488500	349700	364200	360400
25	353400	392500	351900	345400	369000	376800	389300	401500	462000	348300	357600	354900
26	353800	396100	353000	350600	371500	492100	386900	402500	430600	370900	350300	352800
27	354900	391100	352300	350600	380300	484100	388500	390100	407600	361400	350800	354200
28	355500	393500	352300	350800	385700	474700	382100	388900	394900	365000	352800	357800
29	356500	391100	352500	350100	---	477700	384100	382500	388500	365200	358800	358700
30	358200	394100	347000	344200	---	480400	389100	388300	372800	364600	364100	355700
31	365000	---	348800	346100	---	484100	---	372800	---	355700	364800	---
MAX	406300	400900	400900	360300	385700	492100	498600	442600	503900	381100	365400	377000
MIN	351500	373800	347000	344200	342900	363900	378300	372800	357600	348300	350300	352800
†	553.99	555.48	553.13	552.98	555.06	559.64	555.23	554.40	554.40	553.50	553.98	553.50
‡	-37,100	+29,100	-45,300	-2,700	+39,600	+98,400	-95,000	-16,300	0	-17,100	+9,100	-9,100
CAL YR 1977	MAX	531100	MIN	321500	‡	-23,200						
WTR YR 1978	MAX	503900	MIN	342900	‡	-46,400						

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

275

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK

LOCATION.--Lat 35°51'15", long 95°13'45", in SE¼NW¼ sec.19, T.16 N., R.19 E., Cherokee County, Hydro-logic Unit 11070209, on left bank 1.1 mi (1.8 km) downstream from Fort Gibson Dam, 4.5 mi (7.2 km) north of Fort Gibson, and at mile 6.6 (10.6 km).

DRAINAGE AREA.--12,495 mi² (32,362 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1950 to current year. Prior to October 1970 published as Neosho River below Fort Gibson Reservoir near Fort Gibson.

GAGE.--Water-stage recorder. Datum of gage is 483.75 ft (147.447 m) National Geodetic Vertical Datum of 1929. May 11, 1950, to Aug. 20, 1951, nonrecording gage and Aug. 21, 1951, to June 11, 1952, water-stage recorder, at site 4.4 mi (7.1 km) downstream at datum 8.00 ft (2.438 m) lower and used as auxiliary gage since June 10, 1971.

REMARKS.--Records good. Flow completely regulated by Fort Gibson Lake (station 07193000).

COOPERATION.--Gage-height record and 14 discharge measurements furnished by Corps of Engineers, records computed by Geological Survey.

AVERAGE DISCHARGE.--28 years, 7,862 ft³/s (222.7 m³/s), 5,696,000 acre-ft/yr (7.02 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 223,000 ft³/s (6,320 m³/s) May 26, 1957, gage height, 37.60 ft (11.460 m); minimum, 12 ft³/s (0.34 m³/s), Oct. 10, 1957, Aug. 23, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1943 reached a stage of 43.0 ft (13.11 m), from high-water profile by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46,400 ft³/s (1,310 m³/s) Apr. 16, gage height, 16.17 ft (4.929 m); minimum daily, 15 ft³/s (0.42 m³/s) 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	19000	11700	12400	902	1000	11200	31900	14400	11500	2280	2540	2900
2	18800	13300	12000	884	1000	11500	31300	15700	5810	2120	1990	3620
3	17300	14600	9970	1400	1030	12900	30800	16800	15	7400	1940	1620
4	13600	14700	6170	4030	1070	14700	30900	17000	15	5410	1920	2450
5	12300	14700	3770	5830	15	14900	31000	17000	4010	5290	1600	3490
6	11400	14600	6640	6760	3080	14900	31100	17100	3510	3860	15	2870
7	11400	14600	6670	3510	2840	14700	33000	17000	4440	3780	1830	2960
8	11400	12900	7160	15	4060	14800	34400	20400	10700	2850	1850	4910
9	11400	15000	9560	5540	5460	16200	34100	26500	11400	2650	2650	2900
10	11500	21800	10600	6800	7190	17300	34500	26100	9180	3390	2360	470
11	11500	21900	4920	4150	50	17400	35700	22800	4320	3410	3430	2260
12	11500	22000	7240	1330	15	17300	38400	18100	4820	3790	2300	2160
13	11300	22100	3970	1270	3330	17200	40700	13100	4890	4360	2610	1380
14	11400	21800	3870	15	6650	17200	40800	13300	4970	4360	4900	2320
15	11300	19200	5460	19	8300	17100	40600	13200	5740	4670	2070	3050
16	11500	15400	6720	1610	11400	15800	43500	13300	5720	2460	1910	3170
17	11500	15400	2840	2390	9130	14800	44800	13200	2950	3630	2710	2440
18	11400	15600	1410	2370	8870	14900	41000	13200	4070	4810	2560	4020
19	11400	15600	1880	2360	8700	14200	36900	15500	12000	4110	714	3990
20	11500	15500	1880	2360	8740	11900	28400	18400	17000	4530	15	3980
21	10700	15400	1880	3410	5910	11600	18400	15600	17000	4330	2050	4000
22	35	13800	2600	689	1410	13800	14200	13500	13700	6570	2910	1860
23	20	12200	1880	3260	2290	14800	14200	13600	13600	6730	3620	1400
24	7590	12300	50	1650	1190	14600	14400	13500	18100	4870	4110	1640
25	6410	12300	15	1360	3430	14600	14200	14500	24200	3150	4440	3340
26	5390	12400	15	1890	5190	19300	14300	15400	22500	2930	3540	2870
27	6160	12300	2600	2370	7590	28400	14300	15400	13800	4790	17	2880
28	3110	12400	2600	1400	11100	32200	14400	15400	10900	3130	2420	2920
29	48	12400	2980	839	---	32100	14400	15300	8730	3140	4330	3130
30	76	12400	4350	3330	---	32200	14300	13000	8640	3780	4300	1810
31	6690	---	987	977	---	32400	---	11200	---	4160	4290	---
TOTAL	298629	460300	145087	74720	129840	546800	860900	498500	262230	126960	78141	82810
MEAN	9633	15340	4680	2410	4637	17640	28700	16080	9408	4095	2521	2760
MAX	19000	22100	12400	6800	11400	32400	44800	26500	24200	7400	4900	4910
MIN	20	11700	15	15	15	11200	14200	11200	15	2120	15	470
AC-FT	592300	913000	287800	148200	257500	1045000	1708000	988800	559800	251800	155000	164300
CAL YR 1977	TOTAL	2653079	MEAN	7269	MAX	43500	MIN	15	AC-FT	5262000		
WTR YR 1978	TOTAL	3584917	MEAN	9822	MAX	44800	MIN	15	AC-FT	7111000		

ARKANSAS RIVER BASIN

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.

PERIOD OF DAILY RECORDS.--

SPECIFIC CONDUCTANCE: October 1951 to September 1963, October 1973 to current year.

WATER TEMPERATURE: October 1951 to September 1963, October 1973 to current year.

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

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, 496 micromhos Sept. 7, 1975; minimum daily, 188 micromhos Oct. 18, 1974.

WATER TEMPERATURE: Maximum daily, 31.5°C July 31, Aug. 1, 1955; minimum, 0.0°C Jan. 23-25, 1962.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 325 micromhos Apr. 9; minimum daily, 253 micromhos Oct. 15, July 23, 24.

WATER TEMPERATURE: Maximum daily, 30.5°C July 30, 31; minimum daily, 1.0°C Jan. 19, 20, 22, 23, Feb. 1.

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- TOCOCOI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
19...	0800	11400	245	7.9	15.5	15	--	8.9	89	K18	36
NOV											
17...	0830	15400	285	8.2	14.0	15	--	9.0	87	41	42
DEC											
13...	1500	3970	280	7.8	5.5	15	--	11.2	91	K13	K440
JAN											
09...	1600	5540	265	8.3	4.0	9	--	14.2	107	K1	K37
FEB											
27...	1715	7390	285	8.2	2.5	7	--	13.7	102	140	20
MAR											
07...	0930	14700	290	8.1	9.0	7	--	12.0	105	60	86
APR											
04...	0900	30900	315	8.4	11.0	10	--	11.2	102	77	K10
MAY											
01...	1445	14400	302	8.2	17.0	10	--	8.6	90	K8	36
JUN											
13...	1530	4890	270	7.8	24.5	--	7.9	6.8	92	K2	K7
JUL											
25...	1630	3150	260	8.1	30.0	--	4.9	5.7	75	K4	37
AUG											
01...	1700	2540	270	7.9	29.0	--	3.7	5.0	65	160	260
SEP											
11...	1430	2260	320	7.4	26.5	--	3.0	4.2	52	87	130

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 Cu3)
OCT										
19...	110	15	34	5.0	7.8	13	.3	4.5	110	0
NOV										
17...	110	25	36	6.0	7.4	12	.3	4.2	110	0
DEC										
13...	120	26	37	5.9	8.8	14	.4	3.8	110	0
JAN										
09...	120	31	39	5.8	8.1	12	.3	4.0	110	0
FEB										
27...	120	31	39	5.7	9.8	14	.4	4.2	110	0
MAR										
07...	130	38	41	6.2	9.6	14	.4	4.2	110	0
APR										
04...	140	39	44	6.7	8.8	12	.3	3.8	120	0
MAY										
01...	130	37	42	5.5	7.7	11	.3	3.1	110	0
JUN										
13...	110	31	35	4.9	7.5	13	.3	2.6	--	--
JUL										
25...	100	28	34	4.8	9.7	16	.4	3.3	--	--
AUG										
01...	110	23	35	4.8	7.7	13	.3	1.9	--	--
SEP										
11...	120	35	40	4.9	8.4	13	.3	3.1	--	--

ARKANSAS RIVER BASIN

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07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ALKA- LITY (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, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 19...	90	2.2	29	8.5	.2	7.5	142	151	.19	4370
NOV 17...	90	1.1	32	8.1	.1	8.4	154	157	.21	6400
DEC 13...	90	2.8	31	8.5	.1	8.8	163	158	.22	1750
JAN 09...	90	.9	31	8.8	.1	8.8	164	160	.22	2450
FEB 27...	90	1.1	32	10	.2	.3	166	156	.23	3310
MAR 07...	90	1.4	35	13	.2	7.5	162	171	.22	6430
APR 04...	98	.8	40	9.4	.6	7.4	180	180	.24	15000
MAY 01...	90	1.1	34	8.7	.1	6.7	158	162	.21	6140
JUN 13...	77	--	32	11	.1	3.8	152	143	.21	2010
JUL 25...	77	--	25	15	.1	3.5	150	142	.20	1280
AUG 01...	84	--	26	8.6	.1	3.6	142	138	.19	974
SEP 11...	85	--	31	12	.1	3.8	170	154	.23	1040
DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + URG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS, (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NUS3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT 19...	.36	.07	--	--	--	.35	--	--	.18	.16
NOV 17...	.91	.06	--	--	--	.29	--	--	.10	.06
DEC 13...	.99	.14	--	--	--	.28	--	--	.08	.07
JAN 09...	.83	.03	.66	.69	.40	.29	1.5	6.7	.09	.07
FEB 27...	.75	.07	.41	.48	.12	.36	1.2	5.4	.13	.10
MAR 07...	.75	.16	.50	.66	.49	.17	1.4	6.2	.11	.16
APR 04...	.94	.09	.26	.35	.00	1.1	1.3	5.7	.11	.06
MAY 01...	1.2	.05	.56	.61	.42	.19	1.8	8.0	.10	.05
JUN 13...	.89	.01	.53	.54	.30	.24	1.4	6.3	.08	.05
JUL 25...	.30	.03	1.1	1.1	.00	1.1	1.4	6.2	.04	.00
AUG 01...	.25	.07	.50	.57	.12	.45	.82	3.6	.03	.00
SEP 11...	.29	.05	.52	.57	.18	.39	.86	3.8	.09	.04

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

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07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)
OCT 19...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 17...	60	60	4	.1	.1	.0	0	0	0	0	0	0
DEC 13...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 09...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 27...	50	40	10	.0	.0	.0	0	0	0	0	0	0
MAR 07...	--	--	--	--	--	--	--	--	--	--	--	--
APR 04...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	60	50	10	.2	.2	.0	0	0	0	0	0	0
JUN 13...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 25...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 01...	200	120	80	.0	.0	.0	0	0	0	0	0	0
SEP 11...	--	--	--	--	--	--	--	--	--	--	--	--
DATE	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE 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- PENDE 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- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 19...	--	--	--	3.8	--	--	--	--	--	52	1600	82
NOV 17...	50	40	10	--	5.1	.1	--	--	--	16	665	97
DEC 13...	--	--	--	3.9	--	--	--	--	--	21	225	97
JAN 09...	--	--	--	3.4	--	--	--	--	--	14	209	81
FEB 27...	20	0	30	--	4.5	.6	--	--	--	12	239	93
MAR 07...	--	--	--	4.5	--	--	8900	--	--	20	794	93
APR 04...	--	--	--	5.2	--	--	--	--	--	14	1170	96
MAY 01...	30	0	40	--	3.9	1.0	3100	--	--	22	855	92
JUN 13...	--	--	--	5.2	--	--	14000	.000	.000	--	--	72
JUL 25...	--	--	--	4.5	--	--	--	--	--	6	51	31
AUG 01...	80	60	20	--	5.5	1.2	45000	--	--	8	55	16
SEP 11...	--	--	--	3.9	--	--	--	--	--	14	85	86

ARKANSAS RIVER BASIN

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	MAR 7,78 0930	MAY 1,78 1445	JUN 13,78 1530	JUL 25,78 1630	AUG 1,78 1700	SEP 11,78 1430		
TOTAL CELLS/ML	8900	3100	14000	18000	45000	31000		
DIVERSITY: DIVISION	0.0	1.5	1.6	0.7	0.8	0.5		
..CLASS	0.0	1.5	1.6	0.7	0.8	0.5		
...ORDER	0.0	1.5	1.6	1.2	1.1	1.5		
...FAMILY	0.0	1.8	1.9	2.2	2.2	1.9		
....GENUS	0.2	2.5	2.8	2.3	2.8	0.0		
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
...SCHROEDERIA	--	--	* 0	--	* 0	--	--	--
...COELASTRACEAE								
...COELASTRUM	--	--	190 6	--	--	1500 3	240 1	--
...HYDRODICTYACEAE								
...PELOSTOMUM	--	--	--	--	150 1	--	240 1	--
...MICRACETIDACEAE								
...MICRACETIDUM	--	--	250 2	* 0	--	--	--	--
...ODONTOGASTRA								
...ANKYSTRODESMA	--	--	64 2	* 0	* 0	290 1	--	--
...CHODATELLA	--	--	32 1	* 0	--	--	--	--
...DICTYOSPHAERIUM	--	--	--	--	--	--	240 1	--
...KIRCHNERIELLA	--	--	64 2	--	--	--	--	--
...ODONTOGASTRA	--	--	200 1	--	--	590 1	--	--
...SELINASTRUM	--	--	150 1	--	--	--	* 0	--
...TETRAEDRON	--	--	--	--	--	* 0	* 0	--
...TREUBARIA	--	--	--	--	--	--	* 0	--
...SCENEDFUSACEAE								
...ACTINASTRUM	--	--	--	--	--	590 1	--	--
...CRUCIGENIA	--	--	--	--	150 1	590 1	--	--
...SCENEDSMUS	--	--	260 8	1400 10	280 2	440 1	300 1	--
...TETRASTRUM	--	--	64 2	760 5	--	--	--	--
...VOLVOCALES								
...CHLAMYDOMONADACEAE	--	--	--	--	--	--	* 0	--
...CHLAMYDOMONAS	--	--	150 1	--	--	* 0	--	--
...CHLOROCOCCALES								
...ODONTOGASTRA	--	--	100 1	610 3	--	--	* 0	--
...GLOEDACTINIUM								
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCAEAE								
...CYCLOTETRA	8600# 96	480# 15	2700# 19	* 0	1600 4	390 1	--	--
...MELOSTRA	330 4	1100# 35	3800# 27	150 1	1000 2	960 3	--	--
...STEPHANODISCUS	--	32 1	--	220 1	* 0	--	--	--
...PENNALES								
...FRAGILARIACEAE								
...SYNEDRA	--	--	--	540 3	* 0	* 0	--	--
...GOMPHONEMATACEAE								
...GOMPHONEMA	--	--	--	--	--	--	* 0	--
...NAVICULACEAE								
...NAVICULA	--	--	--	--	--	* 0	--	--
...NITZSCHIAEAE								
...NITZSCHIA	--	--	--	--	* 0	--	--	--
...XANTHOPHYCEAE								
...HETEROCOCCALES								
...CENTRITRACTACEAE								
...CENTRITRACTUS	--	--	--	--	--	--	* 0	--
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONIDALES								
...CRYPTOMONODACEAE								
...CRYPTOMONAS	--	--	* 0	--	--	--	--	--

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

ARKANSAS RIVER BASIN

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07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

(CONT)

DATE TIME	MAR 7, 78 0930		MAY 1, 78 1445		JUN 13, 78 1530		JUL 25, 78 1630		AUG 1, 78 1700		SEP 11, 78 1430	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROOCOCCALES												
...CHROOCOCCACEAE												
....AGMENELLUM	--	-	--	-	810	6	1100	6	--	-	11000	37
....ANACYSTIS	--	-	830	27	3600	25	610	3	2000	4	4400	14
....COCCOCHLORIS	--	-	--	-	--	-	*	0	--	-	--	-
...HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	--	-	520	3	--	-	--	-
....ANABAEOPSIS	--	-	--	-	--	-	--	-	--	-	1300	4
....CYLINDROSPERMUM	--	-	--	-	--	-	--	-	1400	3	--	-
...OSCILLATORIACEAE												
....LYNGBYA	--	-	--	-	--	-	9300	53	11000	24	990	3
....OSCILLATORIA	--	-	--	-	--	-	--	-	12000	27	9200	29
...RIVULARIACEAE												
....RAPHIDIOPSIS	--	-	--	-	--	-	3700	21	11000	25	1200	4
...CHROOCOCCALES												
...CHROOCOCCACEAE												
....DACTYLOCOCCOPSIS	--	-	--	-	--	-	*	0	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)												
..EUGLENOPHYCEAE												
...EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	--	-	--	-	*	0	*	0
....TRACHELOMONAS	--	-	--	-	*	0	--	-	--	-	--	-

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

ARKANSAS RIVER BASIN

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	256	272	271	278	281	284	286	275	262	255	257	266
2	254	271	271	288	284	285	294	275	262	259	259	---
3	258	273	270	276	287	280	303	272	265	255	257	---
4	260	276	272	278	287	283	308	276	262	254	260	269
5	261	280	272	277	289	282	317	278	292	255	257	271
6	260	282	272	276	287	284	322	280	262	256	260	271
7	261	282	272	278	287	---	323	277	263	257	263	274
8	259	282	270	278	288	285	321	275	261	258	260	276
9	261	285	271	276	286	285	325	275	261	257	257	277
10	260	280	273	279	288	284	318	268	266	257	261	273
11	260	281	272	279	292	283	306	265	258	258	260	---
12	259	281	274	279	---	286	311	269	262	257	264	277
13	254	276	272	279	287	288	297	264	261	258	260	279
14	256	274	274	282	289	285	284	261	262	258	262	276
15	253	273	273	282	286	285	276	264	266	260	264	274
16	258	274	274	257	287	284	273	265	266	260	261	277
17	258	273	274	261	286	290	274	262	264	259	264	280
18	260	272	273	283	288	289	272	259	263	259	265	279
19	262	271	275	278	290	292	274	258	264	258	264	279
20	265	273	274	282	288	289	267	260	262	258	348	279
21	263	271	274	282	292	288	278	258	263	259	266	279
22	262	271	276	281	292	294	280	257	264	260	263	281
23	262	271	276	281	293	289	278	256	263	253	265	280
24	---	272	275	282	294	285	273	261	258	253	262	282
25	266	273	347	280	294	291	277	260	256	256	264	282
26	266	273	613	283	290	295	---	260	256	260	265	283
27	268	274	284	282	---	---	281	259	256	257	265	282
28	267	273	276	282	286	290	279	261	254	255	261	281
29	269	273	274	282	---	288	281	262	256	256	262	281
30	271	273	275	283	---	293	283	264	258	255	267	283
31	270	---	272	284	---	288	---	265	---	256	262	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.5	18.0	11.5	5.0	1.0	3.5	10.0	15.5	23.0	28.0	29.5	28.5
2	23.5	---	11.5	4.5	1.5	3.5	10.0	15.5	24.0	28.0	29.5	---
3	23.0	18.0	10.5	5.0	1.5	3.5	11.0	16.0	24.0	28.0	29.5	---
4	22.0	18.0	10.5	5.0	1.5	3.5	12.0	15.5	24.0	27.5	29.5	29.5
5	22.0	17.5	9.5	5.5	1.5	3.5	13.0	15.5	24.0	28.0	30.0	29.0
6	22.0	17.5	9.0	5.5	2.0	3.5	13.0	15.5	24.0	28.0	30.0	29.5
7	21.0	15.5	8.5	5.5	2.0	---	13.0	15.5	25.0	28.0	29.5	29.5
8	21.0	15.5	8.5	4.5	2.5	4.0	14.0	16.5	25.0	29.0	29.0	29.0
9	21.0	15.5	7.5	4.0	2.5	4.0	14.0	16.5	24.0	29.0	29.0	28.5
10	20.0	15.5	7.0	3.0	2.0	4.0	14.0	16.5	25.0	29.0	29.5	28.5
11	20.0	15.5	6.5	3.0	2.0	4.0	14.0	16.5	25.0	28.0	29.0	---
12	19.0	15.0	6.0	3.0	2.0	4.0	15.0	16.5	27.0	28.0	29.0	27.5
13	19.0	15.0	6.5	3.0	2.5	4.5	15.0	17.0	27.0	28.0	29.0	27.5
14	19.0	14.0	6.5	3.0	2.5	5.0	15.5	17.0	27.0	28.0	29.0	27.5
15	19.0	14.0	6.5	3.0	3.0	5.0	16.0	17.0	27.0	28.0	29.0	27.5
16	19.0	14.0	7.0	2.5	3.0	5.5	16.0	17.0	27.0	29.0	29.0	27.5
17	19.0	14.0	7.0	1.5	3.0	6.5	15.0	18.0	28.0	29.0	29.0	27.0
18	19.0	14.0	7.0	1.5	3.0	7.0	15.5	19.0	28.0	29.0	29.0	27.5
19	19.0	14.0	6.0	1.0	3.0	7.0	14.5	19.0	29.0	29.0	28.0	26.5
20	18.5	14.0	6.5	1.0	3.0	6.5	15.0	20.0	29.0	29.0	28.0	26.0
21	18.5	13.0	6.5	5.0	3.0	6.5	15.0	20.0	29.0	29.5	29.0	26.0
22	18.5	13.0	5.5	1.0	3.0	7.0	15.0	20.5	29.0	29.5	28.0	26.5
23	18.5	13.0	5.5	1.0	3.0	7.0	15.0	21.0	29.0	29.5	28.0	26.5
24	---	13.0	6.0	1.5	3.0	7.0	15.5	21.0	30.0	29.5	28.5	26.5
25	28.0	13.0	5.5	1.5	3.5	7.0	15.5	21.0	30.0	30.0	28.5	25.0
26	18.0	13.0	5.0	1.5	3.5	8.0	---	21.0	27.0	30.0	29.0	25.0
27	18.0	13.0	5.0	1.5	---	---	15.5	21.0	26.0	30.0	28.5	25.0
28	18.0	12.5	5.0	1.5	3.5	7.5	15.5	21.0	25.5	30.0	28.5	25.0
29	18.0	12.0	5.0	1.5	---	6.5	15.5	22.0	27.0	30.0	28.0	24.5
30	18.0	12.0	5.0	1.5	---	9.0	16.0	23.0	27.0	30.5	28.5	24.5
31	18.0	---	5.0	1.5	---	9.0	---	23.0	---	30.5	28.5	---

ARKANSAS RIVER BASIN

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07194500 ARKANSAS RIVER NEAR MUSKOGEE, OK

LOCATION.--Lat 35°46'10", long 95°17'55", in NW¼ sec.21, T.15 N., R.19 E., Muskogee County, Hydrologic Unit 11110102, at bridge on U.S. Highway 62, 3.5 miles (5.6 km) northeast of Muskogee, and at mile 457.8 (736.6 km).

DRAINAGE AREA.--96,674 mi² (250,386 km²).

PERIOD OF RECORD.--Water years 1957, 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	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS Ca)
OCT 18...	1330	420	8.8	19.0	17	8.9	97	11	127	37
NOV 26...	1300	400	7.6	8.0	21	10.7	91	11	--	--
DEC 21...	1500	710	7.3	6.0	15	10.2	82	11	150	45
JAN 30...	1430	1250	7.7	2.0	5	12.6	91	10	--	--
FEB 13...	1400	790	8.1	1.0	22	14.5	101	14	154	49
MAR 22...	1130	910	8.3	10.5	--	12.4	113	--	--	--
APR 12...	0830	300	8.1	13.0	12	10.5	101	13	140	43
MAY 08...	1345	303	7.8	17.0	25	8.7	92	13	--	--
JUN 07...	1350	510	7.3	23.0	74	5.9	69	23	141	40
JUL 05...	1400	740	7.9	30.5	30	6.6	89	19	--	--
AUG 01...	1345	705	8.4	32.0	13	7.2	100	17	142	45
SEP 06...	1330	1850	8.7	29.0	9	9.7	126	22	--	--

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 18...	93	7.7	30	3.1	30	41	.2	256	--
NOV 26...	--	--	--	--	54	54	--	--	28
DEC 21...	113	8.8	72	4.8	51	100	.2	--	40
JAN 30...	--	--	--	--	79	270	.2	--	12
FEB 13...	123	10	103	5.1	90	146	.2	--	48
MAR 22...	--	--	--	--	--	--	--	--	--
APR 12...	109	7.2	<10	2.9	45	10	.1	--	15
MAY 08...	--	--	--	--	35	11	.1	--	44
JUN 07...	100	7.6	40	3.0	37	81	.2	--	112
JUL 05...	--	--	--	--	59	140	.2	--	73
AUG 01...	113	7.0	73	3.2	31	102	.2	--	71
SEP 06...	--	--	--	--	109	591	.5	--	21

07194500 ARKANSAS RIVER NEAR MUSKOGEE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO ₂ +NO ₃ 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 NO ₃)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 18...	.40	1.8	2.2	10	.22	--	--	--	--
NOV 26...	.80	1.5	2.3	11	.11	--	--	--	--
DEC 21...	.90	1.7	2.6	12	.29	--	--	--	--
JAN 30...	.70	1.8	2.5	11	.23	--	--	--	--
FEB 13...	.70	1.5	2.2	10	.25	1	1	23	32
MAR 22...	--	--	--	--	--	--	--	--	--
APR 12...	1.1	1.9	3.0	14	.14	--	--	--	--
MAY 08...	1.2	2.1	3.3	15	.13	--	--	--	--
JUN 07...	.70	1.2	1.9	8.8	.10	--	--	--	--
JUL 05...	.40	1.5	1.9	8.5	7.5	--	--	--	--
AUG 01...	.10	1.3	1.4	6.5	.15	2	2	8	4
SEP 06...	.20	2.0	2.2	9.9	.12	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

285

07195500 ILLINOIS RIVER NEAR WATTS, OK

LOCATION.--Lat 36°07'48", long 94°34'12", in NE¼ sec.18, T.19 N., R.26 E., Adair County, Hydrologic Unit 11110103, near right bank on downstream side of pier of bridge on U.S. Highway 59, 1.5 mi (2.4 km) north of Watts, 4.5 mi (7.2 km) downstream from Cincinnati Creek, and at mile 106.2 (170.9 km).

DRAINAGE AREA.--635 mi² (1,645 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 893.78 ft (272.424 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Some regulations at low flow by Lake Francis Dam, 0.8 mile (1.29 km) above station. Since July 2, 1957, small diversion above station for municipal water supply for city of Siloam Springs, Ark.

AVERAGE DISCHARGE.--23 years, 601 ft³/s (17.02 m³/s), 12.86 in/yr (327 mm/yr), 435,400 acre-ft/yr (537 hm³/yr)..

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,000 ft³/s (1,930 m³/s) July 25, 1960, gage height, 25.96 ft (7.913 m), from rating curve extended above 51,000 ft³/s (1,440 m³/s); minimum, 8.6 ft³/s (0.24 m³/s) Oct. 26, 1955, Sept. 19, Oct. 14, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 6,500 ft³/s (184 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 24	2015	*22,500 637	*20.54 6.261	May 8	0130	18,700 530	18.74 5.712

Minimum daily discharge; 112 ft³/s (3.17 m³/s) Oct. 25, 28, 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	921	122	340	176	254	1070	922	533	315	460	168	132
2	619	150	540	174	245	918	845	831	354	423	164	126
3	479	222	419	165	236	1320	774	1170	364	393	164	124
4	395	284	362	162	229	1090	744	1880	428	368	205	123
5	342	255	410	159	221	905	779	1380	575	344	240	120
6	307	223	417	156	218	805	710	1020	1250	325	213	117
7	284	200	402	154	216	947	698	5190	1600	309	188	117
8	248	212	387	145	213	2700	638	8940	1030	297	173	117
9	230	220	375	150	211	2010	601	2470	880	283	165	118
10	210	334	361	150	208	1540	1760	1680	635	265	161	126
11	182	309	347	150	205	1260	3300	1230	527	280	157	130
12	178	267	336	149	234	1060	1800	2520	446	359	177	129
13	169	246	329	144	2380	915	1310	1840	401	301	188	122
14	156	220	333	139	2220	891	1050	1210	369	282	178	133
15	146	206	336	138	1310	812	899	953	340	271	161	180
16	141	493	325	151	1020	764	796	815	321	312	152	174
17	135	900	338	163	861	735	735	710	301	266	148	153
18	127	585	300	181	747	690	694	659	1520	239	141	137
19	126	469	265	190	662	626	650	669	4080	227	131	120
20	125	390	249	190	589	600	595	596	1560	218	132	115
21	120	379	234	187	544	1210	555	538	3960	212	131	208
22	117	418	234	180	500	1160	532	540	3120	202	127	581
23	117	356	200	174	494	983	490	580	1720	217	126	311
24	115	321	200	176	659	12500	466	522	1230	264	126	229
25	112	283	196	256	701	9640	445	462	985	244	126	192
26	114	268	189	400	666	3470	428	423	806	218	145	174
27	114	231	179	372	605	2230	411	392	690	210	151	164
28	112	222	175	336	892	1700	403	377	607	203	149	153
29	112	209	178	300	---	1380	406	353	547	194	150	144
30	125	219	182	276	---	1180	417	332	499	182	146	135
31	120	---	186	261	---	1040	---	314	---	173	139	---
TOTAL	6798	9213	9324	6104	17540	58151	24853	41129	31460	8541	4922	4904
MEAN	219	307	301	197	626	1876	828	1327	1049	276	159	163
MAX	921	900	540	400	2380	12500	3300	8940	4080	460	240	581
MIN	112	122	175	138	205	600	403	314	301	173	126	115
CFSM	.35	.48	.47	.31	.99	2.95	1.30	2.09	1.65	.44	.25	.26
IN.	.40	.54	.55	.36	1.03	3.41	1.46	2.41	1.84	.50	.29	.29
AC-FT	13480	18270	18490	12110	34790	115300	49300	81580	62400	16940	9760	9730

CAL YR 1977	TOTAL	96884	MEAN	265	MAX	8410	MIN	72	CFSM	.42	IN	5.68	AC-FT	192200
WTR YR 1978	TOTAL	222939	MEAN	611	MAX	12500	MIN	112	CFSM	.96	IN	13.06	AC-FT	442200

ARKANSAS RIVER BASIN

07195500 ILLINOIS RIVER NEAR WATTS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955-61, 1963, 1969-73, 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										
17...	1215	143	290	7.6	16.0	12	8.2	85	5	141
NOV										
14...	0930	229	290	7.2	12.0	10	8.6	81	7	--
DEC										
19...	1015	265	280	7.3	8.0	16	9.0	78	<3	126
FEB										
21...	0915	552	250	7.3	.5	3	14.1	99	15	98
MAR										
20...	0930	611	250	7.6	10.0	3	9.0	82	6	--
APR										
17...	1000	818	230	7.2	17.0	4	9.0	96	7	88
MAY										
23...	1000	608	240	7.4	21.0	1	7.9	90	6	--
JUN										
19...	0930	5560	160	6.9	20.0	43	8.0	89	22	71
JUL										
24...	1000	268	250	7.1	28.0	7	6.0	77	12	--
AUG										
21...	1015	132	260	7.3	28.0	14	5.8	74	13	97
SEP										
19...	1015	120	280	6.9	26.0	18	5.6	70	10	--

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										
17...	52	132	2.0	20	2.4	10	11	.2	185	--
NOV										
14...	--	--	--	--	--	1.0	9.0	--	--	19
DEC										
19...	46	115	2.3	5.0	2.2	24	10	.0	--	17
FEB										
21...	36	91	1.7	10	1.5	11	8.0	<6.0	--	4
MAR										
20...	--	--	--	--	--	21	8.0	.1	--	23
APR										
17...	32	80	1.7	<10	1.6	24	5.0	<6.0	--	25
MAY										
23...	--	--	--	--	--	<1.0	6.0	<6.0	--	27
JUN										
19...	25	62	2.0	<10	4.0	3.0	1.0	<6.0	--	134
JUL										
24...	--	--	--	--	--	30	7.0	6.0	--	21
AUG										
21...	34	86	1.9	19	2.0	17	<1.0	8.0	--	7
SEP										
19...	--	--	--	--	--	8.0	8.0	<1.0	--	29

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO ₂ +NO ₃ TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (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 NO ₃)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
OCT 17...	1.7	--	--	1.7	3.4	15	.29	--	--	--
NOV 14...	1.2	--	--	1.1	2.3	10	.22	--	--	--
DEC 19...	2.1	--	--	.99	3.0	14	.20	--	--	--
FEB 21...	2.6	--	--	1.4	4.0	18	.13	<1	<1	19
MAR 20...	2.5	--	--	1.2	3.7	17	.13	--	--	--
APR 17...	2.2	--	--	1.0	3.2	14	.16	--	--	--
MAY 23...	1.9	--	--	1.0	2.9	13	.18	--	--	--
JUN 19...	1.2	--	--	3.0	4.2	19	.43	--	--	--
JUL 24...	.90	.19	1.6	1.8	2.7	12	.70	--	--	--
AUG 21...	.50	--	--	1.6	2.1	9.7	.21	2	<1	7
SEP 19...	.80	--	--	<1.0	.80	--	.23	--	--	--

[illegible]

ARKANSAS RIVER BASIN

07196000 FLINT CREEK NEAR KANSAS, OK

LOCATION.--Lat 36°11'54", long 94°42'30", in SW¼ sec.24, T.20 N., R.24 E., Delaware County, Hydrologic Unit 11110103, at bridge on State Highway 33, 6.0 mi (9.7 km) southeast of Kansas, 6.0 mi (9.7 km) downstream from Sager Creek, and at mile 2.8 (4.5 km).

DRAINAGE AREA.--110 mi² (285 km²).

PERIOD OF RECORD.--Water years 1955-61, 1963, 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 (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS Ca)
OCT 17...	1400	220	7.6	15.0	1	8.3	83	1	109	41
NOV 14...	0830	220	7.4	13.0	1	9.0	86	1	--	--
DEC 19...	0915	230	7.2	8.0	1	9.4	82	<3	98	36
FEB 21...	0830	220	7.5	.5	1	13.6	95	8	93	33
MAR 20...	0830	230	7.3	8.0	1	9.8	84	<3	--	--
APR 17...	0920	180	6.9	15.0	2	9.2	93	2	70	26
MAY 23...	0915	210	6.9	18.0	0	7.9	86	<5	--	--
JUN 19...	0850	190	6.8	19.0	1	7.5	82	5	84	32
JUL 24...	0920	217	6.8	24.0	1	7.0	84	3	--	--
AUG 21...	0930	220	6.9	24.0	1	8.0	95	1	103	38
SEP 19...	0930	240	7.0	24.0	2	7.1	86	<1	--	--

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 17...	103	1.5	<5.0	1.5	11	9.0	.2	161	--	1.5
NOV 14...	--	--	--	--	1.0	6.0	--	--	15	1.5
DEC 19...	91	1.4	7.0	1.6	20	8.0	.0	--	2	1.9
FEB 21...	87	1.3	5.0	1.2	8.0	8.0	<6.0	--	<1	2.6
MAR 20...	--	--	--	--	16	7.0	.1	--	2	2.1
APR 17...	65	1.3	<10	1.3	18	3.0	<6.0	--	4	2.1
MAY 23...	--	--	--	--	<1.0	9.0	<6.0	--	4	1.5
JUN 19...	80	1.0	<10	2.0	3.0	<1.0	<6.0	--	13	1.4
JUL 24...	--	--	--	--	30	7.0	<6.0	--	4	.80
AUG 21...	95	1.7	<5.0	6.8	16	<1.0	<6.0	--	8	.60
SEP 19...	--	--	--	--	31	10	<.1	--	2	.50

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK

LOCATION.--Lat 35°55'17", long 94°55'15", in SE¼ sec.26, T.17 N., R.22 E., Cherokee County, Hydrologic Unit 11110103, near center of span on downstream side of pier of bridge 0.2 mi (0.3 km) downstream from U.S. Highway 62, 2.2 mi (3.5 km) northeast of Tahlequah, 6.5 mi (10.5 km) upstream from Baron Fork, and at mile 55.8 (89.8 km).

DRAINAGE AREA.--959 mi² (2,482 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 664.14 ft (202.430 m) Corps of Engineers datum. Prior to Feb. 23, 1939, nonrecording gage.

REMARKS.--Records good.

AVERAGE DISCHARGE.--43 years, 903 ft³/s (25.57 m³/s), 12.79 in/yr (325 mm/yr), 654,200 acre-ft/yr (807 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 150,000 ft³/s (4,250 m³/s) May 10, 1950, gage height, 27.94 ft (98.516 m), from rating curve extended above 77,000 ft³/s (2,180 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.1 ft³/s (0.003 m³/s) Oct. 10-14, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1916 reached a stage of about 26 ft (7.9 m).

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

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 25	2145	*22,200 629	*16.43 5.008	May 9	0615	12,400 351	13.17 4.014

Minimum discharge, 153 ft³/s (4.33 m³/s) Sept. 9.

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	4540	200	394	276	411	1170	1790	852	533	825	250	192
2	1740	211	453	272	395	1530	1610	1100	516	752	237	186
3	1220	237	686	265	383	1550	1470	1780	529	690	238	180
4	985	330	718	261	370	1940	1360	2560	576	637	283	175
5	795	414	676	254	355	1790	1280	3010	898	590	257	172
6	674	433	654	249	343	1550	1400	2450	1160	542	287	165
7	591	404	749	245	339	1440	1670	2140	2530	506	297	162
8	541	377	739	238	334	1730	1490	5210	2710	474	279	158
9	472	383	658	233	331	3480	1310	8880	1980	448	258	156
10	422	451	597	228	325	3030	2180	3380	1640	424	242	157
11	384	540	556	228	321	2460	6510	2600	1280	401	231	159
12	345	599	512	225	333	2070	5670	2440	1040	382	222	164
13	312	553	476	223	488	1770	3490	3490	875	427	220	167
14	293	497	439	221	2420	1550	2590	2800	768	439	232	169
15	275	447	423	220	3020	1430	2110	2070	692	401	238	167
16	258	440	503	228	2100	1310	1810	1680	626	377	232	172
17	244	698	527	232	1700	1190	1620	1450	578	383	218	196
18	233	1320	472	240	1450	1120	1570	1280	617	380	207	198
19	223	1070	449	258	1240	1040	1480	1180	1950	346	202	186
20	214	882	423	274	1070	970	1360	1110	4410	324	196	178
21	209	747	394	283	944	1300	1230	1030	3260	307	189	184
22	204	656	377	277	861	1930	1120	970	7960	292	184	165
23	216	658	361	272	793	2060	1040	910	4920	299	180	306
24	207	617	346	269	753	4970	943	902	2790	313	175	408
25	197	561	321	273	848	15500	872	857	2100	324	172	325
26	192	507	310	289	962	12600	815	779	1720	339	180	272
27	185	464	300	417	971	5460	773	721	1430	326	175	240
28	186	426	290	484	955	3660	737	673	1210	307	192	220
29	186	393	283	483	---	2840	737	635	1030	293	200	209
30	185	383	279	456	---	2360	722	599	920	277	199	195
31	188	---	279	431	---	2030	---	564	---	264	197	---
TOTAL	16916	15898	14644	8804	24815	88830	52759	60102	53248	13089	6869	5983
MEAN	546	510	472	284	886	2865	1759	1939	1775	422	222	199
MAX	4540	1320	749	484	3020	15500	6510	8880	7960	825	297	408
MIN	185	200	279	220	321	970	722	564	516	264	172	156
CF8M	.57	.55	.49	.30	.92	2.99	1.83	2.02	1.85	.44	.23	.21
IN.	.66	.62	.57	.34	.96	3.45	2.05	2.33	2.07	.51	.27	.23
AC-FT	33550	31530	29050	17460	49220	176200	104600	119200	105600	25960	13620	11870
CAL YR 1977 TOTAL	149331			MEAN 409	MAX 9430	MIN 124	CF8M .43	IN 5.79	AC-FT 296200			
WTR YR 1978 TOTAL	361957			MEAN 992	MAX 15500	MIN 156	CF8M 1.03	IN 14.04	AC-FT 717900			

WATER-QUALITY RECORDS

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.

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	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										
17...	0945	244	240	7.2	14.5	2	8.6	85	3	136
NOV										
14...	1145	495	250	7.4	13.0	5	9.0	86	2	--
DEC										
19...	1245	452	240	7.2	8.0	2	9.8	84	<3	103
JAN										
25...	1430	278	270	7.3	3.0	11	12.1	92	3	--
FEB										
21...	1130	945	230	7.1	1.0	3	14.0	99	4	93
MAR										
20...	1230	962	240	7.1	11.0	2	9.6	89	4	--
27...	0930	5490	152	7.5	--	--	--	--	--	--
APP										
17...	1230	1590	200	6.9	17.0	9	8.0	85	6	77
MAY										
09...	0950	11900	119	6.9	17.0	--	--	--	--	46
23...	1210	917	205	7.2	21.0	1	8.0	91	<5	--
JUN										
19...	1130	1290	210	7.0	22.0	35	7.4	86	3	93
JUL										
24...	1200	325	217	6.8	27.0	5	6.1	77	6	--
AUG										
21...	1230	189	220	6.9	25.0	4	6.4	78	13	98
SEP										
19...	1235	187	230	6.9	26.0	3	7.0	88	2	--

[illegible]

ARKANSAS RIVER BASIN

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	ALKA- LINITY (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLU- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 17...	2.0	--	--	--	--	--	9.0	9.0	.1	--
NOV 14...	--	--	--	--	--	--	11	7.0	--	--
DEC 19...	1.7	--	--	--	--	--	20	9.0	.0	--
JAN 25...	--	--	--	--	--	--	19	7.0	8.0	--
FEB 21...	1.5	--	--	--	--	--	11	8.0	<6.0	--
MAR 20...	--	--	--	--	--	--	18	10	.1	--
MAR 27...	--	--	--	--	--	--	11	6.2	--	--
APR 17...	1.4	--	--	--	--	--	21	4.0	<6.0	--
MAY 09...	--	4.5	50	0	41	10	9.0	3.3	--	86
MAY 23...	--	--	--	--	--	--	<1.0	4.0	6.0	--
JUN 19...	1.9	--	--	--	--	--	3.0	1.0	<6.0	--
JUL 24...	--	--	--	--	--	--	30	6.0	<6.0	--
AUG 21...	1.8	--	--	--	--	--	16	<1.0	6.0	--
SEP 19...	--	--	--	--	--	--	9.0	11	<.1	--
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, AMMONIA 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 17...	164	--	--	--	1.1	--	.99	2.0	9.3	.08
NOV 14...	--	--	--	14	.80	--	1.5	2.3	10	.08
DEC 19...	--	--	--	2	1.3	--	.86	2.1	9.6	.06
JAN 25...	--	--	--	3	.90	--	1.2	2.1	9.7	4.0
FEB 21...	--	--	--	3	2.0	--	.98	2.9	13	9.5
MAR 20...	--	--	--	13	2.1	--	1.3	3.4	15	8.6
MAR 27...	110	--	--	--	--	--	--	--	--	--
APR 17...	--	--	--	58	1.7	--	1.3	3.0	14	.12
MAY 09...	--	.12	2760	--	--	--	--	--	--	--
MAY 23...	--	--	--	13	1.3	--	.68	1.9	8.8	.12
JUN 19...	--	--	--	26	1.0	--	1.5	2.5	11	8.5
JUL 24...	--	--	--	6	.50	3.4	2.1	2.6	12	7.0
AUG 21...	--	--	--	17	.30	--	1.0	1.3	5.8	8.5
SEP 19...	--	--	--	4	.30	--	<1.0	.30	--	<.10

07197000 BARON FORK AT ELDON, OK

LOCATION.--Lat 35°55'16", long 94°50'18", in SE¼ sec.27, T.17 N., R.23 E., Cherokee County, Hydrologic Unit 11110103, on downstream side of second pier from left bank of bridge on State Highway 51, 0.4 mi (0.6 km) southeast of Eldon, 6.0 mi (9.7 km) downstream from Tyner Creek, and at mile 8.8 (14.2 km).

DRAINAGE AREA.--307 mi² (795 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1948 to current year. Prior to October 1970 published as Barren Fork at Eldon.

GAGE.--Water-stage recorder. Datum of gage is 701.14 ft (213.707 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Dec. 14, 1948, nonrecording gaging at same site and datum.

REMARKS.--Records good except for period of no gage height record Dec. 28 to Jan. 29 which is poor.

AVERAGE DISCHARGE.--30 years, 297 ft³/s (8.411 m³/s), 13.13 in/yr (334 mm), 215,200 acre-ft/yr (265 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,600 ft³/s (1,070 m³/s) Apr. 3, 1957, gage height, 20.33 ft (6.197 m), maximum gage height, 22.73 ft (6.928 m), Apr. 20, 1976; minimum, 1.7 ft³/s (0.048 m³/s) Oct. 25, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 15, 1945, reached a stage of 23.8 ft (7.25 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s (170 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 24	1700	*15,600 442	*17.58 5.358	June 21	2000	11,200 317	14.97 4.563
May 7	2100	9,480 268	13.99 4.264				

Minimum daily discharge, 22 ft³/s (0.62 m³/s) 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	60	35	113	110	137	424	553	233	145	343	53	28
2	69	47	195	111	130	391	494	544	145	303	50	28
3	62	59	214	111	123	423	441	917	207	270	51	26
4	57	73	195	111	117	413	415	1450	313	239	54	26
5	54	92	206	110	111	373	415	1110	392	215	56	26
6	51	92	221	108	107	348	389	912	1250	199	54	25
7	49	86	217	108	106	356	364	4800	1540	183	51	23
8	50	84	201	106	105	807	329	4210	1070	166	48	23
9	47	100	183	106	104	870	310	1930	809	150	46	22
10	46	185	168	105	102	747	727	1400	621	140	44	22
11	45	212	153	103	100	641	1350	1080	506	130	42	23
12	44	177	140	103	107	547	1130	2010	422	121	39	22
13	42	153	131	103	972	488	880	1590	353	112	37	22
14	40	137	137	105	1310	439	717	1150	297	103	36	23
15	36	125	219	105	833	408	603	923	177	99	32	25
16	36	142	209	108	866	373	523	760	218	91	32	26
17	35	249	188	120	550	345	469	630	190	87	29	25
18	34	232	170	124	468	312	422	544	834	83	28	23
19	32	199	151	119	400	291	389	481	2460	74	29	22
20	31	178	149	111	353	270	357	415	987	70	29	25
21	31	166	135	100	315	321	329	371	4770	67	28	26
22	31	173	126	96	281	412	303	346	4270	63	26	31
23	32	166	117	90	261	427	277	336	1830	53	26	34
24	31	149	106	99	274	7610	251	300	1200	79	25	34
25	30	136	100	94	298	4630	227	260	944	74	23	32
26	29	123	94	96	306	2210	215	236	760	70	29	31
27	30	113	91	132	284	1500	193	212	621	68	36	29
28	30	104	84	170	326	1120	183	201	519	67	32	28
29	30	98	84	168	---	896	177	188	441	63	32	26
30	30	97	94	160	---	751	177	172	389	59	31	26
31	32	---	106	151	---	649	---	155	---	54	29	---
TOTAL	1266	3982	4497	3543	9246	29792	13609	29866	28680	3895	1157	784
MEAN	40.8	133	152	114	330	961	454	963	956	126	37.3	26.1
MAX	69	249	221	170	1310	7610	1350	4800	4770	343	56	36
MIN	29	35	84	90	100	270	177	155	145	53	23	22
CFSM	.13	.43	.50	.37	1.08	3.13	1.48	3.14	3.11	.41	.12	.09
IN	.15	.48	.57	.43	1.12	3.61	1.65	3.62	3.48	.47	.14	.09
AC-FT	2510	7900	9320	7030	18340	59090	26990	59240	56890	7730	2290	1560

CAL YR 1977	TOTAL	48720	MEAN 133	MAX 5880	MIN 16	CFSM .43	IN 5.90	AC-FT 96640
WTR YR 1978	TOTAL	130517	MEAN 358	MAX 7610	MIN 22	CFSM 1.17	IN 15.82	AC-FT 258900

ARKANSAS RIVER BASIN

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07197000 BARON FORK AT ELDON, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-60, 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)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	
OCT 17...	1030	35	210	7.4	15.0	0	8.5	85	1	--	
NOV 14...	1040	137	230	7.1	13.0	1	8.8	85	<3	--	
DEC 19...	1130	151	240	7.1	9.0	1	9.4	83	--	<3	
JAN 25...	1530	94	210	6.9	4.0	0	13.1	102	1	--	
FEB 21...	1040	315	210	7.4	1.0	1	14.3	101	1	--	
MAR 20...	1100	270	210	7.4	8.0	0	10.6	91	4	--	
APR 17...	1130	469	180	6.8	14.0	1	9.2	92	5	--	
MAY 23...	1115	336	180	7.1	17.0	1	8.9	95	<5	--	
JUN 19...	1050	2460	140	6.5	20.0	41	7.8	87	12	--	
JUL 24...	1115	79	174	7.0	23.0	1	7.2	85	1	--	
AUG 21...	1130	28	170	6.7	23.0	1	8.2	96	<1	--	
SEP 19...	1135	22	180	6.8	24.0	1	7.6	92	1	--	
DATE		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)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT 17...	119	44	111	2.0	5.0	1.2	6.0	6.0	.4	144	
NOV 14...	--	--	--	--	--	--	3.0	5.0	--	--	
DEC 19...	81	29	73	1.8	<5.0	1.2	20	7.0	.0	--	
JAN 25...	--	--	--	--	--	--	19	5.0	8.0	--	
FEB 21...	84	31	78	1.4	5.0	1.0	8.0	4.0	6.0	--	
MAR 20...	--	--	--	--	--	--	16	8.0	.1	--	
APR 17...	74	27	68	1.4	<10	.9	21	5.0	<6.0	--	
MAY 23...	--	--	--	--	--	--	<1.0	6.0	6.0	--	
JUN 19...	84	32	80	1.0	<10	2.0	3.0	1.0	<6.0	--	
JUL 24...	--	--	--	--	--	--	33	5.0	<6.0	--	
AUG 21...	82	29	74	1.9	9.0	.9	15	<1.0	<6.0	--	
SEP 19...	--	--	--	--	--	--	32	5.0	.6	--	

07197000 BARON FORK AT ELDON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 17...	--	.30	1.1	1.4	6.3	.03	--	--	--	--
NOV 14...	9	.70	1.0	1.6	7.5	.05	--	--	--	--
DEC 19...	4	1.3	.62	1.9	8.5	.03	--	--	--	--
JAN 25...	4	.80	1.7	2.5	11	2.0	--	--	--	--
FEB 21...	6	2.0	.84	2.8	13	3.7	<1	<1	18	3
MAR 20...	<1	1.5	1.3	2.8	12	4.0	--	--	--	--
APR 17...	1	1.3	.91	2.2	9.8	2.6	--	--	--	--
MAY 23...	4	1.1	21	22	100	3.0	--	--	--	--
JUN 19...	71	.90	1.3	2.2	10	.20	--	--	--	--
JUL 24...	1	.60	2.2	2.8	13	.22	--	--	--	--
AUG 21...	2	.40	1.0	1.4	6.2	5.0	<1	1	15	6
SEP 19...	<1	.30	<1.0	.30	--	2.5	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

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07197500 TENKILLER FERRY LAKE NEAR GORE, OK

LOCATION.--Lat 35°35'43", long 95°02'57", in SE¼ SW¼ sec.14, T.13 N., R.21 E., Sequoyah County, Hydrologic Unit 11110103, at gage tower on right bank, 0.6 mi (1.0 km) upstream from Tenkiller Ferry Dam on Illinois River, 6.0 mi (9.7 km) northeast of Gore, and at mile 12.8 (20.6 km).

DRAINAGE AREA.--1,610 mi² (4,170 km²).

PERIOD OF RECORD.--July 1952 to current year. Prior to October 1970 published as Tenkiller Ferry Reservoir near Gore.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929. Prior to Apr. 5, 1953, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earth dam. Spillway consists of 590-ft (179.8 m) concrete modified ogee weir in right abutment controlled by 10 taintor gates. Outlet works consist of a 19-foot (5.8 m) diameter tunnel in right abutment controlled by two vertical lift gates. A similar tunnel conducts water to two hydroelectric turbines. Closure was made for diversion in July 1950 and regulated storage began in July 1952; conservation pool was first filled Apr. 9, 1953. Capacity, 1,231,000 acre-ft (1,520 hm³) at elevation 667.0 ft (203.30 m), flood-control pool, 791,900 acre-ft (976 hm³) at elevation, 642.0 ft (195.68 m), spillway crest, 628,700 acre-ft at elevation 630.0 ft (192.02 m), maximum power pool, and 283,100 acre-ft (349 hm³) at elevation 594.5 ft (181.20 m), conservation and minimum power pool. Figures given herein represent total contents. Reservoir is used for flood control and for power development.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,218,000 acre-ft (1.50 km³) June 5, 1957, elevation, 666.36 ft (203.107 m); minimum since conservation pool was first filled, 305,700 acre-ft (377 hm³) Oct. 21, 1954, elevation, 597.50 ft (182.118 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 760,700 acre-ft (938 hm³) March 27, elevation, 639.87 ft (195.032 m); minimum, 561,900 acre-ft (693 hm³) Feb. 11, elevation, 624.44 ft (190.329 m).

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

624	556,800	633	667,200
627	591,800	636	706,900
630	628,700	640	762,500

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	603500	601300	618400	626400	578000	619700	686300	659900	658400	691000	627700	586300
2	606600	601800	618900	625500	577200	622300	669800	660600	656200	686700	625600	586000
3	608800	601800	620300	622700	576400	624400	658700	668200	657500	681900	623900	586000
4	610200	601800	622300	621300	575400	626900	655100	673000	659600	679400	621900	585400
5	611600	602500	623600	620300	575600	629300	654900	680700	660900	676900	621900	583700
6	612700	603400	624400	620000	572800	630800	655500	684900	664600	674000	622100	582000
7	613800	602300	625500	621000	569400	634100	655900	715000	668600	671300	621300	580600
8	614800	603700	626900	620500	567100	636800	656300	723600	672400	668500	621300	578800
9	615300	603200	627500	618500	564600	642200	657100	739100	674500	665100	620700	578900
10	616000	602700	628500	616600	564000	647300	665000	740500	675300	662000	619600	578800
11	615800	602900	629700	614900	562000	651200	677700	738900	675300	658600	618900	577100
12	615800	604000	630200	613300	563600	653700	687100	737800	674700	655300	617800	575000
13	615900	605000	631500	612000	566100	655400	687200	737500	673500	651900	617500	573600
14	616200	605600	631600	611200	572600	656300	683800	736000	671800	650000	615000	573600
15	616300	606400	632400	610100	580600	657100	679100	731600	670000	650400	612600	572800
16	616400	606800	633000	609000	586300	657400	673900	726400	668000	651000	610200	572600
17	616400	607400	634400	606300	591400	657400	668100	720400	666000	648900	609000	572200
18	616400	609500	635500	603500	595200	656700	663800	714000	667500	647000	607900	570400
19	614800	611600	635800	600900	598400	656300	663000	707200	671700	645500	607900	569000
20	612500	614200	635600	597600	601300	656200	663500	700100	679100	643600	607800	568900
21	610000	614700	634800	596700	603700	655800	663000	693000	685900	641700	606700	568500
22	610400	614700	633500	595500	606100	656600	662500	686300	707500	641800	604300	567800
23	610700	614900	632500	593200	608000	661400	662000	678900	717500	643100	602300	567800
24	608000	616200	632900	591700	609100	664200	660900	673900	717500	641100	600400	567800
25	604500	616300	633000	590300	610700	719500	659600	670500	714800	639200	598000	567900
26	601900	616800	633500	587800	612800	754900	658600	669600	710700	637300	596400	567800
27	600000	617800	631900	585600	615500	757600	657600	668100	706300	634700	596600	567800
28	600000	618000	630200	583800	618200	746700	656300	666200	702900	632500	593800	567700
29	600200	617600	628700	582300	---	733000	655500	664400	699000	632600	591800	567700
30	600700	617900	626900	580500	---	718200	657000	662500	695400	632900	589300	567700
31	599900	---	627100	578800	---	702300	---	660400	---	630100	586800	---
MAX	616400	618000	635800	626400	618200	757600	687200	740500	717500	691000	627700	586300
MIN	599900	601300	618400	578800	562000	619700	654900	659900	656200	630100	586800	567700
†	627.66	629.12	629.87	625.90	629.15	635.67	632.22	632.48	635.15	630.11	626.59	624.94
‡	+6,300	+18,000	+9,200	-48,300	+39,400	+84,100	-45,300	+3,400	+35,000	-65,300	-43,300	-19,100

CAL YR 1977 MAX 635800 MIN 428800 ‡ +164,300
WTR YR 1978 MAX 757600 MIN 562000 ‡ -25,900

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

07198000 ILLINOIS RIVER NEAR GORE, OK

LOCATION.--Lat 35°34'23", long 95°04'07", in NE¼SW¼ sec.27, T.13 N., R.21 E., Sequoyah County, Hydrologic Unit 11110104, on right bank 4.3 mi (6.9 km) downstream from Tenkiller Ferry Dam, 4.5 mi (7.2 km) northeast of Gore, and at mile 8.5 (13.7 km).

DRAINAGE AREA.--1,626 mi² (4,211 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1924 to April 1926, April 1939 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 473.00 ft (144.170 m) National Geodetic Vertical Datum of 1929. See WSP 1921 for history of changes prior to Feb. 19, 1952.

REMARKS.--Records good. Except for 16 mi² (41 km²) intervening area, flow completely regulated since July 1952 by Tenkiller Ferry Lake (station 07197500).

COOPERATION.--Gage-height record and 23 discharge measurement furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--40 years (water years 1924-25, 1939-78), 1,510 ft³/s (42.76 m³/s), 1,094,000 acre-ft/yr (1.35 km³/yr) adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s (5,100 m³/s) May 11, 1950, gage height, 29.6 ft (9.02 m), present site and datum, from floodmark, from rating curve extended above 42,000 ft³/s (1,190 m³/s) by velocity-area studies; minimum, 2.0 ft³/s (0.057 m³/s) Sept. 16, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,700 ft³/s (331 m³/s) Mar. 27, gage height, 11.96 ft (3.645 m); minimum daily, 60 ft³/s (1.70 m³/s) Nov. 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	136	299	216	647	995	1010	11000	2100	1880	3490	1350	405
2	118	77	284	739	999	994	10900	1910	1910	3500	1200	153
3	123	274	68	1790	1000	984	8480	2050	244	3520	1190	224
4	124	280	69	1020	1060	1070	4300	1960	153	2230	1350	382
5	128	77	360	1030	470	1110	1930	1880	1090	2140	162	1130
6	123	63	345	416	1860	1230	1860	1840	853	2130	165	1010
7	126	1120	337	63	1980	1940	1850	2160	1900	2120	608	919
8	129	392	344	267	1940	1960	1850	3150	1890	2180	152	915
9	126	763	349	1200	1870	1830	1920	5340	1910	2130	745	155
10	125	752	61	1210	773	1850	2040	5300	1920	2140	748	142
11	194	749	66	1230	1500	1830	1900	5280	1900	2120	451	910
12	195	74	349	1150	470	1810	2780	5270	1930	2110	673	911
13	126	66	342	978	802	1900	4880	5270	2000	2120	592	1050
14	121	241	344	575	193	1990	5630	5260	2000	1440	1460	546
15	119	215	340	877	178	1980	5650	5260	1990	164	1500	449
16	71	370	342	1210	181	1950	5640	5260	1890	151	1450	145
17	208	350	63	1780	172	1930	5630	5260	1840	1300	679	297
18	370	218	62	1800	155	1930	4570	5250	1890	1180	621	903
19	1120	68	434	1730	298	1890	2680	5260	1860	1170	151	915
20	1430	65	734	2020	312	1850	1840	5260	1940	1170	151	921
21	1620	415	757	704	242	1870	1840	5280	1990	1180	683	306
22	74	748	1220	990	226	1820	1880	5270	1860	132	1270	225
23	67	725	1010	1630	318	1900	1880	5260	2800	153	1140	136
24	1730	60	271	1270	823	2530	1860	4180	4570	1400	1050	280
25	2270	735	270	1270	467	1930	1830	2810	4560	1420	1350	304
26	1380	65	68	1710	236	1860	1830	1810	4630	1470	975	295
27	1260	65	1190	1820	319	6240	1820	1820	4330	1550	461	227
28	144	353	1290	1630	241	11400	1450	1890	3580	1420	1480	225
29	73	591	1300	1550	---	11200	1850	1890	3550	167	1310	136
30	66	897	1300	1620	---	11100	1850	1890	3240	153	1300	140
31	571	---	312	1680	---	11000	---	1870	---	1750	1330	---
TOTAL	14467	11167	14497	37606	20080	95888	105420	114290	68100	49300	27747	14756
MEAN	467	372	468	1213	717	3093	3514	3687	2270	1590	895	492
MAX	2270	1120	1300	2020	1980	11400	11000	5340	4630	3520	1500	1130
MIN	66	60	61	63	155	984	1450	1810	153	132	151	136
AC-FT	28700	22150	28750	74590	39830	190200	209100	226700	135100	97790	55040	29270
CAL YR 1977	TOTAL	158382	MEAN	434	MAX	3030	MIN	58	AC-FT	314200		
WTR YR 1978	TOTAL	573318	MEAN	1571	MAX	11400	MIN	60	AC-FT	1137000		

ARKANSAS RIVER BASIN

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07198000 ILLINOIS RIVER NEAR GORE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years, 1948, 1952, 1954 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1947 to September 1948, October 1953 to September 1963.

WATER TEMPERATURE: October 1947 to September 1948, October 1953 to September 1963.

REMARKS.--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- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DTS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	HARD- NESS (MG/L AS CALCS)
OCT										
18...	1545	57	240	7.7	15.0	2	5.7	57	4	--
NOV										
26...	1500	15	265	7.2	7.5	--	11.3	96	--	97
26...	1501	15	265	7.2	7.5	1	11.3	96	3	--
DEC										
21...	1615	39	229	8.5	8.5	--	10.8	92	--	91
21...	1630	39	275	8.5	8.5	1	10.8	92	<3	--
JAN										
30...	1545	1866	235	7.7	5.0	--	12.2	95	--	91
30...	1546	1866	235	7.7	5.0	1	12.2	95	3	--
FEB										
13...	1530	184	238	8.2	3.0	--	13.1	99	--	92
13...	1531	184	238	8.2	3.0	7	13.1	99	5	--
MAR										
22...	1245	1806	209	8.2	6.5	--	13.6	111	--	80
APR										
12...	1015	1989	215	7.6	8.0	1	11.0	94	5	--
12...	1020	1989	215	7.6	8.0	--	11.0	94	--	91
MAY										
08...	1445	2910	228	8.1	10.0	--	12.1	109	--	96
08...	1446	2910	228	8.1	10.0	3	12.1	109	4	--
JUN										
07...	1515	1902	210	7.8	13.0	3	7.0	68	6	88
07...	1520	1902	210	7.8	13.0	--	7.0	68	--	100
JUL										
05...	1645	3506	190	7.6	16.5	--	4.3	45	--	85
05...	1646	3506	190	7.6	16.5	3	4.3	45	4	--
AUG										
01...	1515	3462	214	7.5	18.0	--	2.6	28	--	84
01...	1516	3462	214	7.5	18.0	2	2.6	28	5	300
SEP										
06...	1500	3013	195	7.5	17.5	--	2.7	29	--	84
06...	1501	3013	195	7.5	17.5	4	2.7	29	6	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

301

07198000 ILLINOIS RIVER NEAR GORE, 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 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									
18...	122	--	--	--	.20	1.7	1.9	8.7	.04
NOV									
26...	--	.24	7.2	--	--	--	--	--	--
26...	--	--	--	10	.20	1.5	1.7	7.9	.02
DEC									
21...	--	.17	13.5	--	--	--	--	--	--
21...	--	--	--	7	.20	.98	1.1	5.2	.20
JAN									
30...	--	.14	529	--	--	--	--	--	--
30...	--	--	--	12	.10	1.5	1.6	7.1	4.0
FEB									
13...	--	.17	62.6	--	--	--	--	--	--
13...	--	--	--	17	.20	1.2	1.4	6.6	6.0
MAR									
22...	--	.13	449	--	--	--	--	--	--
APR									
12...	--	--	--	143	.20	.90	1.1	4.9	1.0
12...	--	.15	601	--	--	--	--	--	--
MAY									
08...	--	.14	833	--	--	--	--	--	5.5
08...	--	--	--	6	.60	.99	1.5	7.0	5.5
JUN									
07...	--	--	--	1	.90	1.1	2.0	9.1	8.0
07...	--	.14	529	--	--	--	--	--	--
JUL									
05...	--	.15	1010	--	--	--	--	--	--
05...	--	--	--	1	1.0	1.4	2.4	11	3.0
AUG									
01...	--	.15	1020	--	--	--	--	--	--
01...	--	--	--	2	.90	1.5	1.5	11	4.5
SEP									
06...	--	.14	830	--	--	--	--	--	6.5
06...	--	--	--	7	7.0	1.3	2.0	8.9	6.5

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECUM- ERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECUM- ERABLE (UG/L AS CR)	COPPER, TOTAL RECUM- ERABLE (UG/L AS CU)	IRON, TOTAL RECUM- ERABLE (UG/L AS FE)	LEAD, TOTAL RECUM- ERABLE (UG/L AS PB)
OCT							
18...	1545	--	--	--	--	--	--
NOV							
26...	1501	--	--	--	--	230	--
DEC							
21...	1630	--	--	--	--	--	--
JAN							
30...	1546	1	<1	E5	3	250	11
APR							
12...	1015	--	--	--	--	--	--
MAY							
08...	1446	--	--	--	--	110	--
JUN							
07...	1515	--	--	--	--	210	--
JUL							
05...	1646	--	--	--	--	--	--
AUG							
01...	1516	<1	<1	10	<2	350	13
SEP							
06...	1501	--	--	--	--	--	--

ARKANSAS RIVER BASIN

303

07228400 DEER CREEK AT HYDRO, OK

LOCATION.--Lat 35°32'28", long 98°34'40", in NW¼SE¼ sec. 4, T.12 N., R.13 W., Caddo County, Hydrologic Unit 11090201, on downstream side of second pier from right bank of bridge on State Highway 58 at south edge of Hydro, 3.2 mi (5.1 km) downstream from Little Deep Creek, 7 mi (11 km) east of Weatherford, and at mile 7.4 (11.9 km).

DRAINAGE AREA.--274 mi² (710 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1960 to December 1963; December 1977 to September 1978.

GAGE.--Water-stage recorder. Datum of gage is 1,454.01 ft (443.182 m) National Geodetic Vertical Datum of 1929. October 1960 to December 1963 gage at same site and at datum 4.00 ft (1.219 m) higher.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,940 ft³/s (253 m³/s) Nov. 2, 1961, gage height, 17.54 ft (5.346 m), present datum; minimum, 5.0 ft³/s (0.14 m³/s) Aug. 23, 24, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1948 reached a stage of about 32 ft (9.8 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period December to September, 7,070 ft³/s (200 m³/s) at 1930 May 27, gage height, 16.20 ft (4.938 m), no other peaks above base of 2,000 ft³/s (56.6 m³/s); minimum daily, 6.1 ft³/s (0.17 m³/s) July 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			20	27	23	24	25	22	49	12	6.4	9.2
2			21	20	25	24	25	26	44	12	6.5	8.5
3			23	22	27	24	25	64	39	12	28	9.0
4			23	26	29	27	125	44	38	11	62	7.6
5			23	23	27	25	70	33	37	16	17	7.6
6			23	26	23	23	22	32	50	11	11	7.6
7			23	23	23	23	22	114	38	10	8.8	8.3
8			23	22	23	22	20	150	28	9.9	9.1	7.3
9			23	22	23	21	45	48	25	8.4	10	8.3
10			21	22	27	23	147	35	23	8.7	11	9.7
11			30	22	44	23	45	27	20	9.0	8.0	8.6
12			30	22	78	22	32	26	19	7.6	7.0	7.9
13			29	29	44	24	35	24	18	7.1	6.6	7.6
14			23	18	23	23	30	20	25	7.2	6.3	7.2
15			23	23	28	23	28	22	25	6.9	6.3	7.2
16			23	23	23	23	33	24	19	6.9	6.8	7.1
17			23	23	20	23	26	23	16	7.2	8.3	6.8
18			23	22	22	22	27	23	16	7.3	8.1	7.5
19			24	22	22	22	26	23	17	6.4	7.6	6.5
20			23	22	30	22	20	67	17	6.1	9.3	13
21			23	21	27	22	12	55	21	6.8	9.0	23
22			23	21	25	23	18	57	22	7.4	7.7	16
23			23	38	40	24	22	36	18	7.6	7.3	19
24			23	41	34	26	22	30	16	7.5	7.5	13
25			23	40	28	25	20	26	14	7.5	9.3	11
26			23	29	26	25	31	42	13	9.5	9.5	11
27			23	27	26	25	26	2540	13	9.0	8.9	11
28			23	26	25	25	26	1850	13	8.4	8.7	11
29			25	26	---	25	24	225	12	7.6	8.5	10
30			32	23	---	25	23	88	12	7.3	7.9	8.7
31			30	23	---	24	---	61	---	8.3	9.2	---
TOTAL	---	---	745	774	815	732	1052	5857	717	269.6	337.6	296.2
MEAN	---	---	24.0	25.0	29.1	23.6	35.1	189	23.9	8.70	10.9	9.87
MAX	---	---	32	41	78	27	147	2540	50	16	62	23
MIN	---	---	20	18	20	21	12	20	12	6.1	6.3	6.5
AC-FT	---	---	1480	1540	1620	1450	2090	11620	1420	535	670	588

ARKANSAS RIVER BASIN

07228400 DEER CREEK AT HYDRO, OK--Continued

WATER QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1977 to September 1978.

WATER TEMPERATURE: December 1977 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, and dissolved oxygen were determined in the field.

EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,820 micromhos June 15; minimum daily, 442 micromhos May 27.

WATER TEMPERATURE: Maximum daily, 31.5°C July 13; minimum daily, 0.0°C several days during December and January.

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)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACU3)	CALCIUM DTS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DTS- SOLVED (MG/L AS MG)	SODIUM, DTS- SOLVED (MG/L AS NA)	SODIUM PERCENT	
SEP												
06...	1105	7.6	891	7.9	27.0	380	210	120	19	42	19	
15...	0830	7.0	853	8.0	25.0	370	200	120	18	36	17	
25...	1040	11	1310	8.2	23.0	670	500	210	35	36	10	
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- LINEITY (MG/L AS CACU3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DTS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DTS- SOLVED (MG/L)	SOLIDS, DTS- SOLVED (TONS PER AC=FT)	SOLIDS, DTS- SOLVED (TONS PER DAY)
SEP												
06...	.9	4.2	210	0	170	4.2	250	26	625	.85	12	
15...	.8	4.2	210	0	170	3.4	230	24	602	.82	11	
25...	.6	4.3	210	0	170	2.1	510	25	1050	1.43	31	

ARKANSAS RIVER BASIN

305

07228400 DEER CREEK NEAR HYDRO, 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			1240	1300	1280	1400	1310	1320	1100	1160	820	847
2			1240	1300	1290	1380	1270	1340	1280	1110	885	843
3			1250	1310	1290	1420	1340	839	1390	1130	887	836
4			1260	1340	1290	1370	1410	1290	1480	1120	874	870
5			1240	1300	1300	1180	958	1380	1400	1040	956	886
6			1280	1300	1300	1370	1460	1350	1480	944	794	891
7			1260	1300	---	1380	1130	1390	1820	1090	827	862
8			1250	1300	---	1350	1160	781	1690	1090	928	861
9			1300	1320	---	1350	1200	930	1690	1030	1050	814
10			---	1340	1350	1340	724	1020	1390	1060	983	824
11			---	1360	1040	1350	977	1070	1500	1060	934	828
12			1260	1280	1060	1350	950	1170	1450	1010	857	855
13			1260	1270	1270	1320	1070	1230	1440	1010	857	859
14			1280	1320	1340	1330	1160	1250	1440	983	889	859
15			1260	1320	1380	1340	1260	1210	1620	988	860	853
16			1260	---	1320	1340	1350	1250	1680	974	858	879
17			1260	---	1290	1350	1350	1270	1550	969	879	879
18			1270	---	1310	1310	1350	1260	1400	980	876	904
19			1270	---	1320	1330	1360	---	1340	972	905	776
20			1280	---	1360	1320	1340	941	1260	955	821	787
21			1280	---	1350	1320	997	1300	1220	971	832	690
22			1260	---	1340	1330	1300	1270	1150	966	836	862
23			1260	1280	1180	1340	1340	1430	1200	919	879	1170
24			1260	1260	1220	1240	1300	1450	1230	960	859	1390
25			1280	1240	1350	1330	1190	1430	1240	966	840	1310
26			1270	1250	1380	1350	1350	1260	1230	935	855	1200
27			1260	1300	1410	1270	1340	442	1210	876	851	1050
28			1270	1300	1390	1320	1350	472	1210	940	834	1010
29			1280	1290	---	1320	1330	556	1180	919	567	994
30			1290	1310	---	1310	1310	856	1180	907	774	1010
31			1290	1300	---	1310	---	1010	---	914	864	---

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			---	3.0	6.0	4.0	20.0	20.0	22.0	27.5	26.0	25.0
2			---	2.0	1.5	5.0	18.0	16.0	21.0	27.0	26.0	23.5
3			---	.0	2.0	1.0	19.0	11.0	21.5	29.0	27.0	25.0
4			---	4.5	4.5	1.0	16.0	16.0	21.0	30.0	25.0	25.0
5			---	4.0	4.5	10.0	17.0	14.0	20.0	26.0	26.0	---
6			---	3.0	3.0	6.0	16.0	18.0	22.0	26.0	26.0	27.0
7			5.0	4.5	---	6.0	19.0	18.0	23.0	26.5	24.0	27.5
8			5.0	3.5	---	3.0	19.5	16.0	22.0	27.0	26.0	24.5
9			5.0	1.0	---	3.5	18.5	18.0	21.5	27.0	---	25.0
10			---	.5	4.0	7.0	14.0	18.0	23.0	27.5	26.0	24.0
11			---	.0	4.0	8.5	15.0	19.0	23.0	28.0	27.0	24.0
12			12.0	1.0	6.0	7.5	15.0	22.0	22.0	28.0	26.0	25.0
13			16.0	1.0	6.0	9.0	18.0	19.0	27.5	31.5	26.5	24.0
14			5.0	.5	1.0	8.0	18.0	26.0	26.0	27.0	29.5	24.5
15			6.0	1.0	1.0	12.0	22.0	23.0	27.0	28.0	28.0	25.0
16			6.5	---	2.0	7.0	21.0	21.0	27.0	28.0	25.5	25.0
17			5.0	---	2.0	8.0	20.0	22.0	25.5	28.0	27.0	24.5
18			4.0	---	2.5	8.0	17.0	22.0	---	31.0	27.0	24.5
19			4.0	---	7.0	12.5	13.0	---	26.0	29.0	26.5	25.0
20			.0	---	1.0	13.0	18.0	21.0	28.0	31.0	22.0	24.5
21			1.0	---	1.0	14.0	12.0	23.0	27.0	26.5	26.0	17.0
22			1.0	---	8.0	14.0	16.0	22.5	27.0	27.0	27.0	17.5
23			3.5	.5	3.0	14.5	17.0	22.5	28.0	25.5	26.5	21.0
24			5.5	.0	6.0	8.0	17.0	26.0	27.0	27.0	26.0	22.0
25			2.0	.0	8.0	12.0	22.0	26.0	26.5	26.5	27.5	23.0
26			2.0	1.0	5.0	12.0	17.0	23.0	26.5	---	---	22.0
27			.5	1.0	7.0	17.0	17.5	19.0	26.0	27.0	26.5	22.0
28			2.0	3.0	7.0	14.0	19.5	18.0	26.0	27.0	25.0	24.0
29			5.0	2.0	---	18.0	19.5	21.0	27.0	27.0	26.0	22.0
30			6.0	.0	---	19.0	22.0	21.0	27.0	27.5	25.5	20.5
31			6.5	.0	---	17.0	---	23.0	---	27.0	21.0	---

ARKANSAS RIVER BASIN

07228500 CANADIAN RIVER AT BRIDGEPORT, OK

LOCATION.--Lat 34°34'00", long 98°22'45", in SE¼SW¼ sec.28, T.13 N., R.11 W., Blaine County, Hydro-logic Unit 11090202, on downstream side of left abutment of Chicago, Rock Island and Pacific Railroad Co. bridge, 1.0 mi (1.6 km) north of Bridgeport, 2.8 mi (4.5 km) upstream from Lumpmouth Creek, and at mile 267.3 (429.8 km).

DRAINAGE AREA.--25,229 mi² (65,343 km²), of which 4,801 mi² (12,435 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1944 to September 1964; October 1969 to current year.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,384.25 ft (421.919 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1947, at site 0.2 mi (0.3 km) downstream at same datum. Oct. 1, 1947, to Sept. 30, 1948, nonrecording gage at present site and datum.

REMARKS.--Records poor. Occasional slight regulation by Conchas Reservoir in New Mexico, and by Lake Meredith in Texas since 1964.

AVERAGE DISCHARGE.--29 years, 397 ft³/s (11.24 m³/s), 287,600 acre-ft/yr (355 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 150,000 ft³/s (4,250 m³/s) June 23, 1948, gage-height, 14.60 ft (4.450 m), from floodmarks, from rating curve extended above 50,000 ft³/s (1,420 m³/s), no flow at times in 1946, 1951-56, 1964, 1970.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1914 reached a stage of about 19.4 ft (5.91 m), a higher stage probably occurred during flood in October 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,700 ft³/s (360 m³/s) at 0300 May 28, gage height, 10.14 ft (3.091 m), no other peaks above base of 6,000 ft³/s (170 m³/s); minimum daily, 3.7 ft³/s (0.10 m³/s) Aug. 1.

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	16	25	35	86	60	60	181	50	1270	16	3.7	5.0
2	16	50	38	70	60	60	186	89	889	15	4.5	4.8
3	16	40	40	65	60	70	178	500	814	14	5.5	5.0
4	16	36	41	60	60	109	641	300	1130	12	11	4.6
5	15	31	44	60	60	168	314	200	1500	16	8.0	4.1
6	15	27	43	60	60	254	190	150	1400	13	6.0	5.0
7	17	27	41	60	60	318	109	130	600	11	5.0	4.8
8	18	44	48	60	60	279	79	110	400	10	5.0	4.3
9	17	68	48	60	60	256	73	100	250	9.2	4.5	5.0
10	16	49	48	60	60	269	222	90	200	8.1	4.5	5.5
11	16	38	48	60	60	244	142	80	170	8.3	4.5	5.5
12	15	34	50	60	150	216	132	75	150	8.1	4.5	5.3
13	17	34	52	60	300	233	127	70	130	7.2	4.5	5.0
14	17	32	55	60	180	247	130	65	110	6.8	4.5	5.0
15	17	32	57	60	100	243	130	65	100	6.2	4.5	5.0
16	17	33	58	60	70	270	114	60	95	6.4	4.0	5.0
17	17	33	58	60	65	255	106	60	90	6.8	4.0	4.5
18	17	32	60	60	60	246	90	60	80	6.6	4.0	4.5
19	18	32	64	60	60	230	80	60	75	7.0	4.0	4.5
20	19	31	66	60	60	221	70	247	70	6.0	4.0	4.5
21	20	31	56	60	60	204	53	183	261	6.0	4.5	20
22	21	30	51	60	60	198	56	818	208	5.5	4.5	10
23	23	30	62	60	60	186	69	529	132	6.5	4.5	8.0
24	30	31	61	60	150	215	67	398	91	6.0	4.5	6.5
25	25	31	61	60	300	216	59	249	63	5.5	4.5	5.0
26	24	32	60	60	180	209	52	268	43	5.5	4.5	10
27	23	32	63	60	100	190	64	5590	33	5.5	5.0	8.0
28	22	32	67	60	70	193	62	10800	27	7.0	6.0	7.0
29	21	33	78	60	---	188	62	6180	22	6.0	8.1	6.0
30	20	34	91	60	---	188	48	3520	18	5.0	5.8	5.0
31	20	---	98	60	---	184	---	1990	---	4.5	5.3	---
TOTAL	591	1044	1742	1901	2685	6419	3886	33086	10621	254.7	157.4	182.4
MEAN	19.1	34.8	56.2	61.3	95.9	207	130	1067	354	8.28	5.08	6.08
MAX	33	68	98	86	300	318	641	10800	1500	16	11	20
MIN	15	25	35	60	60	60	48	50	18	4.5	3.7	4.1
AC=FT	1170	2070	3460	3770	5330	12730	7710	65630	21070	509	312	362

CAL YR 1977 TOTAL 113764.4 MEAN 312 MAX 11700 MIN 9.0 AC=FT 225700
WTR YR 1978 TOTAL 62571.5 MEAN 171 MAX 10800 MIN 3.7 AC=FT 124100

ARKANSAS RIVER BASIN

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07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-61, 1964, 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1948 to September 1960, October 1969 to current year.

WATER TEMPERATURE: October 1948 to September 1960, October 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, 2,830 micromhos June 11, 1975; minimum daily, 223 micromhos

Aug. 16, 1973.

WATER TEMPERATURE: Maximum daily, 40.0°C July 9, 22, 1973; minimum, 0.0°C many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,520 micromhos May 14; minimum daily, 503 micromhos May 28.

WATER TEMPERATURE: Maximum daily, 29.0°C July 10; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM= FLOW, INSTAN- TANEDUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAH- BONATE (MG/L CACO3)
OCT										
04...	0915	16	997	8.4	15.0	--	--	--	480	280
09...	0935	18	911	8.4	12.0	--	--	--	430	280
20...	1200	19	750	8.7	18.0	2	15.8	174	--	--
28...	1035	22	1060	7.8	16.0	--	--	--	510	310
NOV										
03...	0900	40	868	8.2	10.0	--	--	--	370	210
17...	1030	33	1130	8.5	11.0	--	--	--	560	330
23...	1000	30	1180	8.5	7.0	7	12.0	102	--	--
30...	1025	34	1170	8.3	5.5	--	--	--	560	360
DEC										
01...	1035	37	1190	8.3	5.5	--	--	--	570	360
11...	1330	66	1560	8.4	5.5	--	--	--	630	450
11...	1430	68	1400	8.2	5.0	4	14.2	103	5	--
19...	1035	65	1970	8.3	5.0	--	--	--	720	520
19...	1130	65	1605	8.2	6.0	--	14.3	120	--	--
JAN										
07...	1040	118	1990	7.8	.5	--	--	--	660	460
21...	1045	155	2180	8.0	2.0	--	--	--	870	--
28...	1400	189	1810	8.0	2.0	--	--	--	680	--
30...	1430	208	1800	8.1	.0	4	14.8	106	6	--
FEB										
11...	1000	550	1940	8.3	5.0	--	--	--	670	470
15...	0945	522	1500	8.3	3.0	--	--	--	490	320
16...	0930	508	2010	7.8	-5	18	14.1	101	12	--
19...	1045	449	2380	7.9	.0	--	--	--	750	510
MAR										
05...	1040	137	1970	8.1	2.0	--	--	--	580	440
17...	0830	256	2110	8.4	6.0	0	12.0	99	18	--
17...	1015	256	2140	7.7	7.5	--	--	--	630	450
24...	0930	216	2290	8.0	10.0	--	--	--	670	500
APR										
03...	1120	178	1430	8.0	10.0	--	--	--	530	410
12...	1015	135	1930	7.6	10.0	--	--	--	630	460
14...	1130	133	2500	8.2	19.0	24	10.6	120	22	--
16...	0935	93	2430	8.2	17.5	--	--	--	720	560
MAY										
04...	1000	300	1540	7.5	11.0	--	--	--	590	430
11...	0910	80	2410	8.4	18.0	4	9.3	103	39	--
14...	0930	65	2520	7.4	20.0	--	--	--	660	490
28...	1045	11200	503	7.2	22.0	--	--	--	170	63

ARKANSAS RIVER BASIN

07228500 CANADIAN RIVER AT BRIDGEPORT, 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 (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...	1030	1400	1760	7.5	21.0	--	--	--	450	270
14...	0835	110	1400	7.5	22.0	--	--	--	370	210
14...	1030	110	1100	8.1	24.0	93	7.7	94	--	--
23...	1050	137	2090	7.4	22.5	--	--	--	490	310
JUL										
01...	0945	16	1420	8.3	22.5	--	--	--	490	340
07...	1015	10	2475	8.1	22.5	--	--	--	450	240
18...	1245	6.7	1310	8.4	29.0	7	8.5	115	--	--
24...	0915	6.7	820	7.8	24.0	--	--	--	340	240
AUG										
02...	0830	4.5	920	7.4	23.0	7	6.2	75	--	--
04...	0935	11	980	7.8	24.0	--	--	--	450	310
20...	0900	4.0	764	8.1	22.0	--	--	--	280	190
30...	0935	6.0	873	8.4	21.0	--	--	--	350	160
SEP										
01...	0900	5.0	734	8.2	20.5	--	--	--	300	150
17...	1030	4.5	900	7.7	26.5	--	--	--	340	190
20...	1145	4.5	1070	7.8	20.5	--	7.7	113	--	--
25...	0945	5.0	1190	7.8	19.0	--	--	--	580	420

ARKANSAS RIVER BASIN

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07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CAC03)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)
OCT										
04...	--	150	--	--	26	--	38	15	.8	--
09...	--	130	--	--	25	--	37	16	.8	--
20...	--	--	--	--	--	--	--	--	--	--
28...	--	160	--	--	28	--	36	13	.7	--
NOV										
03...	--	110	--	--	22	--	44	21	1.0	--
17...	--	170	--	--	32	--	47	15	.9	--
23...	89	--	223	17	--	--	--	--	--	--
30...	--	170	--	--	33	--	47	15	.9	--
DEC										
01...	--	170	--	--	35	--	49	16	.9	--
11...	--	180	--	--	45	--	100	25	1.7	--
11...	--	--	--	--	--	--	--	--	--	--
19...	--	190	--	--	59	--	170	34	2.8	--
19...	--	--	--	--	--	--	--	--	--	--
JAN										
07...	--	180	--	--	51	--	170	36	2.9	--
21...	--	250	--	--	60	--	160	28	2.4	--
28...	--	190	--	--	49	--	130	29	2.2	--
30...	150	--	375	37	--	155	--	--	--	4.9
FEB										
11...	--	180	--	--	53	--	180	37	3.0	--
15...	--	130	--	--	39	--	130	36	2.6	--
16...	--	--	--	--	--	--	--	--	--	--
19...	--	190	--	--	66	--	250	42	4.0	--
MAR										
05...	--	140	--	--	55	--	190	41	3.4	--
17...	118	--	295	40	--	--	--	--	--	--
17...	--	170	--	--	51	--	220	43	3.8	--
24...	--	170	--	--	60	--	240	43	4.0	--
APR										
03...	--	150	--	--	38	--	110	31	2.1	--
12...	--	160	--	--	56	--	210	42	3.6	--
14...	--	--	--	--	--	--	--	--	--	--
18...	--	180	--	--	66	--	260	43	4.2	--
MAY										
04...	--	160	--	--	46	--	120	30	2.2	--
11...	185	--	462	61	--	--	--	--	--	--
14...	--	160	--	--	63	--	310	50	5.3	--
28...	--	48	--	--	12	--	37	31	1.2	--
JUN										
06...	--	120	--	--	37	--	180	46	3.7	--
14...	--	99	--	--	31	--	140	44	3.1	--
14...	--	--	--	--	--	--	--	--	--	--
23...	--	130	--	--	41	--	230	50	4.5	--
JUL										
01...	--	140	--	--	34	--	59	21	1.2	--
07...	--	96	--	--	51	--	310	60	6.4	--
18...	140	--	350	37	--	85	--	--	--	5.5
24...	--	98	--	--	24	--	47	23	1.1	--
AUG										
02...	--	--	--	--	--	--	--	--	--	--
04...	--	140	--	--	25	--	33	14	.7	--
20...	--	79	--	--	21	--	44	25	1.1	--
30...	--	110	--	--	18	--	48	23	1.1	--
SEP										
01...	--	92	--	--	18	--	41	22	1.0	--
17...	--	100	--	--	22	--	53	25	1.3	--
20...	--	--	--	--	--	--	--	--	--	--
25...	--	180	--	--	32	--	38	12	.7	--

ARKANSAS RIVER BASIN

07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LINEITY (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, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG, C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG, C DIS- SOLVED (MG/L)
OCT										
04...	4.0	230	9	200	1.6	330	24	--	724	--
09...	3.6	170	6	150	1.2	330	24	--	656	--
20...	--	--	--	--	--	--	--	.4	--	763
28...	3.8	250	0	210	6.3	340	22	--	766	--
NOV										
03...	4.7	190	0	160	1.9	240	36	--	578	--
17...	3.4	240	15	220	1.4	370	31	--	618	--
23...	--	--	--	--	--	--	--	.5	--	--
30...	2.7	250	0	210	2.0	410	31	--	671	--
DEC										
01...	2.5	250	0	210	2.0	370	42	--	891	--
11...	4.3	230	0	190	1.5	440	130	--	1100	--
11...	--	--	--	--	--	--	--	.4	--	--
19...	6.6	240	0	200	1.9	500	280	--	1350	--
19...	--	--	--	--	--	--	--	--	--	--
JAN										
07...	7.1	240	0	200	6.1	460	260	--	1330	--
21...	6.9	--	--	--	--	570	230	--	1570	--
26...	5.5	--	--	--	--	460	190	--	1230	--
30...	--	--	--	--	--	--	--	.6	--	--
FEB										
11...	7.1	240	0	200	1.9	440	270	--	1270	--
15...	6.4	200	0	160	1.6	330	180	--	962	--
16...	--	--	--	--	--	--	--	.7	--	--
19...	8.9	290	0	240	5.8	540	350	--	1590	--
MAR										
05...	8.7	170	0	140	2.2	410	270	--	1280	--
17...	--	--	--	--	--	--	--	.9	--	--
17...	9.4	230	0	190	7.3	430	330	--	1380	--
24...	10	210	0	170	3.4	480	360	--	1500	--
APR										
03...	8.6	150	0	120	2.4	420	130	--	987	--
12...	11	210	0	170	8.4	460	280	--	1290	--
14...	--	--	--	--	--	--	--	.2	--	--
18...	12	200	0	160	2.0	570	360	--	1630	--
MAY										
04...	5.3	200	0	160	10	430	160	--	1060	--
11...	--	--	--	--	--	--	--	.8	--	--
14...	12	210	0	170	13	450	470	--	1620	--
28...	5.6	130	0	110	13	68	45	--	303	--
JUN										
06...	8.5	220	0	180	11	260	280	--	1090	--
14...	7.2	200	0	160	10	230	200	--	874	--
14...	--	--	--	--	--	--	--	.6	--	--
23...	10	220	0	180	14	280	380	--	1280	--
JUL										
01...	4.5	180	0	150	1.4	410	44	--	778	--
07...	5.9	260	0	210	3.3	23	620	--	1340	--
18...	--	--	--	--	--	--	--	.3	--	--
24...	4.5	130	0	110	3.3	270	36	--	581	--
AUG										
02...	--	--	--	--	--	--	--	.4	--	--
04...	5.7	170	0	140	4.3	360	18	--	726	--
20...	5.3	120	0	98	1.5	250	25	--	530	--
30...	5.0	210	8	190	1.4	240	30	--	604	--
SEP										
01...	4.2	190	0	160	1.9	200	19	--	488	--
17...	4.9	180	0	150	5.7	260	36	--	621	--
20...	--	--	--	--	--	--	--	--	--	--
25...	4.2	200	0	160	5.1	470	22	--	910	--

ARKANSAS RIVER BASIN

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07228500 CANADIAN RIVER AT BRIDGEPORT, 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										
04...	.98	31	--	--	--	--	--	--	--	--
09...	.89	31	--	--	--	--	--	--	--	--
20...	--	--	--	.50	--	--	1.9	2.4	11	.40
28...	1.04	45	--	--	--	--	--	--	--	--
NOV										
03...	.79	62	--	--	--	--	--	--	--	--
17...	1.11	72	--	--	--	--	--	--	--	--
23...	--	--	8	.90	--	--	--	2.2	--	.34
30...	1.18	80	--	--	--	--	--	--	--	--
DEC										
01...	1.21	89	--	--	--	--	--	--	--	--
11...	1.50	202	--	--	--	--	--	--	--	--
11...	--	--	20	1.0	--	--	2.0	3.0	13	.30
19...	1.64	237	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
JAN										
07...	1.81	424	--	--	--	--	--	--	--	--
21...	2.14	657	--	--	--	--	--	--	--	--
26...	1.67	628	--	--	--	--	--	--	--	--
30...	--	--	12	1.6	--	--	1.8	3.4	15	.18
FEB										
11...	1.73	1890	--	--	--	--	--	--	--	--
15...	1.31	1360	--	--	--	--	--	--	--	--
16...	--	--	48	1.4	--	--	1.8	3.2	14	.13
19...	2.16	1930	--	--	--	--	--	--	--	--
MAR										
05...	1.74	473	--	--	--	--	--	--	--	--
17...	--	--	53	.10	--	--	1.7	1.8	8.1	.18
17...	1.88	954	--	--	--	--	--	--	--	--
24...	2.04	875	--	--	--	--	--	--	--	--
APR										
03...	1.34	474	--	--	--	--	--	--	--	--
12...	1.75	470	--	--	--	--	--	--	--	--
14...	--	--	107	4.1	--	--	2.0	6.1	27	.21
18...	2.22	409	--	--	--	--	--	--	--	--
MAY										
04...	1.44	859	--	--	--	--	--	--	--	--
11...	--	--	251	<.10	--	--	3.3	3.3	--	.33
14...	2.20	284	--	--	--	--	--	--	--	--
28...	.41	9160	--	--	--	--	--	--	--	--
JUN										
06...	1.48	4120	786	.20	--	--	2.0	2.2	10	.64
14...	1.19	260	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
23...	1.74	473	--	--	--	--	--	--	--	--
JUL										
01...	1.06	33.6	--	--	--	--	--	--	--	--
07...	1.82	36.2	--	--	--	--	--	--	--	--
18...	--	--	25	.20	--	--	.96	1.1	5.1	7.0
24...	.79	10.5	--	--	--	--	--	--	--	--
AUG										
02...	--	--	11	<.10	--	--	2.4	2.4	--	.16
04...	.99	21.6	--	--	--	--	--	--	--	--
20...	.72	5.7	--	--	--	--	--	--	--	--
30...	.82	9.7	--	--	--	--	--	--	--	--
SEP										
01...	.66	6.5	--	--	--	--	--	--	--	--
17...	.84	7.5	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
25...	1.24	12.3	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHROMIUM, 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...	1200	--	--	--	--	--	--
NOV							
23...	1000	--	--	--	--	530	--
DEC							
11...	1430	--	--	--	--	--	--
JAN							
30...	1430	2	2	<5	6	350	26
MAR							
17...	0830	--	--	--	--	1390	--
APR							
14...	1130	--	--	--	--	--	--
MAY							
11...	0910	--	--	--	--	1650	--
JUN							
06...	1030	--	--	--	--	--	--
JUL							
18...	1245	--	2	11	5	690	25
AUG							
02...	0830	--	--	--	--	--	--

DATE	MANGANESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NT)	SELENIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, TOTAL ORGANIC (MG/L AS C)
OCT							
20...	--	--	--	--	--	--	5.0
NOV							
23...	30	--	--	--	--	--	--
DEC							
11...	--	--	--	--	--	--	3.0
JAN							
30...	30	<.5	42	<1	4	11	1.0
MAR							
17...	50	--	--	--	--	--	3.0
APR							
14...	--	--	--	--	--	--	11
MAY							
11...	310	--	--	--	--	--	13
JUN							
06...	--	--	--	--	--	--	22
JUL							
18...	120	<.5	6	<1	4	11	9.0
AUG							
02...	--	--	--	--	--	--	9.0

ARKANSAS RIVER BASIN

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07228500 CANADIAN RIVER AT BRIDGEPORT, 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	982	1010	1190	1910	1950	2120	2230	1730	1500	1420	912	734
2	974	1030	1260	1840	2040	2080	1440	1680	1600	1400	914	824
3	980	868	1340	1830	2070	2110	1430	1580	1800	1110	914	941
4	997	---	1370	1820	2030	2080	1440	1540	1790	1140	980	936
5	1010	946	1460	1830	2080	1970	1430	1420	1770	1220	980	811
6	980	988	1460	---	2120	2030	1560	1680	1760	1160	786	818
7	985	1080	1640	1990	1980	2030	1570	1720	1690	1070	779	817
8	913	1040	1640	1980	1900	2040	1790	1750	1680	1050	853	813
9	911	---	1740	1880	1900	2160	2010	1800	1690	1060	850	824
10	1060	---	1790	2030	1830	2270	2000	2270	1680	1060	864	798
11	1060	1160	1560	1960	1940	2230	1940	2280	1730	1050	869	800
12	1040	1160	1510	2140	1860	2280	1930	2460	1760	1030	863	792
13	1040	1160	1500	2060	1630	2280	2010	2470	1790	1020	863	779
14	1020	1160	1480	1970	---	2190	2020	2520	1400	947	858	805
15	1020	---	1600	1820	1500	2190	2260	2500	1560	950	861	804
16	1030	1160	---	1990	1990	2210	2260	2440	1920	1040	941	805
17	1040	1130	1700	1990	1740	2140	2320	2430	1920	1040	938	900
18	1040	1140	1720	2020	2180	1510	2430	2390	2060	1020	975	891
19	1030	1140	1970	2050	2380	2260	2340	2330	2030	1020	975	893
20	1030	1140	1910	2080	2330	2270	2280	---	1880	1020	764	774
21	1020	1150	1920	2180	2260	2270	2380	1710	1880	1030	765	770
22	1040	1150	1940	2040	2260	2260	2360	1680	1920	1020	764	774
23	985	1150	1960	1990	1570	2280	2260	1580	2090	823	772	770
24	968	---	---	1910	1560	2290	2080	1560	1710	820	773	1170
25	926	1140	1950	1860	1730	2150	2110	1630	1650	889	858	1190
26	931	1150	1930	1810	2080	2190	2130	1700	1510	888	864	1190
27	968	1130	1920	1840	2100	2210	1970	---	1510	1200	752	1180
28	1060	1140	1900	1840	2110	2260	1800	503	1510	1200	755	1000
29	---	1140	1930	1900	---	2270	1700	988	1510	847	876	1010
30	1060	1170	1880	1910	---	2200	1700	1380	1440	857	873	1000
31	988	---	1960	1930	---	2230	---	1460	---	858	736	---

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	20.0	16.0	5.5	.0	2.0	3.5	9.0	15.0	21.0	22.5	24.0	20.5
2	21.0	10.0	5.0	2.0	2.0	3.0	15.0	10.0	21.5	22.5	26.0	26.0
3	20.0	10.0	5.5	3.0	1.0	.0	20.0	10.0	19.0	22.5	27.0	24.5
4	15.0	---	5.5	2.0	.0	.0	17.0	11.0	18.5	22.5	24.0	25.0
5	16.0	10.0	5.0	4.0	2.0	2.0	15.0	10.0	19.0	22.5	21.0	25.0
6	16.0	16.0	5.0	---	2.5	5.0	---	16.0	21.0	22.5	26.0	25.0
7	15.0	16.0	5.0	.5	2.5	5.0	14.0	12.0	21.0	22.5	26.5	26.0
8	14.0	10.0	5.0	.5	.0	2.5	15.5	10.5	21.0	22.5	23.0	22.5
9	12.0	---	5.0	.5	.0	2.0	14.0	10.0	21.5	26.0	23.5	24.0
10	11.0	---	5.0	.0	2.0	4.5	10.0	16.0	20.0	29.0	23.0	25.5
11	9.5	9.0	5.5	1.0	.5	5.0	12.0	16.0	21.0	26.0	25.0	25.0
12	7.0	11.0	5.0	.0	3.0	7.0	15.0	10.0	22.0	22.5	24.0	27.0
13	8.0	15.0	5.5	2.0	.0	7.5	13.0	16.0	20.0	25.0	23.5	26.0
14	9.0	12.0	5.0	1.5	---	7.0	16.0	20.0	22.0	17.0	25.0	25.5
15	9.0	---	5.5	2.0	3.0	6.0	17.5	20.0	22.5	17.5	25.0	26.0
16	10.0	11.0	---	.0	1.0	6.0	17.0	17.0	21.5	25.0	24.0	24.5
17	11.0	11.0	5.5	1.5	1.5	7.5	18.0	18.0	21.0	25.5	16.5	26.5
18	11.0	9.0	5.5	.0	.0	9.0	17.5	19.0	22.5	25.5	22.0	25.0
19	12.0	13.0	5.0	.0	.0	11.0	16.0	20.0	21.0	26.0	20.0	25.0
20	14.0	5.0	5.0	.0	.0	10.0	15.0	---	24.5	24.5	22.0	20.0
21	15.0	10.0	5.0	2.0	.0	15.0	13.0	19.0	24.0	24.0	23.0	21.0
22	14.0	5.5	.5	2.0	1.0	14.0	14.0	21.0	22.0	26.0	23.5	19.0
23	10.0	5.5	5.0	3.0	2.0	15.0	15.0	22.0	22.5	26.0	24.0	19.5
24	13.0	---	---	2.0	2.0	10.0	15.5	22.5	22.5	24.0	24.0	20.0
25	5.0	5.5	5.0	4.0	3.0	9.0	17.0	23.0	22.5	25.0	25.0	19.0
26	14.0	5.5	.5	2.0	3.0	9.0	14.5	21.0	22.5	25.0	24.5	22.5
27	16.0	11.0	5.0	2.0	4.0	10.5	19.0	22.0	22.5	22.0	22.0	19.5
28	16.0	8.5	5.0	3.5	5.0	13.0	18.0	22.0	22.5	25.5	22.5	20.0
29	---	5.5	5.5	2.0	---	14.0	15.0	21.0	22.5	26.0	22.0	21.0
30	16.0	5.5	5.0	1.0	---	11.0	14.0	21.0	22.5	23.0	21.0	22.5
31	16.0	---	5.0	2.0	---	10.5	---	22.0	---	23.0	20.0	---

ARKANSAS RIVER BASIN

07229200 CANADIAN RIVER AT PURCELL, OK

LOCATION.--Lat 35°00'50", long 97°20'50", in NW¼ sec.7, T.6 N., R.1 W., McClain County, Hydrologic Unit 11090202, at bridge on U.S. Highway 77, 0.5 mi (0.8 km) east of Purcell, 1 mi (1.6 km) upstream from Walnut Creek, and at mile 184.9 (297.5 km).

DRAINAGE AREA.--25,939 mi² (67,182 km²) of which 4,801 mi² (12,434 km²) is probably noncontributing.

PERIOD OF RECORD.--Water years 1952-53, 1957-58, 1960-63, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1974 to September 1975.

WATER TEMPERATURE: May 1974 to September 1975.

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 (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS Ca)
NOV 01...	1330	950	8.4	20.0	10	12.0	136	33	--	--
DEC 06...	1330	900	8.5	1.5	15	15.0	109	23	439	117
JAN 04...	1030	1710	8.0	.0	1	13.8	97	22	--	--
FEB 09...	1530	1700	8.2	.0	10	14.3	101	12	552	145
MAR 15...	1155	2000	8.5	9.0	1	11.8	105	25	--	--
APR 07...	1200	1290	--	20.5	23	8.4	95	38	425	114
MAY 17...	1440	2310	8.4	22.5	0	10.6	126	35	--	--
JUN 06...	1415	910	7.9	24.0	18	7.0	85	57	422	115
JUL 06...	1545	1100	9.1	36.0	10	--	--	50	--	--
AUG 17...	1515	2100	9.4	33.0	37	15.4	217	84	198	47
SEP 14...	1300	960	10.4	28.5	5	19.7	263	52	--	--

DATE	CALCIUM DIS-SOLVED (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 DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
NOV 01...	--	--	--	--	211	69	--	640	--
DEC 06...	293	35	72	5.0	304	56	.5	--	38
JAN 04...	--	--	--	--	356	162	.6	--	25
FEB 09...	362	41	155	5.6	465	181	.5	--	17
MAR 15...	--	--	--	--	544	294	.8	--	140
APR 07...	285	32	130	13	279	170	.6	--	354
MAY 17...	--	--	--	--	579	398	1.1	--	91
JUN 06...	288	29	90	6.6	143	114	.3	--	972
JUL 06...	--	--	--	--	301	173	.7	--	26
AUG 17...	118	19	140	12	138	88	.3	--	56
SEP 14...	--	--	--	--	93	67	.8	--	2

07229200 CANADIAN RIVER AT PURCELL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07229300 WALNUT CREEK AT PURCELL, OK

LOCATION.--Lat 34°59'56", long 97°22'00", in NW¼NW¼ sec.13, T.6 N., R.2 W., McClain County, Hydrologic Unit 11090202, on downstream side of right bank pier of bridge on U.S. Highway 77, at south edge of Purcell, and at mile 1.0 (1.6 km).

DRAINAGE AREA.--202 mi² (523 km²).

PERIOD OF RECORD.--Water years 1951-55, 1958-65 (occasional low-flow measurements). October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,017.68 ft (310.189 m) Oklahoma State Highway Department datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--13 years, 47.8 ft³/s (1.354 m³/s), 34,630 acre-ft/yr (42.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,200 ft³/s (770 m³/s) May 23, 1975, gage height, 16.80 ft (5.121 m), from rating curve extended above 8,200 ft³/s (232 m³/s) on basis of slope-area measurement at peak; no flow at times in 1966-67.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

DATE	TIME	DISCHARGE		GAGE HEIGHT		DATE	TIME	DISCHARGE		GAGE HEIGHT	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
May 28	0300	*11,200	317	13.70	4.176	June 6	0900	3,790	107	10.15	3.094

Minimum daily discharge, 0.05 ft³/s (0.001 m³/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	.59	1.4	5.2	6.1	8.1	12	5.7	5.5	44	.74	.29	.20
2	.61	1.5	5.2	5.7	7.7	11	6.0	13	34	.78	.26	.20
3	.61	1.8	5.1	5.4	7.7	9.4	6.9	53	29	.74	.25	.20
4	.95	2.0	5.2	6.0	8.1	8.5	7.3	23	22	.72	.26	.18
5	.79	1.9	5.2	7.7	8.1	9.9	6.6	12	70	.68	.27	.17
6	.69	1.9	4.8	6.6	8.1	11	9.1	8.0	967	.66	.27	.17
7	.62	1.9	4.6	6.2	8.1	33	7.5	6.8	84	.65	.28	.17
8	.53	6.3	5.9	5.6	7.7	33	6.2	6.0	19	.63	.25	.16
9	.50	9.4	5.1	5.2	7.7	16	6.1	5.1	5.0	.61	.23	.25
10	.68	5.8	5.0	4.8	7.7	9.9	54	4.4	2.4	.54	.22	.61
11	.45	3.3	5.1	4.6	7.7	8.5	25	4.4	1.8	.56	.22	.40
12	.47	2.5	6.5	4.5	6.0	7.3	11	4.5	1.6	.55	.19	.34
13	.51	2.1	6.7	8.5	83	6.9	6.5	4.1	1.4	.53	.15	.30
14	.48	2.3	5.9	9.0	29	6.6	5.6	3.7	1.5	.52	.13	.27
15	.76	2.4	5.5	13	26	6.0	5.2	3.5	1.4	.58	.11	.28
16	1.5	2.5	5.1	13	14	6.3	5.3	3.3	1.1	.56	.09	.26
17	.57	2.6	4.8	12	12	6.3	5.6	3.4	1.1	.55	.08	.25
18	.54	2.3	4.7	10	10	6.0	5.5	3.7	1.1	.53	.05	.24
19	.53	2.5	4.7	9.0	8.0	5.7	5.0	4.0	1.3	.45	.06	.21
20	.53	2.7	4.9	8.0	9.0	6.0	4.8	12	1.1	.44	.39	.22
21	.51	2.7	4.3	7.0	9.0	6.3	5.0	275	6.5	.41	.33	.28
22	2.1	2.6	4.4	7.2	9.0	6.0	5.3	145	64	4.8	.31	.32
23	8.4	2.7	5.8	8.0	10	7.7	5.2	19	1.6	1.1	.26	.31
24	3.7	3.5	5.6	9.0	10	9.0	5.0	6.1	1.1	.66	.23	.32
25	2.3	4.3	5.3	10	10	8.1	4.8	3.5	1.0	.58	.21	.33
26	1.5	3.6	4.8	11	10	6.6	4.8	95	.85	.50	.20	.34
27	1.1	3.7	5.1	11	11	6.0	4.8	913	.80	9.3	.18	.35
28	1.0	4.0	6.0	11	12	5.7	6.5	3550	.78	.55	.20	.35
29	.98	5.2	6.2	9.5	---	6.0	6.7	257	.76	.46	.16	.37
30	1.1	5.2	6.5	8.5	---	6.3	5.8	96	.76	.37	.17	.35
31	1.2	---	6.6	8.1	---	6.0	---	60	---	.33	.20	---
TOTAL	36.60	96.6	165.8	251.2	418.7	293.0	248.8	5603.0	1367.95	31.12	7.32	8.40
MEAN	1.18	3.22	5.35	8.10	15.0	9.45	8.29	181	45.6	1.00	.24	.28
MAX	8.4	9.4	6.7	13	83	33	54	3550	967	9.3	.86	.61
MIN	.45	1.4	4.3	4.5	7.7	5.7	4.8	3.3	.76	.33	.05	.16
AC-FT	73	192	329	498	830	581	493	11110	2710	62	15	17

CAL YR 1977 TOTAL 7906.02 MEAN 21.7 MAX 1600 MIN .16 AC-FT 15680
WTR YR 1978 TOTAL 8528.49 MEAN 23.4 MAX 3550 MIN .05 AC-FT 16920

ARKANSAS RIVER BASIN

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07229900 LAKE THUNDERBIRD NEAR NORMAN, OK

LOCATION.--Lat 35°13'15", long 97°13'05", in NW¼SE¼ sec.29, T.9 N., R.1 E., Cleveland County, Hydrologic Unit 11090203, near center of dam on Little River, just downstream from Hog Creek and 13 mi (20.9 km) east of Norman, and at mile 96.4 (111.1 km).

DRAINAGE AREA.--256 mi² (663 km²).

RESERVOIR CONTENTS RECORDS

PERIOD OF RECORD.--March 1965 to current year.

GAGE.--Nonrecording gage at outlet structure and at pump house. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by an earth dam. Regulated storage began Mar. 1, 1965; minimum conservation pool first filled September 1965. Capacity, 196,200 acre-ft (242 hm³) at elevation 1,049.4 ft (319.86 m), crest of drop inlet; 119,600 acre-ft (147 hm³) at elevation 1,039.0 ft (316.687 m), top of conservation pool; 13,640 acre-ft (16.8 hm³) at elevation 1,010.0 ft (307.848 m), minimum conservation pool. Dead storage, 1,200 acre-ft (1.48 hm³) below elevation 997.0 ft (303.886 m), sill of gated outlet. Figures given herein represent total contents. Reservoir is used for flood control, irrigation (inactive), and municipal water supplies diverted to Del City, Midwest City, and Norman.

COOPERATION.--Elevations and data on diversions furnished by Central Oklahoma Master Conservancy District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 147,100 acre-ft (181 hm³) May 30, 1975, elevation, 1,043.20 ft (317.967 m), minimum since conservation pool first reached 15,370 acre-ft (19.0 hm³) Nov. 30, 1965, elevation, 1,011.0 ft (308.153 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 105,200 acre-ft (130 hm³) June 23, elevation, 1,036.52 ft (315.931 m); minimum, 91,850 acre-ft (113 hm³) Feb. 6, elevation, 1,034.02 ft (315.169 m).

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30	1,035.29	98,400	--	--
Oct. 31	1,034.81	95,800	-2,600	1,007
Nov. 30	1,034.50	94,250	-1,550	568
Dec. 31	1,034.20	92,750	-1,500	458
CAL YR 77	--	--	-11,850	10,932
Jan 31	1,034.05	92,000	-750	789
Feb. 28	1,034.47	94,100	+2,100	639
Mar. 31	1,034.47	94,100	0	883
Apr. 30	1,034.19	92,700	-1,400	1,073
May 31	1,036.10	102,800	+10,100	1,046
June 30	1,036.35	104,200	+1,400	885
July 31	1,035.53	99,720	-4,480	1,604
Aug. 31	1,034.75	95,500	-4,220	1,371
Sept. 30	1,034.07	92,000	-3,500	1,284
WTR YR 78	--	--	-6,400	11,607

ARKANSAS RIVER BASIN

07229900 LAKE THUNDERBIRD NEAR NORMAN, OK--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	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)	HARD- NESS (MG/L AS CACU3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACU3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 05...	1215	97460	414	8.0	23.0	2	8.8	105	180	3	29	25
NOV 01...	0930	95890	440	8.3	19.0	--	8.9	100	180	11	29	27
DEC 06...	1100	94020	435	8.3	7.5	--	14.5	122	190	6	30	27
JAN 04...	1145	92520	474	8.2	4.5	--	13.0	103	200	20	34	28
FEB 22...	1550	94080	470	8.4	1.5	--	--	--	190	20	31	28
MAR 15...	1340	94700	740	8.3	5.5	--	12.5	102	200	15	32	28
APR 07...	1330	94230	435	--	16.5	--	8.0	84	--	--	--	--
MAY 17...	1335	93040	440	8.2	19.0	--	7.8	88	180	4	31	26
JUN 06...	1600	103500	475	8.3	25.0	--	7.9	98	180	16	31	25
JUL 06...	1730	103500	520	8.3	30.0	--	--	--	180	11	32	25
AUG 17...	2031	97780	510	7.7	27.5	--	6.7	67	180	11	29	25
SEP 13...	0945	94440	480	8.1	25.5	--	5.2	66	180	16	31	25

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SURP- 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 CACU3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT 05...	20	19	.7	5.0	210	0	170	3.4	8.7	35	231	.31
NOV 01...	21	19	.7	5.1	210	0	170	1.7	11	34	224	.30
DEC 06...	21	19	.7	5.8	220	0	180	1.8	10	28	349	.47
JAN 04...	22	19	.7	5.2	220	0	180	2.2	12	34	268	.36
FEB 22...	20	18	.6	4.3	210	0	170	1.3	15	32	242	.33
MAR 15...	21	18	.7	5.4	220	0	180	1.8	9.3	32	271	.37
APR 07...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 17...	21	19	.7	4.7	220	0	180	2.2	12	31	241	.33
JUN 06...	20	19	.6	4.8	200	0	160	1.6	12	37	229	.31
JUL 06...	21	20	.7	4.5	210	0	170	1.7	12	34	233	.32
AUG 17...	22	21	.7	5.3	200	0	160	6.4	10	34	232	.32
SEP 13...	21	20	.7	4.6	200	0	160	2.5	11	34	241	.33

ARKANSAS RIVER BASIN

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07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD, NEAR NORMAN, OK

LOCATION.--Lat 35°13'14", long 97°13'00", in NE¼SE¼ sec.29, T.9 N., R.1 E., Cleveland County, Hydrologic Unit 11090203, at right bank of outlet channel, 170 ft (51.8 m) upstream from State Highway 9, 1,200 ft (365.8 m) downstream from Lake Thunderbird, 1.0 mi (1.6 km) upstream from Prairie Creek, 13.0 mi (20.9 km) east of Norman, and at mile 96.2 (154.8 km).

DRAINAGE AREA.--257 mi² (666 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1964, published as Little River below Hog Creek near Norman.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 965.62 ft (294.321 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 28, 1956, nonrecording gage 800 ft (243.8 m) downstream at same datum. Nov. 28, 1956, to Oct. 14, 1964, water-stage recorder at site 800 ft (243.8 m) downstream at same datum. Oct. 15, 1964, to Sept. 1, 1965, nonrecording gage at site 170 ft (51.8 m) downstream at same datum.

REMARKS.--Records good. Flow regulated by Lake Thunderbird since March 1965 (station 07229900). In prior years occasional small diversions above station for irrigation.

AVERAGE DISCHARGE.--(Prior to regulation by Lake Thunderbird) 12 years (water years 1952-64), 58.9 ft³/s (1.668 m³/s), 42,640 acre-ft/yr (52.6 hm³/yr); (after regulation by Lake Thunderbird) 13 years, (water years 1966-78), 16.4 ft³/s (0.464 m³/s), 11,880 acre-ft/yr (14.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,600 ft³/s (980 m³/s) May 25, 1957, gage height, 28.85 ft (8.793 m), from high-water mark, at site then in use, from rating curve extended above 15,000 ft³/s (425 m³/s); no flow at times in 1954-56, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12 ft³/s (0.34 m³/s) May 27, gage height, 3.62 ft (1.103 m); minimum daily, 0.43 ft³/s (0.012 m³/s) Jan. 8 and May 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	.53	.61	.45	.45	.45	.45	.49	.55	.54	.51	.53	.50
2	.53	.61	.48	.45	.45	.45	.49	.64	.54	.57	.53	.49
3	.53	.59	.49	.45	.45	.45	.50	.67	.54	.50	.53	.49
4	.57	.54	.53	.45	.45	.45	.49	.53	.54	.50	.55	.47
5	.56	.53	.48	.45	.45	.45	.52	.53	.64	.50	.53	.46
6	.53	.53	.45	.45	.45	.45	.50	.53	1.1	.49	.53	.47
7	.53	.53	.45	.45	.47	.71	.47	.53	.54	.50	.53	.47
8	.50	.64	.48	.43	.46	.50	.47	.53	.54	.49	.53	.48
9	.53	.46	.45	.45	.47	.45	.51	.53	.54	.49	.53	.71
10	.51	.45	.45	.45	.45	.45	.54	.53	.53	.52	.54	.50
11	.47	.45	.45	.47	.45	.46	.48	.53	.51	.53	.53	.49
12	.51	.48	.49	.45	1.1	.45	.49	.50	.51	.53	.55	.48
13	.53	.49	.47	.45	.47	.46	.53	.45	.52	.51	.54	.49
14	.51	.51	.46	.45	.45	.48	.49	.45	.53	.51	.53	.45
15	.49	.52	.49	.46	.45	.48	.47	.45	.51	.54	.53	.45
16	.53	.52	.48	.54	.48	.45	.50	.45	.50	.53	.53	.45
17	.53	.48	.45	.45	.50	.45	.50	.55	.49	.51	.49	.45
18	.53	.50	.45	.47	.45	.45	.45	.43	.54	.50	.45	.45
19	.53	.53	.45	.45	.45	.53	.45	.45	.54	.51	.57	.45
20	.53	.48	.44	.45	.44	.53	.48	.54	.50	.49	.50	.58
21	.56	.46	.44	.45	.44	.48	.48	.73	.89	.48	.49	.80
22	.71	.53	.45	.45	.45	.45	.49	.54	.64	.52	.49	.81
23	.72	.53	.45	.45	.45	.55	.48	.45	.54	.53	.48	.87
24	.53	.51	.45	.45	.48	.46	.49	.45	.51	.53	.48	.76
25	.65	.47	.45	.47	.45	.45	.52	.44	.49	.58	.48	.53
26	.69	.50	.45	.45	.45	.45	.53	.58	.49	.60	.49	.53
27	.68	.47	.45	.45	.48	.45	.49	1.3	.50	.58	.49	.53
28	.61	.48	.45	.45	.49	.47	.52	2.1	.51	.56	.48	.53
29	.61	.46	.52	.45	---	.45	.53	.54	.53	.51	.48	.53
30	.61	.51	.47	.45	---	.52	.55	.54	.54	.51	.48	.53
31	.61	---	.47	.45	---	.49	---	.54	---	.64	.49	---
TOTAL	17.46	15.37	14.39	14.09	13.48	14.77	14.90	18.58	16.84	16.27	15.88	16.20
MEAN	.56	.51	.46	.45	.48	.48	.50	.60	.56	.52	.51	.54
MAX	.72	.64	.53	.54	1.1	.71	.55	2.1	1.1	.64	.57	.87
MIN	.47	.45	.44	.43	.44	.45	.45	.43	.49	.48	.45	.45
AC=FT	35	30	29	28	27	29	30	37	33	32	31	32

CAL YR 1977 TOTAL 199.89 MEAN .55 MAX 2.0 MIN .44 AC=FT 396
WTR YR 1978 TOTAL 188.23 MEAN .52 MAX 2.1 MIN .43 AC=FT 373

ARKANSAS RIVER BASIN

07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD NEAR NORMAN, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953-65, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1953 to September 1964.

WATER TEMPERATURE: October 1953 to September 1964.

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)	COLOR (PLAT- INUM- COHLY UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL)
OCT											
05...	1130	.64	600	7.2	18.5	--	7	6.6	72	3	--
NOV											
01...	1045	.64	655	8.3	19.0	--	4	8.4	94	6	--
DEC											
06...	0900	.45	925	8.4	3.5	--	2	12.2	92	10	--
JAN											
04...	1230	.45	820	7.5	5.5	--	2	11.0	89	7	--
FEB											
22...	1930	.45	768	7.8	7.0	--	2	--	--	17	--
MAR											
15...	1300	.45	751	7.8	10.0	--	0	10.4	94	10	--
APR											
07...	1300	.45	680	--	21.0	--	25	8.3	95	14	--
MAY											
17...	1240	.64	680	7.4	20.5	34	0	7.0	80	14	--
JUN											
06...	1930	1.1	670	7.5	26.0	--	12	6.3	80	11	--
JUL											
06...	1700	.45	850	7.5	33.5	--	9	--	--	9	--
AUG											
17...	2000	.45	785	7.8	29.0	--	4	7.3	97	8	16

DATE	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)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT										
05...	267	65	165	24	75	2.4	38	81	.2	459
NOV										
01...	--	--	--	--	--	--	27	79	--	396
DEC										
06...	276	62	157	28	68	1.9	35	84	.6	--
JAN										
04...	--	--	--	--	--	--	32	88	.2	--
FEB										
22...	234	51	130	24	70	2.2	39	78	.2	--
MAR										
15...	--	--	--	--	--	--	38	81	.2	--
APR										
07...	211	46	116	22	60	2.1	28	69	.2	--
MAY										
17...	--	--	--	--	--	--	--	77	.4	--
JUN										
06...	200	44	111	21	56	2.2	21	65	.1	--
JUL										
06...	--	--	--	--	--	--	33	90	.3	--
AUG										
17...	253	54	136	26	88	6.1	31	83	.1	--

ARKANSAS RIVER BASIN

321

07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD NEAR NORMAN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, RESIDUE AT 105 DEG, C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (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)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
OCT 05...	--	<.10	--	1.0	1.0	--	.02	--	--	--
NOV 01...	--	.01	--	2.1	2.1	9.7	.12	--	--	--
DEC 06...	8	<.10	--	.90	.90	--	.02	--	--	--
JAN 04...	7	.40	--	1.2	1.6	7.4	.04	--	--	--
FEB 22...	2	.60	--	.71	1.3	5.8	3.0	1	1	16
MAR 15...	36	<.10	--	1.2	1.2	--	4.0	--	--	--
APR 07...	74	.20	--	3.3	3.5	16	8.0	--	--	--
MAY 17...	52	<.10	--	1.6	1.6	--	5.5	--	--	--
JUN 06...	48	<.10	--	.93	.93	--	6.5	--	--	--
JUL 06...	12	.10	--	1.5	1.6	7.2	.12	--	--	--
AUG 17...	14	.10	1.7	1.1	1.8	5.4	7.0	<1	<1	11
DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 05...	--	900	--	650	--	--	--	--	--	2.0
NOV 01...	--	--	--	--	--	--	--	--	--	8.0
DEC 06...	--	830	--	710	--	--	--	--	--	--
JAN 04...	--	--	--	--	--	--	--	--	--	1.0
FEB 22...	3	770	13	940	<.5	15	<1	<2	1060	1.0
MAR 15...	--	--	--	--	--	--	--	--	--	1.0
APR 07...	--	1760	--	910	--	--	--	--	--	4.0
MAY 17...	--	--	--	--	--	--	--	--	--	<2.0
JUN 06...	--	800	--	440	--	--	--	--	--	9.0
JUL 06...	--	--	--	--	--	--	--	--	--	5.0
AUG 17...	12	580	13	180	<.5	<5	<1	2	7	50

ARKANSAS RIVER BASIN

07230500 LITTLE RIVER NEAR TECUMSEH, OK

LOCATION.--Lat 35°10'25", long 96°55'55", near northwest corner sec.18, T.8 N., R.4 E., Pottawatomie County, Hydrologic Unit 11090203, on downstream side of center pier of bridge on U.S. Highway 177, 1.5 mi (2.4 km) downstream from Dance Creek, 5.0 mi (8.0 km) south of Tecumseh, and at mile 77.2 (124.2 km).

DRAINAGE AREA.--456 mi² (1,181 km²).

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 898.52 ft (273.869 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records fair. Flow regulated or diverted since 1965 by Lake Thunderbird, 19.2 mi (30.9 km) upstream (station 07229900).

AVERAGE DISCHARGE.--(prior to regulation by Lake Thunderbird) 21 years (water years 1944-64), 149 ft³/s (4.22 m³/s), 107,900 acre-ft/yr (133.0 hm³/yr); (since regulation by Lake Thunderbird) 14 years (water years 1965-78), 75.1 ft³/s (2.127 m³/s), 54,410 acre-ft/yr (67.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,400 ft³/s (918 m³/s) May 25, 1957, gage height, 18.84 ft (5.742 m); maximum gage height, 19.68 ft (5.998 m) May 18, 1949; no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1932 reached a stage of 25.58 ft (7.797 m), from flood mark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,580 ft³/s (158 m³/s) May 28, gage height, 15.04 ft (4.584 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	.00	3.7	5.2	7.5	5.1	7.2	15	89	7.5	.00	.00
2	.00	.00	3.4	4.4	7.5	5.1	7.3	13	81	6.9	.00	.00
3	.00	.00	3.3	5.3	7.5	4.3	7.7	131	77	6.6	.00	.00
4	.00	.00	3.8	6.0	7.5	3.5	8.5	29	47	5.8	.00	.00
5	1.0	.00	4.2	6.5	7.5	3.6	8.4	19	48	5.0	.00	.00
6	1.7	.00	3.3	6.4	7.5	4.3	11	15	902	4.5	.00	.00
7	1.5	1.0	3.4	5.7	7.5	188	10	35	247	4.0	.00	.00
8	1.2	12	3.9	4.8	7.5	110	8.4	16	189	3.8	.00	.00
9	.26	9.9	3.2	4.5	7.5	25	8.1	9.5	60	3.3	.00	20
10	.00	4.3	3.5	4.6	7.5	16	13	8.0	42	2.9	.00	8.3
11	.00	2.6	3.9	4.8	7.5	14	15	8.0	35	2.6	.00	3.5
12	.00	2.4	5.0	4.9	20	11	9.7	6.8	29	1.8	.00	1.5
13	.00	2.3	5.1	5.0	100	10	8.6	5.1	27	1.3	.00	.78
14	.00	2.3	4.4	5.0	60	9.2	7.4	4.5	26	1.0	.00	.00
15	.00	2.4	3.9	5.0	19	8.1	6.8	4.5	24	.60	.00	.00
16	.00	2.7	4.0	5.0	9.0	7.6	6.8	4.1	22	.35	.00	.00
17	.00	2.3	3.6	5.0	7.0	6.4	7.3	9.9	21	.18	.00	.00
18	.00	2.8	3.4	5.5	9.0	6.2	6.4	10	63	.00	.00	.00
19	.00	1.9	4.1	5.5	7.0	5.6	4.9	6.6	38	.00	.00	.00
20	.00	2.3	3.6	5.5	6.0	28	5.0	8.7	23	.00	.00	.00
21	.20	2.2	2.9	6.0	5.0	62	5.4	448	1090	.00	.00	.00
22	.50	1.8	3.6	6.0	4.3	18	6.5	60	874	.00	.00	.00
23	.30	2.3	4.5	6.0	6.9	18	6.7	18	164	.00	.00	.00
24	.15	2.8	4.7	6.5	8.2	48	5.4	7.9	63	.04	.00	.00
25	.00	4.8	4.2	6.5	6.1	18	4.7	4.8	30	.00	.00	.17
26	.00	2.7	3.7	7.3	4.4	13	4.4	73	17	.20	.00	.00
27	.00	2.4	4.0	7.5	4.3	11	4.5	437	13	.00	.00	.00
28	.00	2.8	5.2	7.5	5.8	9.7	5.0	3130	11	.00	.00	.00
29	.00	3.9	5.8	7.5	---	8.9	9.2	424	9.6	.00	.00	.00
30	.00	3.7	6.1	7.5	---	8.6	6.0	190	8.3	.00	.00	.00
31	.00	---	5.8	7.5	---	7.7	---	111	---	.00	.00	---
TOTAL	6.81	80.60	127.2	180.4	364.5	693.9	225.3	5262.4	4369.9	58.37	.00	34.25
MEAN	.22	2.69	4.10	5.82	13.0	22.4	7.31	170	146	1.88	.000	1.14
MAX	1.7	12	6.1	7.5	100	188	15	3130	1090	7.5	.00	20
MIN	.00	.00	2.9	4.4	4.3	3.5	4.4	4.1	8.3	.00	.00	.00
AC-FT	14	160	252	358	723	1380	447	10440	8670	116	.00	68

CAL YR 1977 TOTAL 7793.01 MEAN 21.4 MAX 2550 MIN .00 AC-FT 15460
WTR YR 1978 TOTAL 11403.63 MEAN 31.2 MAX 3130 MIN .00 AC-FT 22620

ARKANSAS RIVER BASIN

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07231000 LITTLE RIVER NEAR SASAKWA, OK

LOCATION.--Lat 34°59'02", long 96°33'01", in NE¼ sec.22, T.6 N., R.7 W., Seminole County, Hydrologic Unit 11090203, near left abutment on downstream side of county road bridge, 2.8 mi (4.5 km) northwest of Sasakwa, 8.7 mi (14.0 km) downstream from Salt Creek, and at mile 24.1 (38.8 km).

DRAINAGE AREA.--865 mi² (2,240 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 749.21 ft (228.359 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Apr. 11, 1946, nonrecording gage at same site and datum.

REMARKS.--Records good prior to August and poor thereafter. Flow regulated by Lake Thunderbird 72.3 mi (116.3 km) upstream since March 1965 (station 07229900).

AVERAGE DISCHARGE.--(Prior to regulation by Lake Thunderbird) 23 years (water years 1943-65), 398 ft³/s (11.27 m³/s), 288,400 acre-ft/yr (356 hm³/yr); (Since regulation by Lake Thunderbird) 13 years (water years 1966-78), 254 ft³/s (7.193 m³/s), 184,000 acre-ft/yr (227 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,600 ft³/s (1,260 m³/s) May 11, 1950, gage height, 33.48 ft (10.205 m); no flow at times most years after 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,680 ft³/s (161 m³/s) at 0715 May 28, gage height, 16.17 ft (4.929 m), no other peaks above base of 5,000 ft³/s (142 m³/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	.46	.46	5.6	4.1	9.1	23	32	355	700	44	1.8	.00
2	.40	.62	4.4	3.9	8.2	22	28	192	1050	36	1.2	.00
3	.40	.51	3.7	4.5	8.6	20	25	1970	1110	30	1.3	.00
4	.40	.57	3.5	4.8	7.7	18	43	755	577	25	2.5	.00
5	.52	.52	4.0	4.8	8.2	15	38	563	322	21	2.7	.00
6	.52	.55	3.4	4.5	8.6	14	32	456	1190	18	1.8	.00
7	.67	.34	3.2	3.9	8.6	184	29	330	1560	14	1.2	.00
8	.61	2.3	3.2	3.1	10	635	27	247	1720	11	1.0	.00
9	.49	2.9	3.1	2.5	8.2	372	36	190	884	9.6	.70	.10
10	.37	.78	2.7	2.5	10	197	1260	124	451	7.2	.55	.20
11	.36	2.2	2.5	2.4	8.6	115	493	88	261	6.4	.47	.08
12	.36	7.1	2.7	2.5	87	80	214	70	163	5.3	.42	.02
13	.35	6.9	2.9	2.4	354	63	141	55	112	4.3	.38	.00
14	.32	4.9	2.9	2.0	242	52	96	43	84	3.9	.35	.00
15	.32	3.8	2.9	1.8	187	44	70	38	65	3.9	.33	.00
16	.32	2.9	3.5	2.4	104	38	58	32	52	3.5	.32	.00
17	.32	2.1	3.3	2.2	67	32	52	29	42	3.3	.30	.00
18	.32	2.0	3.1	2.2	96	29	45	50	207	2.5	.28	.00
19	.32	1.6	2.9	2.2	58	25	36	61	339	2.0	.26	.00
20	.32	1.5	2.9	3.1	53	474	31	42	141	1.9	.24	.00
21	.32	1.2	2.7	3.9	48	1540	26	1040	469	1.8	.21	.00
22	.45	1.2	2.5	3.5	46	313	24	1600	1770	1.6	.18	.00
23	1.6	2.0	2.2	3.3	48	308	59	750	1260	1.6	.15	.00
24	.87	1.8	1.6	4.5	71	767	74	361	969	1.6	.13	.00
25	.49	1.5	.82	5.8	76	332	33	205	518	1.6	.10	.00
26	.36	1.5	2.7	4.8	50	177	23	294	263	1.6	.08	.00
27	.32	1.4	2.5	6.7	35	105	18	454	154	1.6	.03	.00
28	.39	1.6	2.5	6.4	27	72	18	4180	97	1.6	.00	.00
29	.40	1.9	2.9	6.4	---	55	383	1850	69	1.8	.00	.00
30	.45	6.2	3.5	8.2	---	43	1280	1510	54	2.4	.00	.00
31	.51	---	4.1	9.1	---	37	---	1190	---	1.4	.00	---
TOTAL	14.31	64.85	94.42	124.4	1744.8	6201	4724	19124	16653	271.4	18.98	.40
MEAN	.46	2.16	3.05	4.01	62.3	200	157	617	555	8.75	.61	.013
MAX	1.6	7.1	5.6	9.1	354	1540	1280	4180	1770	44	2.7	.20
MIN	.32	.34	.82	1.8	7.7	14	18	29	42	1.4	.00	.00
AC-FT	28	129	187	247	3460	12300	9370	37930	33030	538	38	.8

CAL YR 1977 TOTAL 41663.49 MEAN 114 MAX 4390 MIN .32 AC-FT 82640
WTR YR 1978 TOTAL 49035.56 MEAN 134 MAX 4180 MIN .00 AC-FT 97260

ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1955 to current year.

WATER TEMPERATURE: October 1955 to current year.

REMARKS.--Samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples at or near 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.

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, 138,000 micromhos Oct. 31, 1956; minimum daily, 118 micromhos Sept. 11, 1977.

WATER TEMPERATURE: Maximum daily, 38.5°C July 13, 1978; minimum, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,470 micromhos Aug. 5; minimum daily, 159 micromhos Jan. 21.

WATER TEMPERATURE: Maximum daily, 38.5°C July 13; minimum daily, 0.5°C Jan. 18-21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM= FLOW, INSTAN= TANEUS (CFS)	SPE= CIFIC CON= DUCT= ANCE (MICRO= MHOS)	PH (UNITS)	TEMPER= ATURE (DEG C)	TUN= BID= ITY (JTU)	OXYGEN, DIS= SOLVED (MG/L)	OXYGEN, DEMAND, CHEM= ICAL (LOW LEVEL) (MG/L)	HARD= NESS (MG/L AS CaCO3)	HARD= NESS, NONCAR= BONATE (MG/L CaCO3)
OCT										
05...	1630	.52	2060	8.0	22.0	--	--	--	370	180
06...	1415	.52	1500	8.2	22.0	17	9.0	105	--	--
14...	1705	.32	1790	8.0	21.5	--	--	--	370	200
24...	1830	.64	1360	7.9	23.5	--	--	--	300	110
NOV										
03...	1250	.36	1375	8.0	19.0	9	10.4	114	20	--
05...	1442	.52	1540	8.1	18.0	--	--	--	310	93
15...	1600	3.7	2780	7.9	19.0	--	--	--	500	310
25...	1500	1.4	2860	7.9	16.0	--	--	--	590	360
DEC										
05...	1630	4.1	2980	8.1	8.0	--	--	--	570	370
08...	1330	3.2	1830	--	10.0	6	11.8	108	21	--
15...	1626	2.9	2630	8.1	12.5	--	--	--	510	250
25...	1600	.82	2840	8.1	8.0	--	--	--	520	280
JAN										
04...	1715	4.8	2690	8.0	6.0	--	--	--	500	240
05...	1030	4.8	2640	8.0	4.5	7	12.8	100	44	--
20...	1245	3.1	2620	7.8	.5	--	--	--	510	240
30...	1651	8.2	2880	8.0	1.0	--	--	--	550	300
FEB										
05...	1624	8.2	2150	8.0	4.5	--	--	--	420	160
08...	1400	14	1890	7.9	1.0	10	13.0	93	6	--
14...	1520	253	1210	8.1	2.5	--	--	--	210	95
22...	1115	37	1090	8.0	2.0	--	--	--	250	98
MAR										
05...	1626	14	1760	8.1	9.5	--	--	--	390	220
09...	1245	359	560	7.8	6.0	2150	12.2	99	82	--
15...	1447	43	1580	8.0	10.5	--	--	--	330	160
25...	1830	253	737	7.5	11.5	--	--	--	170	70
APR										
05...	1250	38	3330	8.0	22.0	--	--	--	600	380
07...	1200	30	3300	8.4	22.0	3	9.6	112	18	--
15...	1715	66	1790	7.8	24.5	--	--	--	350	170
25...	1530	29	1680	8.2	23.5	--	--	--	390	190
MAY										
04...	1345	711	683	7.9	12.5	63	9.6	93	64	--
05...	1508	582	782	7.7	15.0	--	--	--	--	--
15...	1635	33	2120	7.9	29.5	--	--	--	470	260
25...	0830	220	985	7.5	27.0	--	--	--	230	78
JUN										
05...	1730	280	988	7.9	25.0	--	--	--	230	85

ARKANSAS RIVER BASIN

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07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM= FLOW, INSTAN- TANEDUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)
JUN										
09...	1130	901	585	7.8	23.5	200	6.8	81	43	--
15...	2100	59	1840	7.9	30.0	--	--	--	--	170
25...	1653	419	605	7.3	32.5	--	--	--	--	47
JUL										
05...	1813	18	1430	8.1	33.5	--	--	--	--	490
07...	1230	14	2100	7.7	29.5	17	--	--	21	--
15...	1753	3.5	1998	8.1	38.0	--	--	--	--	160
25...	1650	1.4	2680	8.1	35.5	--	--	--	--	250
AUG										
05...	1456	2.5	4470	8.1	30.0	--	--	--	--	590
15...	1642	82	2740	8.1	32.0	--	--	--	--	200
16...	1515	1.9	3000	8.0	30.5	--	8.6	116	--	--
SEP										
05...	1707	.88	2150	7.7	31.0	--	--	--	--	360
15...	1848	.88	1990	8.0	30.5	--	--	--	--	--
25...	1707	.82	2070	7.8	27.0	--	--	--	--	90

ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CaCO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)
OCT										
05...	--	89	--	--	36	--	270	61	6.1	--
06...	--	--	--	--	--	--	--	--	--	--
14...	--	88	--	--	36	--	230	57	5.2	--
24...	--	69	--	--	32	--	160	53	4.0	--
NOV										
03...	80	--	200	29	--	--	--	--	--	--
05...	--	65	--	--	37	--	180	55	4.4	--
15...	--	110	--	--	55	--	360	61	7.0	--
25...	--	120	--	--	71	--	370	57	6.6	--
DEC										
05...	--	110	--	--	72	--	400	60	7.3	--
08...	--	--	--	--	--	--	--	--	--	--
19...	--	100	--	--	63	--	350	60	6.8	--
25...	--	100	--	--	65	--	370	61	7.1	--
JAN										
04...	--	100	--	--	60	--	360	61	7.0	--
05...	104	--	260	62	--	335	--	--	--	4.4
20...	--	100	--	--	63	--	350	60	6.8	--
30...	--	100	--	--	72	--	390	61	7.3	--
FEB										
05...	--	79	--	--	53	--	290	60	6.2	--
08...	--	--	--	--	--	--	--	--	--	--
14...	--	46	--	--	23	--	160	62	4.8	--
22...	--	57	--	--	27	--	120	50	3.3	--
MAR										
05...	--	85	--	--	43	--	200	52	4.4	--
09...	42	--	106	35	--	--	--	--	--	--
15...	--	76	--	--	35	--	190	55	4.5	--
25...	--	41	--	--	16	--	80	50	2.7	--
APR										
05...	--	140	--	--	60	--	440	61	7.8	--
07...	--	--	--	--	--	--	--	--	--	--
15...	--	86	--	--	34	--	230	58	5.3	--
25...	--	85	--	--	44	--	240	57	5.3	--
MAY										
04...	48	--	--	21	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
15...	--	110	--	--	47	--	270	55	5.4	--
25...	--	69	--	--	13	--	110	51	3.2	--
JUN										
05...	--	57	--	--	22	--	110	50	3.1	--
09...	--	--	--	--	--	--	--	--	--	--
15...	--	87	--	--	39	--	230	57	5.2	--
25...	--	40	--	--	15	--	62	45	2.1	--
JUL										
05...	--	130	--	--	39	--	120	35	2.4	--
07...	87	--	218	42	--	245	--	--	--	6.0
15...	--	82	--	--	40	--	250	59	5.7	--
25...	--	100	--	--	54	--	370	63	7.4	--
AUG										
05...	--	130	--	--	65	--	740	73	13	--
15...	--	89	--	--	53	--	400	66	8.3	--
16...	--	--	--	--	--	--	--	--	--	--
SEP										
05...	--	63	--	--	49	--	300	64	6.9	--
15...	--	--	--	--	28	--	280	12	--	--
25...	--	57	--	--	49	--	270	63	6.3	--

ARKANSAS RIVER BASIN

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07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LINEITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	FLUOR- IDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)
OCT										
05...	5.7	230	0	190	3.7	26	490	--	1130	--
06...	--	--	--	--	--	--	--	.3	--	999
14...	4.9	210	0	170	3.4	29	420	--	950	--
24...	4.8	240	0	200	4.8	26	300	--	764	--
NOV										
03...	--	--	--	--	--	--	--	.4	--	--
05...	4.6	270	0	220	3.4	21	330	--	809	--
15...	5.9	230	0	190	4.6	18	750	--	1590	--
25...	6.2	280	0	230	5.6	18	860	--	1590	--
DEC										
05...	5.1	240	0	200	3.1	50	880	--	1600	--
08...	--	--	--	--	--	--	--	.4	--	--
15...	4.5	310	0	250	3.9	46	680	--	1400	--
25...	4.5	290	0	240	3.7	56	730	--	1530	--
JAN										
04...	4.3	310	0	250	5.0	57	680	--	1430	--
05...	--	--	--	--	--	--	--	.2	--	--
20...	3.9	330	0	270	8.4	67	630	--	1420	--
30...	3.7	300	0	250	4.8	67	730	--	1570	--
FEB										
05...	3.4	310	0	250	5.0	59	500	--	1170	--
08...	--	--	--	--	--	--	--	.2	--	--
14...	2.7	140	0	110	1.8	25	300	--	645	--
22...	4.1	190	0	160	3.0	28	240	--	589	--
MAR										
05...	4.0	210	0	170	2.7	41	400	--	997	--
09...	--	--	--	--	--	--	--	.2	--	35
15...	5.1	210	0	170	3.4	31	380	--	928	--
25...	3.9	120	0	98	6.1	20	150	--	453	--
APR										
05...	8.6	270	0	220	4.3	39	920	--	1990	--
07...	--	--	--	--	--	--	--	.2	--	--
15...	6.1	220	0	180	5.6	24	440	--	1010	--
25...	5.5	250	0	210	2.5	30	460	--	1060	--
MAY										
04...	--	--	--	--	--	--	--	.2	--	--
05...	--	120	0	98	3.8	16	170	--	482	--
15...	4.8	260	0	210	5.2	17	500	--	454	--
25...	4.5	180	0	150	9.1	14	210	--	565	--
JUN										
05...	4.3	180	0	150	3.6	16	210	--	562	--
09...	--	--	--	--	--	--	--	.1	--	--
15...	5.0	250	0	210	5.0	23	470	--	1090	--
25...	3.9	140	0	110	11	14	120	--	341	--
JUL										
05...	7.0	180	0	150	2.3	410	130	--	992	--
07...	--	--	--	--	--	--	--	.3	--	--
15...	5.2	260	0	210	3.3	22	490	--	1100	--
25...	6.5	270	0	220	3.4	20	710	--	1530	--
AUG										
05...	12	240	0	200	3.1	21	1400	--	2630	--
15...	7.3	290	0	240	3.7	31	770	--	1530	--
18...	--	--	--	--	--	--	--	11	--	56
SEP										
05...	6.1	300	0	250	9.6	18	530	--	1160	--
15...	5.0	320	0	262	5.1	--	--	--	1090	--
25...	6.0	310	0	250	7.9	17	500	--	1130	--

ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, 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										
05...	1.54	1.59	--	--	--	--	--	--	--	--
06...	--	--	--	<.10	--	--	1.7	1.7	--	.09
14...	1.29	.82	--	--	--	--	--	--	--	--
24...	1.04	1.32	--	--	--	--	--	--	--	--
NOV										
03...	--	--	15	.10	--	--	15	16	71	.04
05...	1.10	1.14	--	--	--	--	--	--	--	--
15...	2.16	15.9	--	--	--	--	--	--	--	--
25...	2.16	6.01	--	--	--	--	--	--	--	--
DEC										
05...	2.18	17.7	--	--	--	--	--	--	--	--
08...	--	--	16	<.10	--	--	1.6	1.6	--	.05
15...	1.90	11.0	--	--	--	--	--	--	--	--
25...	2.08	3.39	--	--	--	--	--	--	--	--
JAN										
04...	1.94	18.5	--	--	--	--	--	--	--	--
05...	--	--	28	<.10	--	--	1.4	1.4	--	2.5
20...	1.93	11.9	--	--	--	--	--	--	--	--
30...	2.14	34.8	--	--	--	--	--	--	--	--
FEB										
05...	1.59	25.9	--	--	--	--	--	--	--	--
08...	--	--	19	<.20	--	--	1.0	1.0	--	.40
14...	.88	441	--	--	--	--	--	--	--	--
22...	.80	58.8	--	--	--	--	--	--	--	--
MAR										
05...	1.36	37.7	--	--	--	--	--	--	--	--
09...	--	--	2967	.50	--	--	4.4	4.9	22	.81
15...	1.26	108	--	--	--	--	--	--	--	--
25...	.62	309	--	--	--	--	--	--	--	--
APR										
05...	2.71	204	--	--	--	--	--	--	--	--
07...	--	--	21	<.10	--	--	1.4	1.4	--	5.4
15...	1.37	180	--	--	--	--	--	--	--	--
25...	1.44	83.0	--	--	--	--	--	--	--	--
MAY										
04...	--	--	1626	.20	--	--	3.7	3.9	18	.22
05...	--	757	--	--	--	--	--	--	--	--
15...	.62	40.5	--	--	--	--	--	--	--	--
25...	.77	336	--	--	--	--	--	--	--	--
JUN										
05...	.76	425	--	--	--	--	--	--	--	--
09...	--	--	854	.20	--	--	2.4	2.6	12	.10
15...	1.48	174	--	--	--	--	--	--	--	--
25...	.46	386	--	--	--	--	--	--	--	--
JUL										
05...	1.35	48.2	--	--	--	--	--	--	--	--
07...	--	--	38	<.10	--	--	2.0	2.0	--	6.0
15...	1.50	10.4	--	--	--	--	--	--	--	--
25...	2.08	5.7	--	--	--	--	--	--	--	--
AUG										
05...	3.58	17.8	--	--	--	--	--	--	--	--
15...	2.08	339	--	--	--	--	--	--	--	--
16...	--	--	--	2.3	--	--	1.3	3.6	16	--
SEP										
05...	1.58	2.7	--	--	--	--	--	--	--	--
15...	1.48	2.5	--	--	--	--	--	--	--	--
25...	1.54	2.5	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTUBER 1977 TO SEPTEMBER 1978

DATE	TIME	PHOS- PHORUS, TOTAL (UG/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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
OCT								
06...	1415	--	--	--	--	--	--	--
NOV								
03...	1250	--	--	--	--	--	480	--
DEC								
08...	1330	--	--	--	--	--	--	--
JAN								
05...	1030	--	<1	10	<5	6	1600	450
MAR								
09...	1245	--	--	--	--	--	132000	--
APR								
07...	1200	--	--	--	--	--	--	--
MAY								
04...	1345	--	--	--	--	--	19000	--
JUN								
09...	1130	--	--	--	--	--	--	--
JUL								
07...	1230	--	1	1	26	6	1470	18
AUG								
16...	1515	.10	--	--	--	--	--	--

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 RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARRON, ORGANIC TOTAL (MG/L AS C)
OCT							
06...	--	--	--	--	--	--	4.0
NOV							
03...	520	--	--	--	--	--	12
DEC							
08...	--	--	--	--	--	--	4.0
JAN							
05...	290	.6	8	<1	3	22	22
MAR							
09...	2100	--	--	--	--	--	--
APR							
07...	--	--	--	--	--	--	6.0
MAY							
04...	1200	--	--	--	--	--	22
JUN							
09...	--	--	--	--	--	--	16
JUL							
07...	90	<.5	9	<1	2	4	8.
AUG							
16...	--	--	--	--	--	--	14

ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1290	3490	2670	2720	1450	2050	744	1000	1560	3590	---
2	2340	1390	3210	2690	2540	1650	2090	1040	---	1690	3420	---
3	2500	1330	3190	2770	2460	1730	2200	524	577	1980	2970	---
4	2280	1440	3320	2690	2330	1840	2460	660	771	1860	2840	---
5	2060	1540	2980	2540	2150	1760	3330	782	988	1930	4470	---
6	1620	1560	2980	2490	2070	1950	2810	883	560	2030	3650	---
7	1690	1740	2940	2250	1930	1020	3400	939	498	---	3150	---
8	1670	1760	2690	2390	1420	814	2860	1400	528	2090	3070	---
9	1700	1570	2700	2690	1890	614	2890	1430	---	2240	3080	2120
10	1700	1290	2700	2760	1660	780	730	1360	737	2240	3050	2050
11	1810	1860	2730	2780	1780	1180	622	1540	1000	2350	3610	2030
12	1800	2020	2630	2520	980	1180	942	1780	1260	2800	2970	2020
13	1780	2290	2590	2370	972	1280	1140	1910	1450	2420	2890	---
14	1790	---	2480	2360	1210	1580	1530	2000	1600	2340	2620	---
15	1780	2780	2630	2270	570	1580	1790	2120	1840	2400	2740	---
16	1800	3080	2640	2430	552	2010	1800	2210	1930	2490	2660	---
17	1780	3150	2620	2350	---	1720	1670	2230	1930	3030	2630	---
18	1750	2780	2740	2440	775	1780	1830	2370	1780	3450	2570	---
19	1790	2760	2670	1700	843	1860	1440	3020	1140	2980	2550	---
20	1710	2660	2660	2620	986	1940	2040	2700	1920	2790	2270	---
21	1700	2690	2990	2700	1200	922	2160	655	159	2710	2250	---
22	1700	2700	3110	2640	1040	565	2110	554	498	2650	2070	---
23	1220	2710	2980	2600	1270	688	2190	655	404	2510	2050	---
24	1360	2810	2740	2760	1680	819	2660	861	484	2540	2060	---
25	1340	2860	2640	2820	1690	737	1880	965	605	2680	2060	---
26	1430	3050	2940	2610	1680	927	1750	823	786	2810	2080	---
27	1430	2940	2870	2770	1520	1080	2020	1310	1000	2600	2080	---
28	1420	2650	2840	2630	1480	1580	2120	357	1060	2590	---	---
29	1350	2710	2510	2700	---	1800	2290	491	1220	2620	---	---
30	1360	2950	2750	2860	---	1810	765	460	1390	2760	---	---
31	1310	---	2340	3070	---	2000	---	501	---	3240	---	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	19.5	11.5	5.5	1.5	5.5	23.0	22.0	27.5	34.5	33.0	---
2	20.0	16.0	12.0	2.0	1.0	6.5	24.0	18.0	---	35.5	33.5	---
3	26.0	19.5	15.0	5.0	2.5	4.0	21.0	13.0	24.5	35.5	30.0	---
4	19.5	20.5	12.0	6.0	1.0	4.0	25.5	14.5	26.0	35.5	27.0	---
5	22.0	18.0	8.0	10.0	4.5	9.5	22.0	15.0	25.0	35.5	30.0	---
6	24.0	20.5	6.0	9.0	2.0	12.0	25.5	16.5	24.0	35.5	34.5	---
7	24.5	19.5	7.0	11.0	1.0	7.0	26.0	20.5	26.0	---	34.0	---
8	23.5	17.0	7.5	6.0	1.0	5.5	24.0	24.0	26.0	37.0	33.0	---
9	21.5	13.0	3.0	2.0	1.0	7.0	23.5	20.0	---	34.0	34.5	28.0
10	23.5	14.5	1.5	2.5	2.0	6.0	15.0	22.0	24.0	33.0	33.5	29.0
11	20.0	17.0	4.5	5.5	2.0	7.0	18.0	25.0	30.0	38.0	35.0	28.5
12	18.0	12.0	7.0	2.0	2.5	11.0	20.5	26.0	29.0	37.0	33.5	28.5
13	19.5	14.0	10.5	2.5	1.0	14.0	23.0	26.0	29.0	38.5	34.5	---
14	21.5	---	11.5	2.5	2.5	15.5	23.0	27.0	30.0	36.5	35.0	---
15	17.0	19.0	12.5	2.0	1.5	10.5	24.5	29.5	30.0	38.0	32.0	---
16	14.0	15.0	13.0	1.5	2.0	13.0	23.0	28.0	32.5	38.0	34.0	---
17	19.5	17.0	13.0	1.0	---	15.5	23.0	24.5	32.5	36.5	32.0	---
18	19.0	17.5	12.0	.5	1.0	17.0	23.0	25.5	25.0	34.0	32.0	---
19	19.0	17.0	11.0	.5	2.0	19.0	19.5	29.5	28.0	36.5	28.0	---
20	22.0	21.5	8.0	.5	2.0	19.5	20.5	28.0	31.0	36.0	30.5	---
21	21.0	14.0	7.0	1.0	2.0	17.0	21.5	23.0	23.0	36.0	30.0	---
22	21.0	13.5	7.0	1.0	2.0	16.5	20.0	25.0	24.5	36.0	30.0	---
23	20.0	16.5	10.5	1.0	2.0	16.0	22.5	28.0	25.5	31.0	31.5	---
24	23.5	13.0	13.0	1.5	9.5	12.0	22.0	30.0	29.0	34.0	33.0	---
25	22.5	16.0	8.0	1.0	7.5	11.5	23.5	27.0	32.5	35.5	31.0	---
26	23.5	14.0	8.0	2.0	8.5	9.0	23.5	27.0	32.0	38.0	31.0	---
27	23.5	13.0	7.5	2.5	5.0	15.5	22.0	25.0	32.5	35.0	31.5	---
28	23.0	8.0	9.5	2.0	6.0	18.0	24.0	23.0	33.0	36.0	---	---
29	24.5	10.5	5.0	1.0	---	20.0	23.0	25.0	34.0	35.0	---	---
30	21.5	8.5	7.0	1.0	---	19.0	20.5	27.0	34.0	36.0	---	---
31	25.5	---	7.0	1.0	---	22.0	---	28.5	---	34.0	---	---

07231500 CANADIAN RIVER AT CALVIN, OK

LOCATION.--Lat 34°58'32", long 96°14'24", in NEkSWk sec.22 T.6 N., R.10 E., Hughes County, Hydrologic Unit 11090202, near left bank on downstream side of pier of bridge on old U.S. Highway 75, 0.5 mi (0.8 km) northeast of Calvin, 2.4 mi (3.9 km) upstream from Shawnee Creek, 8.5 mi (13.7 km) downstream from Little River, and at mile 93.9 (151.1 km).

DRAINAGE AREA.--27,952 mi² (72,396 km²), of which 4,801 mi² (12,435 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1905 to December 1908 (gage heights and discharge measurements only except for period July 1905 to December 1906), October 1938 to September 1942, July 1944 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1904 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 1341: Drainage area, WSP 1391: 1941.

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 682.72 ft (208.093 m) National Geodetic Vertical Datum of 1929. January 1905 to December 1908, nonrecording gage at site 0.8 mi (1.3 km) upstream at datum 4.00 ft (1.219 m) higher. Oct. 1, 1938, to Aug. 12, 1944, nonrecording gage at present site and datum. Aug. 13, 1944 to July 31, 1977 water-stage recorder at present site and datum 2.00 ft (0.611 m) higher.

REMARKS.--Records fair below 4,500 ft³/s (127 m³/s) and good above. Occasional slight regulation by dams in New Mexico and Texas.

COOPERATION.--Gage height record and 31 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--39 years (water years 1906, 1939-42, 1945-78), 1,582 ft³/s (44.80 m³/s), 1,146,000 acre-ft/yr (1.41 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 174,000 ft³/s (4,930 m³/s) May 11, 1950, gage height, 17.35 ft (5.288 m); maximum gage height, 21.00 ft (6.401 m), Aug. 7, 1906, from floodmark, site and datum then in use; no flow at times in 1939, 1954, 1956, 1966-67.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38,100 ft³/s (1,080 m³/s) at 1215 May 28, gage height, 10.09 ft (3.075 m), no other peaks above base of 25,000 ft³/s (708 m³/s); minimum daily, 0.18 ft³/s (0.005 m³/s) Sept. 6, 26-30.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	32	59	37	119	841	148	1480	3470	223	9.5	1.6
2	15	43	69	29	99	482	136	767	2730	223	11	1.1
3	14	29	63	38	95	450	136	5990	2970	194	19	.72
4	13	30	59	34	92	420	145	2990	1670	168	17	.72
5	16	34	63	32	104	358	179	2000	1180	142	21	.36
6	15	34	63	32	130	182	587	2260	1900	121	23	.18
7	15	34	59	30	142	179	420	2000	8860	95	27	.36
8	16	37	55	30	164	2130	587	1400	7530	90	18	.54
9	15	60	51	28	175	1520	420	880	3250	74	11	.90
10	12	76	47	27	219	733	4640	699	2160	71	7.3	1.6
11	11	74	46	37	241	435	2240	550	1850	67	4.9	1.3
12	9.8	59	47	80	339	298	961	699	1620	58	4.0	2.0
13	8.5	50	55	58	1400	198	597	506	1520	46	3.2	8.2
14	8.5	54	55	59	791	154	442	427	1320	34	2.9	8.6
15	8.2	47	39	61	568	136	339	391	1000	39	2.7	6.8
16	7.6	51	39	61	1160	114	241	321	559	37	3.4	2.3
17	7.6	51	36	40	626	111	198	276	498	29	2.7	2.1
18	7.0	46	33	74	2490	84	179	287	435	25	2.1	1.4
19	7.6	39	37	158	1480	76	151	309	1300	20	2.5	.36
20	7.3	30	42	151	327	80	136	1360	378	19	4.4	.36
21	7.3	28	42	136	266	8400	124	3310	597	17	3.7	2.1
22	7.6	25	43	106	237	1130	121	7160	3270	15	2.7	2.0
23	18	23	46	106	568	803	145	3770	4120	15	1.8	1.6
24	22	21	45	142	657	3740	498	2630	3510	20	1.1	1.1
25	27	21	41	151	358	1080	309	2670	1850	20	.90	.36
26	25	29	39	171	1540	667	190	1700	866	16	.54	.18
27	23	37	33	161	1070	458	130	4660	606	14	.18	.18
28	41	38	32	124	1520	371	116	24400	473	13	.36	.18
29	51	32	41	88	---	261	171	23100	358	13	.54	.18
30	43	32	51	116	---	206	5610	13100	266	12	.54	.18
31	37	---	50	116	---	175	---	5670	---	10	.72	---
TOTAL	532.0	1216	1480	2513	16977	26272	20296	117762	62116	1940	209.68	49.76
MEAN	17.2	40.5	47.7	81.1	606	847	677	3799	2071	62.6	6.76	1.66
MAX	51	80	69	171	2490	8400	5610	24400	8860	223	27	8.8
MIN	7.0	21	32	27	92	76	116	276	266	10	.18	.18
AC=FT	1060	2410	2940	4980	33670	52110	40260	233600	123200	3850	416	99
CAL YR 1977	TOTAL	315208.00	MEAN	864	MAX	21600	MIN	7.0	AC=FT	625200		
WTR YR 1978	TOTAL	251363.44	MEAN	689	MAX	24400	MIN	.18	AC=FT	498600		

ARKANSAS RIVER BASIN

07231500 CANADIAN RIVER AT CALVIN, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-53, 1960-61, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1965 to current year.

WATER TEMPERATURE: July 1965 to current year.

REMARKS.--Samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples at or near 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.

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, 11,400 micromhos Nov. 17, 1966; minimum daily, 205 micromhos Nov. 1, 1972.

WATER TEMPERATURE: Maximum daily, 34.0°C July 7, 1975; minimum, 0.0°C on many days during the winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,390 micromhos Sept. 28; minimum daily, 403 micromhos Mar. 21.

WATER TEMPERATURE: Maximum daily, 28.5°C on July 16; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	TUR- RID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	CULI- FORM, FECAL, 0.7 UM-MF (CULS./ 100 ML)
OCT											
06...	1545	--	15	1650	8.2	24.0	35	--	9.8	117	K14
NOV											
03...	1600	--	29	1500	8.1	19.5	20	--	10.2	113	K20
23...	1348	22	--	--	--	15.5	--	--	--	--	--
DEC											
08...	1156	57	--	--	--	11.0	--	--	--	--	--
08...	1600	--	55	1415	8.2	10.5	6	--	12.6	116	--
JAN											
05...	1400	--	32	1750	8.5	8.5	9	--	13.6	117	K9
FEB											
08...	1000	--	164	1780	7.9	.5	5	--	14.0	98	170
13...	--	1750	--	--	--	--	--	--	--	--	--
MAR											
09...	1430	--	1520	950	8.0	9.0	1000	--	11.5	101	K7200
09...	1446	1440	--	--	--	7.0	--	--	--	--	--
21...	1210	6100	--	--	--	17.5	--	--	--	--	--
APR											
06...	1915	--	587	1500	8.6	24.5	110	--	8.8	107	970
11...	1140	2360	--	--	--	15.5	--	--	--	--	--
MAY											
01...	1150	1450	--	--	--	19.0	--	--	--	--	--
04...	0900	--	5880	520	8.0	11.0	1100	--	9.1	85	K17000
22...	1325	8050	--	--	--	25.5	--	--	--	--	--
29...	1240	24200	--	--	--	22.0	--	--	--	--	--
JUN											
08...	1355	9200	--	--	--	22.0	--	--	--	--	--
08...	1830	--	7530	570	7.9	24.5	--	700	6.4	78	210000
JUL											
07...	0900	--	95	1480	8.3	29.5	--	8.0	--	--	K160
AUG											
16...	1215	--	3.4	2100	8.0	29.5	--	6.1	8.9	117	90
SEP											
06...	1530	--	.36	1800	8.4	31.5	--	3.5	10.3	143	6900

ARKANSAS RIVER BASIN

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07231500 CANADIAN RIVER AT CALVIN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS 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 CU3)
OCT 06...	87	430	200	110	37	220	52	4.6	5.7	280	0
NOV 03...	K54	340	120	87	30	160	50	3.8	6.2	270	0
23...	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	440	170	110	39	170	46	3.5	6.4	320	0
JAN 05...	150	490	240	120	46	180	44	3.5	6.4	300	1
FEB 08...	42	480	240	120	43	190	46	3.8	5.3	290	0
13...	--	--	--	--	--	--	--	--	--	--	--
MAR 09...	K9800	260	130	64	24	100	45	2.7	4.3	160	0
09...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
APR 06...	1100	340	--	81	33	160	50	3.8	6.0	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	--	--	--	--	--	--	--	--	--	--	--
04...	90000	120	22	30	11	42	42	1.7	3.4	120	0
22...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUN 08...	--	--	--	--	--	--	--	--	--	--	--
08...	96000	150	33	40	13	48	40	1.7	4.2	--	--
JUL 07...	270	380	160	87	39	190	52	4.3	7.1	--	--
AUG 16...	400	310	130	64	36	260	64	6.4	6.3	--	--
SEP 06...	8600	250	100	48	32	260	69	7.1	6.0	--	--

DATE	ALKA- LITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CU2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 06...	230	2.8	58	450	.4	14	991	1030	1.35	40.1
NOV 03...	220	3.4	75	290	.4	9.6	838	792	1.14	65.6
23...	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--
08...	260	3.2	130	290	.5	7.1	928	911	1.26	138
JAN 05...	250	1.5	260	250	.6	5.8	1050	1020	1.43	90.7
FEB 08...	240	5.8	190	330	.5	9.5	1040	1030	1.41	461
13...	--	--	--	--	--	--	--	--	--	--
MAR 09...	130	2.6	120	150	.4	7.9	539	549	.73	2210
09...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
APR 06...	--	--	160	280	.5	3.9	857	--	1.17	1360
11...	--	--	--	--	--	--	--	--	--	--
MAY 01...	--	--	--	--	--	--	--	--	--	--
04...	98	1.9	28	58	.2	6.4	255	238	.35	4050
22...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
JUN 08...	--	--	--	--	--	--	--	--	--	--
08...	120	--	56	68	.3	9.6	321	311	.44	6530
JUL 07...	220	--	97	320	.5	14	920	887	1.25	236
AUG 16...	180	--	39	450	.3	15	1030	979	1.40	9.46
SEP 06...	150	--	30	490	.3	14	985	970	1.34	.96

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

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WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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
OCT 06...	--	--	--	--	5.1	--	--	--	109	4.4	98
NOV 03...	0	30	0	30	--	5.4	.1	--	40	3.1	73
23...	--	--	--	--	--	--	--	--	40	2.4	--
DEC 06...	--	--	--	--	--	--	--	--	170	26	--
08...	--	--	--	--	4.8	--	--	--	79	12	95
JAN 05...	--	--	--	--	4.2	--	--	--	69	6.0	81
FEB 08...	0	10	0	10	--	4.0	.8	--	55	24	95
13...	--	--	--	--	--	--	--	--	4300	20300	--
MAR 09...	--	--	--	--	19	--	--	3000	1450	5950	88
09...	--	--	--	--	--	--	--	--	1650	6420	--
21...	--	--	--	--	--	--	--	--	8270	136000	--
APR 06...	--	--	--	--	1.9	--	--	--	538	853	38
11...	--	--	--	--	--	--	--	--	3210	20500	--
MAY 01...	--	--	--	--	--	--	--	--	1990	7790	--
04...	0	100	90	10	--	10	>5.0	13000	1660	26400	99
22...	--	--	--	--	--	--	--	--	7370	160000	--
29...	--	--	--	--	--	--	--	--	30870	2020000	--
JUN 08...	--	--	--	--	--	--	--	--	3610	89700	--
08...	--	--	--	--	25	--	--	2200	--	--	--
JUL 07...	--	--	--	--	7.2	--	--	--	180	46	95
AUG 16...	0	30	20	8	--	5.5	3.3	34000	33	.30	86
SEP 06...	--	--	--	--	9.8	--	--	43000	71	.07	90

[illegible]

DATE	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 03...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 08...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
MAY 04...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--
AUG 16...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	MAR 9,78 1430	MAY 4,78 0900	JUN 8,78 1830	AUG 16,78 1215	SEP 6,78 1530
TOTAL CELLS/ML	3000	13000	2200	34000	43000
DIVERSITY: DIVISION	0.9	1.3	1.4	1.3	0.8
..CLASS	0.9	1.3	1.4	1.3	0.8
...ORDER	1.3	1.4	2.0	1.6	1.3
....FAMILY	1.9	2.4	2.7	2.0	1.4
....GENUS	2.0	3.0	3.0	2.6	2.3

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	--	-	--	-	--	-	210	1	--	-
....MICRACTINIACEAE										
....MICRACTINIUM	--	-	--	-	14	1	--	-	--	-
....DOCYSTACEAE										
....ANKISTRODESMUS	--	-	2000#	16	29	1	1500	4	680	2
....CHODATELLA	--	-	--	-	--	-	420	1	--	-
....DICTYOSPHAERIUM	--	-	400	3	230	11	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	630	2	600	1
....DOCYSTIS	--	-	200	2	58	3	--	-	--	-
....QUADRIGULA	--	-	--	-	--	-	--	-	300	1
....TREUBARIA	--	-	--	-	--	-	210	1	*	0
....SCENEDESMACEAE										
....ACTINASTRUM	--	-	1700	13	--	-	840	2	--	-
....CRUCIGENIA	--	-	--	-	58	3	420	1	1200	3
....SCENEDESMUS	860#	29	3500#	27	160	7	5600#	17	2100	5
....TETRASPORALES										
....TETRASPORACEAE										
....TETRASPORA	--	-	--	-	--	-	1500	4	600	1
....VOLVOCALES										
....CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	--	-	210	1	230	1
CHRYCOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCACEAE										
....CYCLOTELLA	290	10	450	4	190	9	1400	4	--	-
..PENNALES										
...CYMBELLACEAE										
....AMPHORA	--	-	*	0	--	-	--	-	--	-
....EPITHEMIA	140	5	--	-	--	-	--	-	--	-
....FRAGILARIACEAE										
....SYNEDRA	--	-	--	-	--	-	630	2	*	0
....NAVICULACEAE										
....CALONEIS	--	-	--	-	14	1	--	-	--	-
....DIPLONEIS	140	5	--	-	--	-	--	-	--	-
....MASTOGLOTA	--	-	--	-	14	1	--	-	--	-
....NAVICULA	140	5	350	3	14	1	1000	3	980	2
....NITZSCHACEAE										
....HANTZSCHIA	--	-	100	1	--	-	--	-	--	-
....NITZSCHIA	1400#	48	610	5	14	1	*	0	300	1
....SURIRELLACEAE										
....SURIRELLA	--	-	150	1	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHRONOCOCCALES										
....CHRONOCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	17000#	50	23000#	53
....ANACYSTIS	--	-	--	-	--	-	2400	7	9200#	22
....COCCOCHLORIS	--	-	--	-	430#	20	--	-	--	-
....HORMOGONALES										
....NOSTOCACEAE										
....ANABAENA	--	-	--	-	400#	18	--	-	--	-
....APHANIZOMENON	--	-	2200#	17	--	-	--	-	--	-
....OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	1500	4
....OSCILLATORIA	--	-	1200	9	530#	24	--	-	2300	5
EUGLENOPHYTA (EUGLENIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENACEAE										
....EUGLENA	--	-	--	-	14	1	--	-	--	-
....PHACUS	--	-	--	-	14	1	--	-	--	-
....TRACHELUMONAS	--	-	--	-	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

SPECIFIC CONDUCTANCE (MICROMMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
UNCE=DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1990	1280	1480	1790	1640	1640	1690	590	930	1310	1700	2160
2	1990	1520	1630	1920	1840	1730	1800	630	988	1500	1730	1950
3	1970	1390	1500	1940	1690	1740	1880	718	988	1440	1590	3130
4	1980	1700	1480	1790	1640	1840	1830	543	771	1460	1530	3130
5	1940	---	---	1720	---	---	1940	646	930	1510	1530	3120
6	1910	1550	1530	1690	1570	1790	1370	800	1050	1530	1440	3150
7	2000	1560	1570	1740	1550	1750	---	---	776	1570	1430	3020
8	2100	1460	1530	1860	1750	1020	1500	---	619	1580	1370	3060
9	2270	1290	1650	2060	1540	1030	1770	988	663	1530	1370	3400
10	2200	1680	1860	2150	---	1090	864	1160	1150	1520	1480	---
11	2080	1270	1710	2050	1670	1110	654	1230	1150	1530	1580	---
12	2150	1350	1740	1960	1280	1330	700	1290	1170	1530	1690	2000
13	2130	1320	1810	1870	886	1520	899	1600	1160	1610	1780	1570
14	2080	---	1800	1890	994	1620	959	---	1210	1590	1790	1260
15	2050	---	1920	1790	---	1730	1200	1760	1360	1470	1930	1240
16	2140	1250	1880	1800	---	1780	1320	1700	1380	1530	1930	1240
17	---	1250	1790	1790	991	1830	1470	1800	1530	1530	1920	1390
18	2090	1300	1840	2100	952	1770	1540	1920	1270	1600	2040	1990
19	2080	1430	1720	2160	941	1790	1470	1970	1250	1670	2050	2330
20	2140	1620	1750	---	1100	1770	1480	---	1270	1680	1990	1760
21	---	1720	1620	1860	1120	403	1610	---	1170	1670	2000	1760
22	2110	1840	1850	---	1230	762	1730	582	477	1690	2000	1650
23	2090	1870	1830	1860	1280	856	---	663	917	1590	1990	1690
24	2040	---	1750	1870	1300	546	1310	624	783	1580	2140	---
25	2260	1570	---	1690	1420	851	1250	839	703	1590	2260	3030
26	2000	1550	1830	1830	1620	---	1350	1320	711	1620	2260	4380
27	1540	1580	---	1820	1260	1150	1580	1160	787	1680	2090	4370
28	1540	1640	1820	1840	---	1470	1760	561	917	1620	2090	4390
29	1400	---	1750	1740	---	1480	1290	420	1050	1670	2080	---
30	1230	1660	1690	1680	---	1540	804	592	1310	1670	2450	---
31	1300	---	1670	---	---	1620	---	776	---	1660	2450	---

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

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

ARKANSAS RIVER BASIN

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07232009 BLUE CREEK TRIBUTARY NEAR BLOCKER, OK

LOCATION.--Lat 35°02'26", long 95°34'21", SW¼NW¼ sec.36, T.7 N., R.16 E., Pittsburg County, Hydrologic Unit 11090204, on right bank 65 ft (20 m) upstream from bridge on State Highway 31, 1.5 mi (2.4 km) south of Blocker, and at mile 0.0 (0.0 km).

DRAINAGE AREA.--0.22 mi² (.56 km).

PERIOD OF RECORD.--Water years 1976 to September 1978 (discontinued).

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)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CaCO3)
DEC 05...	1245	--	179	7.8	9.5	7	4.5	8.4	75	41
JAN 26...	1535	--	128	7.2	3.5	90	65	12.0	90	39
FEB 07...	1200	1.1	121	6.6	2.0	30	16	12.2	88	40
MAR 07...	1445	1.1	68	6.1	6.0	65	24	11.6	94	16
APR 05...	0920	--	64	7.3	18.0	33	19	8.3	89	17
MAY 03...	1400	6.0	56	6.3	14.0	--	21	8.9	88	10
JUN 21...	0830	.05	100	5.6	23.0	--	2.6	5.7	67	30

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CaCO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS 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)
DEC 05...	27	.1	5.0	7.8	5.3	11	36	.7	1.0	17
JAN 26...	6	.1	5.0	8.5	4.3	8.9	31	.6	2.7	40
FEB 07...	34	.1	5.0	7.9	5.0	8.8	31	.6	1.6	8
MAR 07...	12	.1	5.0	3.0	2.0	4.7	38	.5	.6	5
APR 05...	9	.1	5.0	3.6	1.9	4.9	37	.5	1.2	10
MAY 03...	3	.0	.0	1.1	1.8	4.3	46	.6	.6	9
JUN 21...	12	.1	5.0	5.7	3.8	7.3	34	.6	1.1	22

DATE	CAR- BONATE (MG/L AS CO3)	ALKA- LITY (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	FLUOR- IDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
DEC 05...	0	14	.4	37	11	.0	9.0	83	92
JAN 26...	0	33	4.0	15	6.9	.1	6.4	78	74
FEB 07...	0	7	3.2	31	9.9	.1	6.7	92	77
MAR 07...	0	4	6.4	13	4.3	.0	6.7	51	307
APR 05...	0	8	.8	13	4.9	.1	8.7	44	44
MAY 03...	0	7	7.2	14	3.9	.0	8.7	47	39
JUN 21...	0	18	88	22	5.9	.0	11	63	68

ARKANSAS RIVER BASIN

07232009 BLUE CREEK TRIBUTARY NEAR BLOCKER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS PO4)			
DEC 05...	.11	--	.00	.00	.01	.03	.00	--	--			
JAN 26...	.11	--	.27	1.2	.01	.03	.28	--	--			
FEB 07...	.13	.27	.47	2.1	.01	.03	.48	--	--			
MAR 07...	.07	.15	--	--	.01	.03	--	.06	.18			
APR 05...	.06	--	.00	.00	.01	.03	.00	.01	.03			
MAY 03...	.06	.76	.08	.35	.00	.00	.08	--	--			
JUN 21...	.09	.01	.01	.04	.01	.03	.02	--	--			
DATE	TIME	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ALUM- INUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	ARSENIC TOTAL FM BOT- TOM MA- TERIAL (UG/G 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)	
DEC 05...	1245	130	40	--	0	0	--	60	20	4	2	
JAN 26...	1535	--	80	--	--	1	--	--	40	--	0	
FEB 07...	1200	0	60	--	0	1	--	30	30	0	0	
MAR 07...	1445	--	100	--	--	0	--	--	20	--	1	
APR 05...	0920	480	80	--	2	2	--	50	20	1	0	
MAY 03...	1400	560	100	1300	0	0	21	60	40	0	0	
JUN 21...	0830	160	40	--	0	0	--	90	30	3	2	
DATE	AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
DEC 05...	--	0	0	--	5	0	--	250	100	--	18	
JAN 26...	--	--	0	--	--	2	--	--	150	--	--	
FEB 07...	--	0	0	--	2	1	--	790	120	--	5	
MAR 07...	--	--	0	--	--	2	--	--	90	--	--	
APR 05...	--	0	0	--	1	0	--	680	40	--	4	
MAY 03...	0	100	0	16	6	0	2	650	100	7300	12	
JUN 21...	--	0	0	--	6	4	--	460	90	--	11	

ARKANSAS RIVER BASIN

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07232009 BLUE CREEK TRIBUTARY NEAR BLOCKER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERTIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERTIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERTIAL (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	MOLYB- DENUM, RECOV. FM BOT- TOM MA- TERTIAL (UG/G)
DEC 05...	5	--	50	80	--	.1	.2	--	2	0	--
JAN 26...	3	--	--	130	--	--	.5	--	--	0	--
FEB 07...	0	--	20	20	--	.1	.0	--	0	0	--
MAR 07...	1	--	--	20	--	--	.0	--	--	0	--
APR 05...	2	--	20	10	--	.0	.0	--	3	0	--
MAY 03...	6	10	20	20	360	.0	.0	.02	1	0	0
JUN 21...	3	--	80	80	--	.1	.0	--	3	0	--

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	NICKEL, RECOV. FM BOT- TOM MA- TERTIAL (UG/G AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERTIAL (UG/G AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 05...	7	1	--	490	700	--	--	5	--	96
JAN 26...	--	2	--	--	10	--	--	25	--	95
FEB 07...	5	3	--	10	10	--	--	12	.04	84
MAR 07...	--	2	2	--	10	--	--	11	.03	88
APR 05...	1	0	--	10	10	--	--	8	--	86
MAY 03...	4	1	4	20	0	24	7.9	11	.18	80
JUN 21...	6	4	--	0	10	--	1.2	7	.00	95

ARKANSAS RIVER BASIN

07232010 BLUE CREEK NEAR BLOCKER, OK

LOCATION.--lat 34°02'26", long 95°34'21", in SW¼NW¼ sec.36, T.7 N., R.16 E., Pittsburg County,
Hydrologic Unit 11090204 on right bank at downstream side of bridge on State Highway 31, 1.5 mi (2.4 km)
south of Blocker and at mile 3.9 (6.3 km).

DRAINAGE AREA.--12.1 mi² (31.3 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 592.47 ft (180.585 m) Oklahoma State Highway Department datum.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum 6,170 ft³/s (175 m³/s) Apr. 19, 1976, gage height, 8.41 ft (2.563 m);
no flow each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
Mar. 23	2315	1,660 47.0	4.85 1.478	June 1	1900	2,170 61.5	5.12 1.561
May 22	0400	*4,600 130	*6.92 2.109	June 3	0600	944 26.7	4.32 1.317

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	.03	.07	.08	.03	.38	9.4	1.4	.38	137	.08	.00	.00
2	.02	.06	.06	.03	.38	5.6	1.1	.25	35	.06	.00	.00
3	.02	.05	.09	.03	.38	3.8	.98	17	180	.05	.00	.00
4	.02	.05	.12	.03	.38	2.0	1.8	5.2	22	.04	.00	.00
5	.00	.05	.12	.02	.69	1.6	1.8	6.7	16	.04	.00	.00
6	.00	.05	.10	.00	.74	1.5	2.4	7.3	31	.03	.00	.00
7	.00	.05	.12	.00	.54	38	2.2	5.6	16	.02	.00	.00
8	.05	.14	.10	.00	.38	15	1.6	3.8	13	.02	.00	.00
9	.03	.09	.08	.00	.50	6.7	1.3	1.8	5.6	.01	.00	.00
10	.02	.07	.08	.02	.31	3.4	22	1.1	2.2	.01	.00	.00
11	.01	.08	.08	.02	.31	2.4	16	.79	1.1	.00	.00	.00
12	.00	.10	.07	.01	49	1.8	7.3	.64	.79	.00	.00	.00
13	.00	.09	.07	.01	63	1.5	4.2	.46	.54	.00	.00	.00
14	.00	.09	.07	.01	8.0	1.4	2.4	.38	.42	.00	.00	.00
15	.00	.10	.07	.01	3.8	1.1	2.0	.31	.31	.00	.00	.00
16	.00	.09	.07	.08	2.7	.98	1.4	.28	.22	.00	.00	.00
17	.00	.09	.08	.07	2.4	.85	1.1	.25	.17	.00	.00	.00
18	.00	.08	.06	.07	1.5	.74	.91	.25	24	.00	.00	.00
19	.00	.07	.06	.06	1.5	.64	.64	.25	4.2	.00	.00	.00
20	.00	.07	.04	.05	1.6	.59	.54	18	.98	.00	.00	.00
21	.00	.09	.03	.06	1.4	.59	.50	6.7	41	.00	.00	.00
22	.00	.09	.03	.08	4.2	.54	.42	749	21	.00	.00	.00
23	.00	.09	.03	.09	23	158	.38	26	4.2	.00	.00	.00
24	.00	.08	.03	.17	15	244	.34	8.7	1.4	.00	.00	.00
25	.00	.06	.04	.64	7.3	23	.31	3.4	.79	.00	.00	.00
26	.00	.05	.06	.91	3.4	12	.28	2.0	.31	.00	.00	.00
27	.00	.05	.07	.69	4.7	6.2	.22	1.1	.29	.00	.00	.00
28	.00	.07	.06	.50	25	4.2	.19	3.4	.21	.00	.00	.00
29	.00	.09	.06	.42	---	3.0	.22	2.7	.12	.00	.00	.00
30	.00	.17	.04	.42	---	2.2	.25	1.1	.10	.00	.00	.00
31	.00	---	.04	.38	---	1.6	---	.85	---	.00	.00	---
TOTAL	.20	2.38	2.11	4.91	222.49	554.33	76.18	875.69	559.95	.36	.00	.00
MEAN	.006	.079	.068	.16	7.95	17.9	2.54	28.2	18.7	.012	.000	.000
MAX	.05	.17	.12	.91	63	244	22	749	180	.08	.00	.00
MIN	.00	.05	.03	.00	.31	.54	.19	.25	.10	.00	.00	.00
AC=FT	.4	4.7	4.2	9.7	441	1100	151	1740	1110	.7	.00	.00
CAL YR 1977	TOTAL	1850.68	MEAN	5.07	MAX	1300	MIN	.00	AC=FT	3670		
WTR YR 1978	TOTAL	2298.60	MEAN	6.30	MAX	749	MIN	.00	AC=FT	4560		

ARKANSAS RIVER BASIN

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07232010 BLUE CREEK NEAR BLOCKER, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

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)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CaCO3)
OCT 03...	1140	.02	198	7.3	21.0	8	11	4.7	52	51
DEC 05...	1225	.19	136	8.3	9.5	7	11	7.4	66	34
JAN 26...	1920	.98	110	7.3	3.0	90	45	13.1	98	35
FEB 07...	1330	.50	120	6.6	1.0	90	45	13.0	92	35
MAR 07...	1530	80	70	7.0	7.5	220	300	11.2	95	21
APR 04...	1550	2.0	112	6.9	22.0	25	18	10.0	115	31
MAY 03...	1630	13	90	7.1	14.0	--	55	9.2	91	21
JUN 20...	1700	.98	130	6.7	29.0	--	6.5	7.3	96	31

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CaCO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS 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)
OCT 03...	21	.1	5.0	11	5.6	19	44	1.2	2.1	36
DEC 05...	21	.1	5.0	6.7	4.1	11	40	.8	1.3	15
JAN 26...	14	.1	5.0	7.4	3.9	7.8	31	.6	1.9	25
FEB 07...	16	.1	5.0	7.4	4.0	9.9	37	.7	1.8	23
MAR 07...	6	.2	10	4.6	2.2	5.5	34	.5	2.3	18
APR 04...	15	.0	.0	6.9	3.4	7.8	34	.6	1.6	20
MAY 03...	6	.0	.0	4.8	2.2	5.6	35	.5	1.3	18
JUN 20...	10	.1	5.0	7.3	3.1	3.0	15	.2	4.8	26

DATE	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)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
OCT 03...	0	30	2.9	35	18	.1	11	126	121
DEC 05...	0	12	.1	33	9.7	.0	8.0	74	82
JAN 26...	0	21	2.0	26	5.1	.1	6.5	86	72
FEB 07...	0	19	9.2	21	9.7	.1	6.8	92	74
MAR 07...	0	15	2.9	12	5.2	.1	5.6	65	67
APR 04...	0	16	4.0	23	7.4	.1	7.7	62	68
MAY 03...	0	15	2.3	13	6.0	.0	7.2	52	50
JUN 20...	0	21	8.3	13	7.0	.1	8.4	78	63

ARKANSAS RIVER BASIN

07232010 BLUE CREEK NEAR BLOCKER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)		
DATE												
OCT 03...		.17	.01	.02	.09	.00	.00	.02	--	--		
DEC 05...		.10	.04	--	--	--	--	--	--	--		
JAN 26...		.12	.23	.12	.53	.02	.07	.14	--	--		
FEB 07...		.13	.12	.20	.69	.01	.03	.21	--	--		
MAR 07...		.09	14.0	4.6	20	.03	.10	4.6	.16	.49		
APR 04...		.08	.33	.01	.04	.01	.03	.02	.00	.00		
MAY 03...		.07	1.83	.13	.58	.01	.03	.14	--	--		
JUN 20...		.11	.21	.57	2.5	.05	.16	.62	--	--		
DATE	TIME	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ALUM- INUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	ARSENIC TOTAL FM BOT- TOM MA- TERIAL (UG/G 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)	
OCT 03...	1140	--	20	--	--	1	--	--	30	--	1	
DEC 05...	1225	270	40	--	0	0	--	40	20	3	5	
JAN 26...	1520	--	100	--	--	1	--	--	50	--	0	
FEB 07...	1330	0	130	--	1	1	--	50	30	0	0	
MAR 07...	1530	--	120	--	--	0	--	--	50	--	1	
APR 04...	1550	670	30	--	2	2	--	60	20	1	1	
MAY 03...	1630	960	60	1800	0	0	33	60	50	2	0	
JUN 20...	1700	260	40	--	1	2	--	110	50	2	2	
DATE		CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
OCT 03...	--	--	0	--	--	3	--	--	130	--	--	--
DEC 05...	--	0	0	--	7	0	--	560	70	--	24	--
JAN 26...	--	--	0	--	--	2	--	--	230	--	--	--
FEB 07...	--	0	0	--	2	1	--	1700	230	--	4	--
MAR 07...	--	--	0	--	--	7	--	--	240	--	--	--
APR 04...	--	0	0	--	2	0	--	950	20	--	9	--
MAY 03...	0	10	10	19	7	0	6	1500	80	11000	25	--
JUN 20...	--	0	0	--	8	3	--	700	250	--	14	--

ARKANSAS RIVER BASIN

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07232010 BLUE CREEK NEAR BLOCKER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV, FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV, FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY RECOV, FM BOT- TOM MA- TERIAL (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	MOLYB- DENUM, RECOV, FM BOT- TOM MA- TERIAL (UG/G)
OCT 03...	1	--	--	640	--	--	.2	--	--	0	--
DEC 05...	21	--	140	100	--	.1	.0	--	1	0	--
JAN 26...	3	--	--	50	--	--	.0	--	--	0	--
FEB 07...	0	--	70	50	--	1.2	.0	--	0	0	--
MAR 07...	1	--	--	20	--	--	.0	--	--	0	--
APR 04...	19	--	100	80	--	.0	.0	--	3	0	--
MAY 03...	10	20	80	20	1100	.0	.0	.03	0	0	0
JUN 20...	4	--	70	40	--	.0	.0	--	1	0	--

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	NICKEL, RECOV, FM BOT- TOM MA- TERIAL (UG/G AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV, FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 03...	--	0	--	--	20	--	--	12	.00	92
DEC 05...	8	1	--	60	20	--	--	10	.01	95
JAN 26...	--	2	--	--	280	--	--	15	.04	97
FEB 07...	6	2	--	10	10	--	--	13	.02	92
MAR 07...	--	2	--	--	40	--	--	235	51	92
APR 04...	2	1	--	10	0	--	--	12	.06	89
MAY 03...	5	2	14	150	0	74	8.0	28	.98	97
JUN 20...	6	3	--	20	10	--	11	17	.04	86

ARKANSAS RIVER BASIN

07232010 BLUE CREEK NEAR BLOCKER, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO JUNE 1978

DATE TIME	MAY 25,78 2030	JUN 30,78 0000	JUN 30,78 0001
TOTAL CELLS/ML	1100	1400	1400
DIVERSITY: DIVISION	1.3	1.7	1.7
..CLASS	1.3	1.7	1.7
...ORDER	1.6	2.3	2.3
...FAMILY	1.9	2.7	2.7
...GENUS	1.9	3.6	3.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	23	2	39	3	39	3
....DICTYOSPHAERIUM	--	--	180	12	180	12
....QUADRIGULA	--	--	17	1	17	1
....TETRAEDRON	--	--	17	1	17	1
...SCENEDESMACEAE						
....CRUCIGENIA	--	--	99	7	99	7
....SCENEDESMUS	190#	17	130	9	130	9
...TETRASTRUM	--	--	88	6	88	6
...TETRASPORALES						
...PALMELLACEAE						
....SPHAEROCYSTIS	--	--	230#	16	230#	16
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	23	2	--	--	--	--
...ZYGNEATALES						
...DESMIDIACEAE						
....COSMARIVUM	46	4	--	--	--	--
...STAUSTRUM	--	--	*	0	*	0
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
...CYCLOTELLA	23	2	--	--	--	--
....STEPHANODISCUS	--	--	28	2	28	2
...PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	23	2	--	--	--	--
...FRAGILARIACEAE						
....SYNEDRA	23	2	--	--	--	--
...NAVICULACEAE						
....NAVICULA	23	2	--	--	--	--
...NITZSCHACEAE						
....NITZSCHIA	46	4	--	--	--	--
...XANTHOPHYCEAE						
...HETEROCOCCALES						
...CHLOROTHECIACEAE						
...OPHIOCYTIUM	--	--	17	1	17	1
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONIDALES						
...CRYPTOMONODACEAE						
...CRYPTOMONAS	--	--	39	3	39	3
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCALES						
...CHROCOCCACEAE						
....ANACYSTIS	--	--	72	5	72	5
...HORMOGONALES						
...OSCILLATORIACEAE						
...OSCILLATORIA	690#	63	--	--	--	--
EUGLENOPHYTA (EUGLENNIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	--	220#	16	220#	16
...PHACUS	--	--	17	1	17	1
...TRACHELUMONAS	--	--	160	11	160	11
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...GYMNODINIALES						
...GYMNODINIACEAE						
....GYMNODINIUM	--	--	33	2	33	2
...PERIDINIALES						
...PERIDINIACEAE						
...PERIDINIUM	--	--	28	2	28	2

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

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07232010 BLUE CREEK NEAR BLOCKER, OK--Continued

BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1977 TO MAY 1978

DATE TIME	MAR 31, 78 0000	MAY 25, 78 0000
TOTAL COUNT	159	212
DIVERSITY: PHYLUM	0.2	0.1
..CLASS	0.2	0.1
...ORDER	1.3	0.7
....FAMILY	0.0	0.0
....GENUS	0.0	0.0
....GENUS-INSECTA	0.0	0.0
ORGANISM	COUNT	COUNT
ANNELIDA		
..OLIGOCHAETA		
...UNKNOWN ORDER	4	--
ARTHROPODA (ARTHROPODS)		
..INSECTA		
...COLEOPTERA		
....ELMIDAE	1	--
...EPHEMEROPTERA	54	179
...TRICHOPTERA	4	--
...DIPTERA		
...CHIRONOMIDAE	96	31
MOLLUSCA (MOLLUSCS)		
..GASTROPODA		
...BASOMMATOPHORA		
...PLANORRIDAE	--	2

ARKANSAS RIVER BASIN

07232029 MATHULDY CREEK NEAR CROWDER, OK

LOCATION.--Lat 35°04'17", long 95°36'47", NE¼NE¼ sec.21, T.7 N., R.16 E., Pittsburg County, Hydrologic Unit 11090204, on county road bridge 4.3 miles (6.9 km) southeast of Crowder, and at mile 6.7 (10.8 km).

DRAINAGE AREA.--5.41 mi² (14.01 km²).

PERIOD OF RECORD.--Water years 1976 to current year.

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)	COLOR (PLAT- INUM- CURALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)
DEC 05...	1120	.40	172	7.6	8.0	65	40	7.8	40
JAN 26...	1400	2.2	157	6.8	3.0	90	45	11.2	45
FEB 07...	1500	.90	150	7.6	.0	75	70	13.9	44
MAR 07...	1330	62	97	7.2	8.0	240	500	11.4	35
APR 05...	0810	1.1	314	7.2	19.0	15	14	7.8	99
MAY 03...	0815	18	150	7.0	11.0	--	230	9.9	38
JUN 21...	1145	.23	600	6.7	27.5	--	2.1	8.0	140

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS 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- SURP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)
DEC 05...	21	.1	5.0	9.2	4.2	10	33	.7	2.6	24
JAN 26...	35	.1	5.0	10	4.9	9.9	31	.6	2.0	12
FEB 07...	33	.1	5.0	9.7	4.8	10	30	.7	6.2	14
MAR 07...	21	.2	10	8.8	3.2	5.1	23	.4	2.4	17
APR 05...	83	.1	5.0	23	10	20	30	.9	2.5	19
MAY 03...	22	.1	5.0	8.8	3.9	8.1	30	.6	2.8	20
JUN 21...	130	.1	5.0	32	15	45	40	1.6	4.4	10

DATE	CAR- BONATE (MG/L AS CO3)	ALKA- LINTY (MG/L AS CACO3)	CARRON 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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
DEC 05...	0	20	.6	29	9.0	.1	7.7	92	84
JAN 26...	0	10	3.0	39	12	.1	7.0	111	95
FEB 07...	0	11	.6	35	12	.1	7.1	110	95
MAR 07...	0	14	1.7	17	4.4	.1	6.0	74	77
APR 05...	0	16	1.9	41	30	.1	8.3	180	185
MAY 03...	0	16	3.2	31	7.9	.2	5.3	84	79
JUN 21...	0	8	3.2	110	67	.2	8.0	359	308

ARKANSAS RIVER BASIN

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0723029 MATHULDY CREEK NEAR CROWDER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

		SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NU3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NU2)	NITRO- GEN, NU2+NU3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS PO4)		
DATE												
DEC 05...		.13	.10	.04	.18	.00	.00	.04	--	--		
JAN 26...		.15	.66	.77	3.4	.01	.03	.78	--	--		
FEB 07...		.15	.27	.52	2.3	.01	.03	.53	--	--		
MAR 07...		.10	12.4	4.6	20	.03	.10	4.6	--	--		
APR 05...		.24	.53	.02	.09	.02	.07	.04	.00	.00		
MAY 03...		.11	4.08	.23	1.0	.02	.07	.25	--	--		
JUN 21...		.49	.22	.05	.22	.01	.03	.06	--	--		
DATE	TIME	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ALUM- INUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	ARSENIC TOTAL FM BOT- TOM MA- TERIAL (UG/G 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)	
DEC 05...	1120	1200	70	--	1	0	--	60	40	1	6	
JAN 26...	1400	--	80	--	--	1	--	--	30	--	0	
FEB 07...	1500	0	190	--	1	1	--	60	40	0	0	
MAR 07...	1330	--	610	--	--	1	--	--	50	--	1	
APR 05...	0810	400	30	--	2	2	--	70	40	1	0	
MAY 03...	0815	--	60	1600	1	0	56	80	30	0	0	
JUN 21...	1145	140	0	--	0	0	--	70	50	1	2	
DATE		CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PR)
DEC 05...	--	0	0	--	7	2	--	1400	130	--	--	21
JAN 26...	--	--	0	--	--	2	--	--	210	--	--	--
FEB 07...	--	10	0	--	6	4	--	2500	180	--	--	5
MAR 07...	--	--	10	--	--	6	--	--	310	--	--	--
APR 05...	--	0	0	--	2	0	--	610	70	--	--	4
MAY 03...	0	20	10	8	15	1	6	7200	80	710	--	14
JUN 21...	--	0	0	--	5	2	--	240	20	--	--	7

ARKANSAS RIVER BASIN

0723029 MATHULDY CREEK NEAR CROWDER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TUM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM ROT- TUM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY RECOV. FM BOT- TUM MA- TERIAL (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MU)	MOLYB- DENUM, RECOV. FM ROT- TUM MA- TERIAL (UG/G)
DEC 05...	21	--	40	20	--	.3	.0	--	1	0	--
JAN 26...	10	--	--	70	--	--	.0	--	--	0	--
FEB 07...	0	--	120	50	--	.0	.0	--	0	0	--
MAR 07...	10	--	--	380	--	--	.0	--	--	0	--
APR 05...	3	--	430	410	--	.0	.0	--	3	0	--
MAY 03...	4	30	620	10	4700	.2	.0	.02	0	0	0
JUN 21...	4	--	740	730	--	.0	.0	--	2	0	--

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	NICKEL, RECOV. FM BOT- TUM MA- TERIAL (UG/G AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM ROT- TUM MA- TERIAL (UG/G AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIFVE DIAM. % FINER THAN .062 MM
DEC 05...	8	2	--	50	20	--	--	19	.02	97
JAN 26...	--	3	--	--	30	--	--	18	.11	92
FEB 07...	8	6	--	40	20	--	--	--	--	--
MAR 07...	--	4	--	--	160	--	--	632	106	97
APR 05...	13	11	--	40	20	--	--	22	.07	92
MAY 03...	18	6	30	130	40	160	17	272	13	99
JUN 21...	24	19	--	60	60	--	4.8	10	.01	89

ARKANSAS RIVER BASIN

351

07232500 BEAVER RIVER NEAR GUYMON, OK
(Headwater of the North Canadian River)

LOCATION.--Lat 36°43'24", long 101°29'30", in NW¼SW¼ sec.18, T.3 N., R.15 E., Texas County, Hydro-logic Unit 11100101, near center of span on downstream side of pier of bridge on U.S. Highway 64 at Dry Sand Draw, 1.2 mi (1.9 km) upstream from Goff Creek, 2.5 mi (4.0 km) north of Guymon, and at mile 650.7 (1,047.0 km).

DRAINAGE AREA.--2,139 mi² (5,540 km²), includes that of Dry Sand Draw, of which 964 mi² (2,497 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1970 published as North Canadian River near Guymon.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,970.93 ft (905.539 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records fair except for period of no gage height record Jan. 24 to Mar. 1 which is poor.

AVERAGE DISCHARGE.--41 years, 25.1 ft³/s (0.71 m³/s), 18,180 acre-ft/yr (22.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,400 ft³/s (1,570 m³/s) June 15, 1964, gage height, 13.68 ft (4.170 m); maximum gage height, 13.82 ft (4.212 m), Sept. 23, 1941, from floodmark; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,710 ft³/s (76.7 m³/s) at 0400 May 27, gage height, 10.91 ft (3.325 m), no other peaks above base of 2,400 ft³/s (68.0 m³/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	.00	4.1	2.8	3.8	7.8	4.2	5.1	3.6	2.8	.00	.00
2	.00	.00	5.3	2.4	3.2	6.8	3.9	5.7	2.8	2.6	.00	.00
3	.00	.00	5.4	4.0	7.0	5.1	3.9	10	2.8	.90	.00	.00
4	.00	.00	5.4	10	10	8.0	4.2	8.4	1020	.00	.00	.00
5	.00	.00	4.2	10	6.0	12	4.2	7.6	304	.00	.00	.00
6	.00	.00	3.5	6.0	4.0	7.2	3.3	9.2	569	.00	.00	.00
7	.00	.00	3.8	4.0	3.2	6.4	3.3	8.4	106	.00	.00	.00
8	.00	.00	3.5	3.7	3.3	6.8	2.8	6.0	33	.00	.00	.00
9	.00	.00	2.6	3.2	3.1	6.4	2.8	5.1	14	.00	.00	.00
10	.00	.00	4.0	2.9	2.8	5.7	3.6	4.5	48	.00	.00	.00
11	.00	.00	6.0	3.5	3.3	5.4	3.3	4.5	16	.00	.00	.00
12	.00	.00	8.8	3.4	3.8	5.4	2.8	3.3	14	.00	.00	.00
13	.00	.00	3.6	4.5	3.2	5.7	2.8	3.0	12	.00	.00	.00
14	.00	.00	3.0	3.7	2.8	5.4	2.8	2.8	10	.00	.00	.00
15	.00	.00	2.6	4.5	3.2	5.7	3.3	2.6	9.6	.00	.00	.00
16	.00	.00	2.6	3.0	3.0	5.4	3.6	2.6	7.6	.00	.00	.00
17	.00	.00	2.9	2.2	2.7	5.4	3.3	2.4	6.8	.00	.00	.00
18	.00	.82	3.9	2.8	3.1	5.4	3.0	2.2	6.4	.00	.00	.00
19	.00	2.6	2.6	2.6	3.7	5.4	3.3	2.0	5.7	8.1	.00	.00
20	.00	2.1	2.5	2.5	4.2	5.4	5.1	1.8	5.7	.36	.00	.00
21	.00	.00	2.4	2.8	3.8	5.1	4.8	3.3	5.4	.00	.00	.00
22	.00	2.9	2.9	3.2	8.0	5.1	3.6	4.5	4.8	.00	.00	.00
23	.00	4.5	4.0	3.5	11	5.1	3.3	2.6	3.9	.00	.00	.00
24	.00	3.7	3.5	4.5	10	5.7	3.0	2.6	3.9	.00	.00	.00
25	.00	5.1	2.3	4.0	8.0	5.7	3.3	2.6	3.6	.00	.00	.00
26	.00	4.8	2.7	3.3	9.0	5.4	3.3	475	3.0	.00	.00	.00
27	.00	4.5	2.9	3.8	9.8	5.1	3.3	899	2.8	.00	.00	.00
28	.00	4.5	3.0	4.1	8.8	5.1	2.6	41	3.0	.00	.00	.00
29	.00	4.8	3.5	3.9	---	4.8	2.6	16	3.3	.00	.00	.00
30	.00	5.1	3.7	4.5	---	4.2	4.8	6.8	3.9	.00	.00	.00
31	.00	---	3.2	4.3	---	4.2	---	5.1	---	.00	.00	---
TOTAL	.00	45.42	114.4	123.6	147.8	182.3	104.3	1555.7	2234.6	14.76	.00	.00
MEAN	.000	1.51	3.69	3.99	5.28	5.88	3.48	50.2	74.5	.48	.000	.000
MAX	.00	5.1	8.8	10	11	12	5.1	899	1020	8.1	.00	.00
MIN	.00	.00	2.3	2.2	2.7	4.2	2.6	1.8	2.8	.00	.00	.00
AC-FT	.00	90	227	245	293	362	207	3090	4430	29	.00	.00

CAL YR 1977 TOTAL 7413.13 MEAN 20.3 MAX 2340 MIN .00 AC-FT 14700
WTR YR 1978 TOTAL 4522.88 MEAN 12.4 MAX 1020 MIN .00 AC-FT 8970

ARKANSAS RIVER BASIN

07232500 BEAVER RIVER NEAR GUYMON, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952-63, 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1959 to September 1963, October 1975 to current year.

WATER TEMPERATURE: November 1959 to September 1963, October 1975 to current year.

REMARKS.--Samples were collected by a local observer on a daily basis. An additional sample was collected in December 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)	SPEC- IFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, CENT SATUR- ATION	CULI- FURN, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FFCAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACU3)	HARD- NESS (MG/L AS CACU3)
DEC 20...	0845	2.5	648	8.4	.0	4	12.9	97	30	340	280	30
		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SUPP- TION RATIO PERCENT	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LITY (MG/L AS CACU3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SU4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
DEC 20...	61	32	31	19	.8	5.7	310	0	250	2.0	64	19
		FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DTS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
DEC 20...		2.1	30	394	398	.54	2.6	.75	.03	.24	.09	.08
						SEDI- MENT DIS- SOLVED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM					
DEC 20...						50	.34	93				

ARKANSAS RIVER BASIN

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07232500 BEAVER RIVER NEAR GUYMON, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			461		---	533	506	504	564			
2			463		---	553	506	510	564			
3			463		---	544	507	504	564			
4			475		---	551	507	507	411			
5			471		---	496	507	506	391			
6			475		---	516	507	507	399			
7			474		---	494	506	548	400			
8			472		---	502	507	546	545			
9			471		---	518	531	548	538			
10			472		---	520	532	550	538			
11			---		---	506	533	548	593			
12			---		---	---	535	548	593			
13			---		---	---	534	548	593			
14			---		---	---	534	---	593			
15			---		---	---	529	---	590			
16			---		---	---	530	---	596			
17			---		---	---	530	---	595			
18			---		---	---	530	---	588			
19			---		---	---	530	---	560			
20			---		---	---	529	---	564			
21			---		---	---	533	546	588			
22			---		---	---	532	543	559			
23			---		---	---	500	548	554			
24			---		---	---	503	552	556			
25			---		---	---	503	547	---			
26			---		548	503	504	550	---			
27			---		554	503	503	551	---			
28			---		552	503	504	570	---			
29			---		---	504	505	570	---			
30			---		---	506	504	569	---			
31			---		---	505	---	568	---			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			5.0		---	4.0	18.0	---	21.0			
2			7.0		---	4.0	18.0	---	21.0			
3			6.0		---	5.0	18.5	---	21.0			
4			3.0		---	4.0	19.0	---	22.0			
5			1.0		---	---	19.5	---	22.0			
6			.0		---	---	20.0	---	22.5			
7			1.0		---	---	19.5	22.0	23.0			
8			.0		---	---	19.0	23.0	23.5			
9			1.0		---	---	---	24.0	24.0			
10			.0		---	---	18.0	23.0	23.0			
11			---		---	---	---	23.0	22.0			
12			---		---	---	---	23.5	23.0			
13			---		---	---	---	22.0	24.0			
14			---		---	---	---	---	25.0			
15			---		---	---	---	---	25.0			
16			---		---	---	17.0	---	24.5			
17			---		---	---	---	---	23.0			
18			---		---	---	---	---	22.0			
19			---		---	---	---	---	21.0			
20			---		---	---	---	---	20.0			
21			---		---	---	---	21.0	22.0			
22			---		---	---	19.0	23.0	24.0			
23			---		---	---	---	24.0	25.0			
24			---		---	---	---	23.0	23.0			
25			---		---	---	---	24.0	---			
26			---		2.0	19.0	---	24.0	---			
27			---		2.5	17.0	---	22.0	---			
28			---		3.0	18.0	---	23.0	---			
29			---		---	18.0	---	22.5	---			
30			---		---	18.5	---	22.0	---			
31			---		---	19.0	---	21.0	---			

ARKANSAS RIVER BASIN

07233210 BEAVER RIVER NEAR HARDESTY, OK
(Headwater of the North Canadian River)

LOCATION.--Lat 36°39'23", long 101°08'06", in SE¼NE¼ sec.8, T.2 N., R.18 E., Texas County, Hydrologic Unit 11100102, on left bank of outlet channel, 500 ft (152 m) downstream from Optima Dam, 5 mi (8 km) northeast of Hardesty, and at mile 623.1 (1,002.6 km).

DRAINAGE AREA.--5,029 mi² (13,025 km²), of which 1,788 mi² (4,631 km²) is probably noncontributing.

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

GAGE.--Water-stage recorder. Datum of gage 2,690.00 ft (819.912 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 685 ft³/s (19.4 m³/s) June 8, gage height, 10.42 ft (3.176 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	.10	.00	1.0	1.7	2.7	11	.01	1.9	260	.18	.04	.02
2	.04	.00	1.0	2.7	2.3	12	.01	2.2	235	.18	.47	.02
3	.00	.00	1.0	3.0	2.9	7.9	.01	6.6	156	.18	1.1	.02
4	.00	.00	1.0	2.9	3.2	10	.01	10	177	.18	.04	.02
5	.00	.00	1.0	2.8	3.4	8.0	.00	16	208	.18	.03	.02
6	.00	.00	1.0	2.8	3.5	7.6	.00	20	338	.18	.03	.02
7	.00	.00	1.0	2.8	4.2	8.3	.01	23	652	.18	.02	.02
8	.00	.00	1.0	2.8	4.8	7.4	.02	51	668	.18	.02	.02
9	.00	.00	1.4	2.8	4.8	6.9	.01	62	635	.18	.02	.02
10	.00	.00	1.5	2.8	4.8	6.4	.01	41	572	.18	.02	.02
11	.00	.00	1.7	2.3	4.8	5.3	.02	31	521	.18	.02	.02
12	.00	.00	1.7	2.6	4.8	5.4	.47	27	452	.18	.02	.02
13	.01	.00	1.7	2.6	5.6	6.0	1.1	20	371	.18	.02	.02
14	.03	.00	1.7	2.6	4.4	6.8	2.6	14	286	.14	.02	.02
15	.02	1.5	1.7	2.6	4.0	6.3	4.8	11	238	.14	.02	.02
16	.01	3.8	1.9	2.3	3.6	2.6	5.6	1.7	134	.14	.02	.02
17	.00	2.9	2.0	1.7	3.2	.00	4.4	.01	91	.14	.02	.02
18	.00	1.8	2.0	2.0	3.5	.00	3.8	.00	51	.14	.02	.02
19	.00	1.4	2.2	1.9	4.0	.00	3.5	.00	31	.14	.02	.02
20	.00	1.2	2.0	1.9	4.4	.00	3.2	.00	19	.10	.02	.02
21	.00	1.2	1.7	2.0	4.4	.00	3.0	.00	10	.10	.02	.02
22	.00	1.2	2.5	2.1	4.4	.00	2.8	.00	7.1	.10	.02	.02
23	.00	1.2	2.0	2.3	4.4	.00	2.6	.00	2.3	.10	.02	.02
24	.00	1.2	2.3	2.6	4.8	.00	2.4	.00	.51	.08	.02	.02
25	.00	1.2	1.8	2.5	6.1	.00	2.0	.00	.45	.08	.02	.02
26	.00	1.3	2.0	2.1	7.4	.00	2.0	.00	.34	.08	.02	.02
27	.00	1.6	2.3	2.4	10	.00	2.0	3.2	.25	.08	.02	.02
28	.00	1.6	2.6	2.5	11	.00	1.7	226	.21	.06	.02	.02
29	.00	1.6	2.6	2.4	---	.00	1.7	494	.21	.06	.02	.02
30	.00	1.6	2.6	2.8	---	.01	1.9	488	.18	.04	.02	.02
31	.00	---	2.6	3.0	---	.01	---	398	---	.04	.02	---
TOTAL	.21	26.30	59.3	76.3	131.4	117.92	51.68	1947.61	6116.55	4.10	2.21	.60
MEAN	.007	.88	1.91	2.46	4.69	3.80	1.72	62.8	204	.13	.071	.020
MAX	.10	3.8	2.6	3.0	11	12	5.6	494	668	.18	1.1	.02
MIN	.00	.00	1.4	1.7	2.3	.00	.00	.00	.18	.04	.02	.02
AC-FT	.4	52	118	151	261	234	103	3860	12130	8.1	4.4	1.2
WTR YR 1978	TOTAL	8534.18	MEAN	23.4	MAX	668	MIN	.00	AC-FT	16930		

ARKANSAS RIVER BASIN

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07234000 BEAVER RIVER AT BEAVER, OK
(Headwater of the North Canadian River)

LOCATION.--Lat 36°49'20", long 100°31'05", in SW¼ sec.7, T.4 N., R.24 E., Beaver County, Hydrologic Unit 11100201, near right bank on downstream side of pier of bridge on U.S. Highway 270 at Beaver, 1.5 mi (2.4 km) downstream from Home Creek, 5 mi (8.0 km) upstream from Clear Creek, and at mile 576.0 (926.8 km).

DRAINAGE AREA.--7,955 mi² (20,603 km²), of which 4,270 mi² (11,059 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1904 to December 1905 (gage heights only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Beaver Creek at Beaver 1904-5, and October 1937 to September 1970 as North Canadian River at Beaver.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,368.16 ft (721.815 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Mar. 29, 1904, to Dec. 31, 1905, nonrecording gage at same vicinity at different datum. Mar. 1, 1938, to Sept. 30, 1946, water-stage recorder at present site at datum 3.0 ft (9.1 m) higher.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--41 years, 103 ft³/s (2.917 m³/s), 74,620 acre-ft/yr (92.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,000 ft³/s (1,980 m³/s) Oct. 8, 1946, maximum gage height, 14.55 ft (4.435 m) by slope-area measurement of peak flow in overflow section and extension of rating curve for main channel above 42,000 ft³/s (1,190 m³/s); no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,110 ft³/s (88.1 m³/s) May 30, gage height, 8.62 ft (2.627 m), no peaks above base of 4,000 ft³/s (113 m³/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	.78	.54	.00	.00	3.3	17	4.2	1.9	215	12	.00	.25
2	.94	.61	.00	.10	2.7	18	4.1	4.2	196	11	.00	.22
3	.86	.34	.00	.34	2.3	16	3.4	16	154	10	.00	.21
4	.85	.31	.00	.60	1.5	17	2.9	25	218	6.9	.00	.20
5	.76	.34	.15	.11	2.8	18	3.0	29	977	7.4	182	.18
6	.85	.34	.00	.00	3.6	19	3.0	31	1140	5.6	127	.17
7	.76	.36	.00	.00	3.6	17	2.1	34	956	4.8	58	.09
8	.76	.24	.00	.00	2.6	15	1.7	30	408	3.5	40	.09
9	.85	.29	.12	.00	2.6	15	2.0	25	321	2.4	343	.09
10	.76	.30	.68	.27	3.6	14	2.1	22	342	1.9	41	.09
11	.68	.37	1.0	.55	3.3	12	2.5	25	794	1.8	161	.09
12	.76	.34	.11	1.6	3.3	13	2.6	22	360	1.4	67	.09
13	.76	.21	.00	1.1	3.2	16	1.8	16	250	1.1	37	.09
14	.71	.27	.00	.99	2.0	12	1.3	14	170	.91	19	.09
15	.61	.22	.00	.55	2.2	14	1.2	13	134	.79	10	.09
16	.67	.03	.00	.05	2.0	14	1.1	11	106	.62	4.2	.09
17	.64	.00	.00	.36	1.8	13	2.2	7.9	94	.49	1.4	.09
18	.63	.00	.00	.27	2.5	13	2.2	7.4	72	.41	.71	.09
19	.63	.04	.00	1.1	4.0	12	2.2	7.4	60	.40	.51	.09
20	.53	.01	.00	1.9	6.0	11	1.5	5.9	53	.26	.64	.09
21	.48	.00	.04	2.6	4.8	11	1.3	4.6	43	.19	.81	.09
22	.56	.00	.00	3.2	5.0	9.4	1.3	5.0	39	.15	.68	.09
23	.59	.00	.00	3.1	9.5	8.5	1.1	6.0	34	.15	.60	.09
24	.58	.00	.00	2.6	15	8.8	.32	3.7	30	.15	.45	.09
25	.45	.00	.00	2.3	18	9.0	.25	2.5	25	.10	.43	.09
26	.43	.00	.00	2.1	21	8.7	.25	838	22	.04	.36	.09
27	.39	.00	.00	2.5	19	8.2	.23	455	19	.00	.36	.09
28	.44	.03	.01	2.7	17	6.8	.23	1260	17	.00	.35	.09
29	.36	.00	.00	2.6	---	5.7	.22	2410	16	.00	.30	.09
30	.38	.04	.00	3.4	---	4.9	.32	1670	14	.00	.29	.09
31	.34	---	.00	3.1	---	4.5	---	380	---	.00	.25	---
TOTAL	19.79	5.23	2.11	40.69	168.2	381.5	52.62	7383.4	7279	76.46	1097.39	1.32
MEAN	.64	.17	.068	1.29	6.01	12.3	1.75	238	243	2.47	35.4	.044
MAX	.94	.61	1.0	3.4	21	19	4.2	2410	1140	12	343	.25
MIN	.34	.00	.00	.00	1.5	4.5	.22	1.9	14	.00	.00	.09
AC-FT	39	10	4.2	80	334	757	104	14640	14440	152	2180	2.6
CAL YR 1977	TOTAL	5127.99	MEAN	14.0	MAX	1000	MIN	.00	AC-FT	10170		
WTR YR 1978	TOTAL	16507.11	MEAN	45.2	MAX	2410	MIN	.00	AC-FT	32740		

ARKANSAS RIVER BASIN

07234000 BEAVER RIVER AT BEAVER, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1958-59, 1962-63, 1968 to current year.

PERIOD OF DAILY RECORDS.--

SPECIFIC CONDUCTANCE: October 1967 to current year.

WATER TEMPERATURE: October 1967 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,580 micromhos Apr. 29, 1978; minimum daily, 286 micromhos July 31, 1971.

WATER TEMPERATURE: Maximum daily, 38.0°C July 18, 1978; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 6,580 micromhos Apr. 29; minimum daily, 361 micromhos Aug. 7.

WATER TEMPERATURE: Maximum daily 38.0°C July 18; 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, 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, CENT SATUR- ATION	COLI- FORM, FECAL, 0.7 UMMP (COLS./ 100 ML)	STREP- TOCOCCI FECAL, MP AGAR (COLS./ 100 ML)
OCT											
05...	1900	.76	5070	7.7	14.5	--	--	--	--	--	--
12...	1430	.76	5200	8.1	19.0	7	--	10.0	118	170	110
14...	1700	.68	5160	7.8	23.0	--	--	--	--	--	--
25...	2130	.43	5170	7.9	15.0	--	--	--	--	--	--
NOV											
01...	1400	.60	4500	8.1	7.0	2	--	12.6	112	280	110
05...	1730	.34	5190	7.9	17.0	--	--	--	--	--	--
15...	1230	.22	5290	7.8	12.0	--	--	--	--	--	--
DEC											
05...	1230	.26	4670	8.0	6.0	--	--	--	--	--	--
JAN											
28...	1300	3.0	4800	8.0	.0	--	--	--	--	--	--
FEB											
04...	1800	1.1	4640	7.8	3.0	--	--	--	--	--	--
15...	1800	2.2	4640	7.8	2.0	--	--	--	--	--	--
25...	1700	18	3440	7.8	4.0	--	--	--	--	--	--
MAR											
04...	1830	17	3960	8.0	4.0	--	--	--	--	--	--
15...	1800	14	4360	8.1	14.0	--	--	--	--	--	--
25...	1900	9.0	5110	8.0	11.0	--	--	--	--	--	--
28...	1530	6.9	4500	8.2	22.5	6	--	9.1	118	99	28
APR											
05...	1900	3.4	5680	7.9	19.0	--	--	--	--	--	--
10...	--	2.1	--	--	--	--	--	--	--	--	--
15...	1830	1.3	5480	7.9	15.0	--	--	--	--	--	--
18...	1330	2.2	4720	8.3	16.5	1	--	10.5	118	--	230
25...	2100	.25	5650	7.7	17.0	--	--	--	--	--	--
MAY											
01...	--	1.9	--	--	--	--	--	--	--	--	--
05...	1900	29	4760	8.0	14.0	--	--	--	--	--	--
15...	1730	13	4430	7.7	24.0	--	--	--	--	--	--
24...	1530	3.4	5000	8.2	28.5	--	2.6	6.7	124	100	83
26...	1400	1630	669	7.5	22.0	--	--	--	--	--	--
JUN											
05...	1530	1620	786	7.4	22.0	--	--	--	--	--	--
14...	1330	170	1070	8.8	26.0	--	450	7.8	104	82	63
15...	2030	134	1600	7.3	26.0	--	--	--	--	--	--
25...	1530	25	4010	7.5	29.0	--	--	--	--	--	--
JUL											
05...	1800	7.4	5100	8.0	30.0	--	--	--	--	--	--
13...	0830	1.1	5000	8.0	23.0	--	1.0	6.9	87	K1900	K2500
15...	2000	.74	5130	7.7	30.0	--	--	--	--	--	--
23...	1930	.15	6060	7.6	24.0	--	--	--	--	--	--
AUG											
06...	1800	92	419	7.4	26.0	--	--	--	--	--	--
16...	1730	2.4	2500	7.4	31.0	--	--	--	--	--	--
26...	2000	.39	4880	7.7	26.0	--	--	--	--	--	--
SEP											
05...	2300	.18	5000	7.9	20.0	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07234000 BEAVER RIVER AT BEAVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HARD- NESS (MG/L AS CACO ₃)	HARD- NESS, NONCAR- BONATE (MG/L CACO ₃)	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 HCO ₃)	CAR- BONATE (MG/L AS CO ₃)
OCT										
05...	1300	1200	270	150	670	53	8.1	8.6	140	0
12...	1400	1100	300	150	640	50	7.5	8.0	280	0
14...	1300	1200	280	150	670	52	8.0	9.0	170	0
25...	1300	1200	280	150	680	53	8.2	9.1	190	0
NOV										
01...	1300	1100	290	140	490	45	5.9	7.5	190	0
05...	1300	1200	280	150	650	52	7.8	8.7	130	0
15...	1300	1200	270	150	690	54	8.4	8.4	140	0
DEC										
05...	1200	1000	240	140	590	52	7.5	7.6	180	0
JAN										
28...	1300	1100	280	140	580	50	7.1	7.1	260	0
FEB										
04...	1100	890	250	120	620	54	8.1	7.4	260	0
15...	1200	1000	260	140	590	51	7.3	7.3	230	0
25...	500	350	110	55	550	70	11	7.2	190	0
MAR										
04...	650	450	140	73	620	67	11	8.9	240	0
15...	740	570	160	82	750	69	12	9.9	210	0
25...	760	600	150	93	800	69	13	11	190	0
28...	800	640	160	98	820	69	13	9.3	200	0
APR										
05...	1000	830	210	120	880	65	12	14	230	0
10...	--	--	--	--	--	--	--	--	--	--
15...	950	770	200	110	840	65	12	12	220	0
18...	930	740	190	110	800	65	11	12	230	0
25...	1300	1100	290	150	780	56	9.3	12	260	0
MAY										
01...	--	--	--	--	--	--	--	--	--	--
05...	680	470	140	80	770	71	13	9.8	250	0
15...	700	520	140	86	700	68	11	11	220	0
24...	850	680	180	98	870	69	13	13	--	--
26...	160	29	46	11	80	51	2.8	6.4	160	0
JUN										
05...	200	65	57	13	81	46	2.5	9.6	160	0
14...	270	92	76	20	120	46	3.2	25	--	--
15...	340	150	91	27	170	50	4.0	30	230	0
25...	650	450	150	68	600	66	10	20	250	0
JUL										
05...	850	650	190	91	790	66	12	15	240	0
13...	1400	1100	310	140	600	49	7.1	9.6	--	--
15...	1300	1100	280	140	650	52	7.9	11	200	0
23...	1800	1600	410	190	690	45	7.1	10	220	0
AUG										
06...	170	30	52	9.6	26	24	.9	9.6	170	0
16...	590	410	150	52	310	53	5.6	14	220	0
26...	1300	1100	290	140	590	49	7.1	8.8	240	0
SEP										
05...	1400	1200	320	150	610	48	7.1	9.8	220	0

ARKANSAS RIVER BASIN

07234000 BEAVER RIVER AT BEAVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ALKALINITY (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT										
05...	110	4.5	880	1200	--	--	3370	--	4.58	6.9
12...	230	3.6	820	1200	.8	29	3460	3280	4.71	7.1
14...	140	4.3	900	1200	--	--	3430	--	4.66	6.3
25...	160	3.8	890	1200	--	--	3410	--	4.64	3.9
NOV										
01...	160	2.4	770	1000	.7	26	3130	2820	4.26	5.0
05...	110	2.6	950	1200	--	--	3430	--	4.66	3.1
15...	110	3.6	890	1200	--	--	3420	--	4.65	2.0
DEC										
05...	150	2.9	740	1100	--	--	3000	--	4.08	2.1
JAN										
28...	210	4.2	690	1100	--	--	3110	--	4.23	25.2
FEB										
04...	213	6.6	690	1000	--	--	2990	--	4.07	8.8
15...	190	5.8	730	1000	--	--	2980	--	4.05	17.7
25...	160	4.8	290	870	--	--	1880	--	2.56	91.4
MAR										
04...	200	3.8	350	960	--	--	2330	--	3.17	107
15...	170	2.7	410	1200	--	--	2760	--	3.75	104
25...	160	3.0	460	1300	--	--	3080	--	4.19	74.8
28...	160	2.0	480	1300	1.5	16	2950	2980	4.01	55.0
APR										
05...	190	4.6	580	1500	--	--	3610	--	4.91	33.1
10...	--	--	--	--	--	--	--	--	--	--
15...	180	4.4	600	1400	--	--	3400	--	4.62	11.9
18...	190	1.8	560	1300	1.3	19	3290	3110	4.47	19.5
25...	210	8.3	850	1400	--	--	3710	--	5.05	2.5
MAY										
01...	--	--	--	--	--	--	--	--	--	--
05...	210	4.0	390	1200	--	--	2910	--	3.96	228
15...	180	7.0	440	1100	--	--	2710	--	3.69	95.1
24...	170	--	520	1500	1.4	21	3330	3310	4.53	30.6
26...	130	8.1	48	110	--	--	400	--	.54	1760
JUN										
05...	130	10	63	120	--	--	484	--	.66	2120
14...	180	--	96	190	.8	19	641	655	.87	294
15...	190	18	120	290	--	--	960	--	1.31	347
25...	210	13	320	990	--	--	2450	--	3.33	165
JUL										
05...	200	3.8	570	1200	--	--	3220	--	4.38	64.3
13...	260	--	790	1100	.9	33	3440	3140	4.68	10.2
15...	160	6.4	850	1300	--	--	3450	--	4.69	6.8
23...	180	8.8	960	1400	--	--	4190	--	5.70	1.7
AUG										
06...	140	11	21	47	--	--	250	--	.34	62.1
16...	180	14	310	550	--	--	1560	--	2.12	10.1
26...	200	7.7	860	1100	--	--	3310	--	4.50	3.4
SEP										
05...	180	4.4	930	1100	--	--	3420	--	4.65	1.6

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07234000 BEAVER RIVER AT BEAVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible][illegible][illegible]

ARKANSAS RIVER BASIN

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07234000 BEAVER RIVER AT BEAVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE 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)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 12...	--	--	--	--	--	5.5	--	--	299	.61	77
NOV 01...	0	0	30	0	30	--	3.7	300	79	.13	93
MAR 28...	--	--	--	--	--	4.2	--	4400	120	2.2	93
APR 10...	--	--	--	--	--	--	--	--	270	1.2	--
18...	--	--	--	--	--	4.2	--	--	83	.49	92
MAY 01...	--	--	--	--	--	--	--	--	3030	16	--
24...	0	0	30	10	20	--	5.9	4400	330	3.0	99
JUN 14...	--	--	--	--	--	21	--	81	281	129	87
JUL 13...	--	--	--	--	--	4.5	--	--	--	--	--

ARKANSAS RIVER BASIN

07234000 BEAVER RIVER AT BEAVER, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO JUNE 1978

DATE TIME	NOV 1,77 1400	MAR 28,78 1530	MAY 24,78 1530	JUN 14,78 1330
TOTAL CELLS/ML	300	4400	4400	81
DIVERSITY: DIVISION	1.5	0.7	1.1	0.1
..CLASS	1.5	0.7	1.1	0.1
..ORDER	2.1	1.0	1.4	0.1
...FAMILY	2.9	1.6	2.3	1.0
....GENUS	3.0	2.1	3.3	1.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....HYDRODICTYACEAE								
...PEDIASTRUM	*	0	--	-	--	-	--	-
...MICRACTINIACEAE								
...GOLENKINIA	--	-	--	-	*	0	--	-
...MICRACTINIUM	--	-	--	-	170	4	58#	72
...DOCYSTACEAE								
...ANKISTRODESMUS	10	3	--	-	490	11	--	-
...CHODATELLA	--	-	--	-	*	0	--	-
...DICTYOSPHAERIUM	--	-	--	-	380	8	--	-
...FRANCEIA	--	-	--	-	*	0	--	-
...KIRCHNERIELLA	--	-	--	-	100	2	--	-
...DOCYSTIS	15	5	--	-	87	2	--	-
...SCENEDESMACEAE								
...ACTINASTRUM	--	-	--	-	1400#	31	--	-
...SCENEDESMUS	41	14	--	-	200	5	22#	27
...TETRASTRUM	--	-	--	-	170	4	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CARTERIA	--	-	510	11	--	-	--	-
...CHLAMYDOMONAS	--	-	110	2	43	1	--	-
...ZYGNEATALES								
...ZYGNEATAACEAE								
...MOUGEOTIA	--	-	140	3	--	-	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
..PENNALES								
...NAVICULACEAE								
...ENTOMONEIS	--	-	2600#	60	--	-	--	-
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	15	5	140	3	190	4	--	-
..PENNALES								
...ACHNANTHACEAE								
...COCCONEIS	5	2	--	-	--	-	--	-
...FRAGILARIACEAE								
...SYNEDRA	31	10	220	5	--	-	--	-
...GOMPHONEMACEAE								
...GOMPHONEMA	10	3	--	-	--	-	--	-
...NAVICULACEAE								
...CALONEIS	--	-	110	2	58	1	--	-
...MASTOGLOIA	--	-	--	-	29	1	--	-
...NAVICULA	15	5	220	5	100	2	--	-
...NITZSCHIA								
...HANTZSCHIA	--	-	--	-	*	0	--	-
...NITZSCHIA	20	7	320	7	780#	18	1	2
..XANTHOPHYCEAE								
...HETEROCOCCALES								
...CHLOROTHECIACEAE								
...OPHIOCYTIUM	--	-	--	-	*	0	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
...ANACYSTIS	92#	31	--	-	200	5	--	-
...HORMOGONALES								
...OSCILLATORIACEAE								
...OSCILLATORIA	41	14	--	-	--	-	--	-

NOTE: # = DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* = OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

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07234000 BEAVER RIVER AT BEAVER, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5160	4770	---	---	4800	4230	5340	4870	1210	4830	---	4930
2	5180	5230	---	---	4210	4450	5420	4890	1490	4870	---	4940
3	5210	5200	---	---	4150	4430	5460	5290	2040	4980	---	4830
4	5120	5170	---	4450	4640	3960	5400	5310	1540	5120	---	4980
5	5070	5190	4670	4560	3530	3960	5680	4760	786	5100	---	5000
6	5240	5170	---	---	4780	4070	5690	4780	1050	4950	419	---
7	5170	5270	---	---	4620	4280	5340	4730	960	4870	361	---
8	5150	5260	---	---	5090	4400	5550	4600	1010	4910	619	---
9	5060	5270	---	---	4790	4390	5560	4510	1120	4990	430	---
10	5220	5180	---	---	5000	4390	5520	3760	1170	4640	1200	---
11	5200	5190	4260	---	4980	4500	5730	3770	564	4990	393	---
12	5210	5150	4920	---	4640	4470	5720	4080	710	5100	423	---
13	5200	5160	---	---	4660	4480	5730	4080	934	4980	525	---
14	5160	5140	---	---	4620	4660	5730	4260	1260	5150	2180	---
15	5030	5290	---	---	4640	4630	5480	4430	1600	5130	1350	---
16	5130	5100	---	---	4730	4560	5490	4660	1920	5300	2500	---
17	5130	---	---	---	4640	4620	5510	4880	2260	---	3150	---
18	5140	---	---	---	4450	4580	5660	4760	2480	5220	4320	---
19	5280	5260	---	---	4460	4570	5670	4810	2840	4360	4510	---
20	5280	5260	---	---	4870	4760	5610	5080	2850	4360	4810	---
21	5150	---	4690	---	4370	4990	5690	4980	3270	---	5090	---
22	5160	---	---	---	3820	5150	5660	5060	3280	5990	4910	---
23	5140	---	---	---	3810	5150	5670	5390	3360	6060	4930	---
24	5160	---	---	---	3350	5100	5680	5590	3820	---	5880	---
25	5170	---	---	---	3440	5110	5650	5280	4010	---	6110	---
26	5290	---	---	---	3540	5120	5600	669	4370	---	4880	---
27	5180	---	---	---	3730	5150	5610	589	4440	---	4980	---
28	5180	5100	4820	4800	4220	5280	5620	439	4580	---	5100	---
29	5210	---	---	4930	---	5340	6580	471	4640	---	4820	---
30	5200	4970	---	4740	---	5330	5520	756	4670	---	4900	---
31	4740	---	---	4830	---	5340	---	910	---	---	5020	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	8.0	---	---	.0	5.0	18.0	15.0	20.0	28.0	---	19.0
2	15.0	12.0	---	---	.0	5.0	20.0	17.0	19.0	31.0	---	21.0
3	19.5	14.0	---	---	5.0	3.0	20.0	14.0	22.0	30.0	---	20.0
4	16.0	18.0	---	4.0	3.0	4.0	22.0	16.0	24.0	30.0	---	23.0
5	14.5	17.0	6.0	2.5	.0	7.0	19.0	14.0	22.0	30.0	---	20.0
6	15.0	15.5	---	---	2.0	4.0	15.0	13.0	20.0	29.0	28.0	---
7	15.0	14.0	---	---	4.0	3.0	18.0	24.0	24.0	32.0	16.0	---
8	17.0	10.0	---	---	.0	4.0	17.0	25.0	24.0	28.0	25.0	---
9	17.0	9.0	---	---	.0	5.0	19.0	28.0	27.0	30.0	24.0	---
10	15.0	9.0	---	---	.0	6.0	15.0	22.0	27.0	30.0	29.0	---
11	16.0	12.0	3.0	---	.0	6.0	18.0	24.0	24.0	31.0	25.0	---
12	14.5	12.0	8.0	---	1.0	7.0	20.0	24.0	24.0	34.0	28.0	---
13	13.0	9.5	---	---	.0	---	17.0	26.0	25.0	34.0	32.0	---
14	23.0	10.0	---	---	.0	16.0	19.5	29.0	29.0	35.0	32.0	---
15	17.0	12.0	---	---	2.0	14.0	15.0	24.0	28.0	30.0	29.0	---
16	15.0	8.0	---	---	.0	12.0	16.0	27.0	28.0	32.0	31.0	---
17	15.0	---	---	---	2.0	19.0	15.0	19.0	29.0	---	24.0	---
18	18.0	---	---	---	.0	15.0	14.0	27.0	28.0	38.0	30.0	---
19	16.0	4.0	---	---	.0	18.0	19.0	23.0	19.0	34.0	25.0	---
20	19.5	5.0	---	---	.0	9.0	20.0	20.0	20.0	30.0	26.0	---
21	17.0	---	4.0	---	2.0	16.0	19.0	19.0	18.0	---	28.0	---
22	15.0	---	---	---	1.0	15.0	17.0	30.0	21.0	22.0	28.0	---
23	23.0	---	---	---	.0	4.0	21.0	---	21.0	24.0	---	---
24	18.0	---	---	---	2.0	3.0	19.0	25.0	29.0	---	20.0	---
25	15.0	---	---	---	4.0	11.0	17.0	28.0	29.0	---	22.0	---
26	15.0	---	---	---	6.0	19.0	20.0	22.0	34.0	---	26.0	---
27	13.0	---	---	---	7.0	18.0	22.0	21.0	---	---	29.0	---
28	15.0	5.0	7.0	.0	4.0	18.0	27.0	22.0	29.0	---	28.0	---
29	14.0	---	---	1.0	---	18.0	20.0	23.0	25.0	---	21.0	---
30	17.0	---	---	.0	---	20.0	19.0	21.0	28.0	---	24.0	---
31	12.0	---	---	1.0	---	19.0	---	24.0	---	---	18.0	---

ARKANSAS RIVER BASIN

07234100 CLEAR CREEK NEAR ELMWOOD, OK

LOCATION.--Lat 36°38'42", long 100°30'07", in SW¼SW¼ sec.8, T.2 N., R.24 E., Beaver County, Hydrologic Unit 11100201, on downstream side of right pile bent of county road bridge, 1,000 ft (304.8 m) downstream from small irrigation dam, 2.8 mi (4.5 km) northeast of Elmwood, and at mile 16.9 (27.2 km).

DRAINAGE AREA.--170 mi² (440 km²).

PERIOD OF RECORD.--October 1965 to current year.

REVISED RECORDS.--WSP 2121: 1966.

GAGE.--Water-stage recorder. Altitude of gage is 2,550 ft (777 m), from topographic map.

REMARKS.--Records good. Small diversions for irrigation above station.

AVERAGE DISCHARGE.--13 years, 7.83 ft³/s (0.222 m³/s), 5,670 acre-ft/yr (6.99 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft³/s (566 m³/s) Oct. 16, 1969, gage height, 13.97 ft (4.258 m), from floodmark, from rating curve extended above 12,500 ft³/s (343 m³/s) on basis of slope-area measurement at gage height 13.15 ft (4.008 m); no flow part of July 14, 18, 19, 1970, and Oct. 5, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
June 5	0615	996 28.2	6.34 1.932	Aug. 8	2045	*2,490 70.5	*8.31 2.533
Aug. 7	2300	2,340 66.3	8.15 2.484				

Minimum daily discharge, 0.17 ft³/s (0.005 m³/s) July 16.

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	1.0	1.8	3.2	2.7	2.9	2.9	2.5	2.2	1.8	1.5	1.0	.67
2	1.0	1.9	3.3	2.5	2.8	2.9	2.5	2.2	7.8	1.6	1.1	.68
3	1.1	1.8	3.3	2.7	2.8	2.7	2.5	3.1	4.0	1.4	1.3	.82
4	.92	1.8	3.4	3.0	2.8	2.7	2.4	2.4	37	1.3	1.4	.86
5	1.1	1.8	3.6	2.9	2.8	2.8	2.4	2.4	277	1.3	1.4	.87
6	1.1	1.8	3.4	2.8	2.8	2.7	2.3	2.5	21	1.5	1.3	.76
7	1.1	1.9	3.5	2.9	2.9	2.8	2.3	2.4	10	1.3	216	.86
8	.82	2.0	3.4	2.7	2.8	2.6	2.1	2.1	7.6	1.1	556	1.1
9	.78	2.1	2.9	2.6	2.9	2.7	2.2	2.0	6.2	.43	93	1.3
10	.80	2.1	2.8	2.5	2.9	2.8	2.3	2.0	5.1	.44	11	1.3
11	.77	2.3	2.9	2.7	2.7	2.8	2.1	1.9	4.5	.39	5.7	1.3
12	.84	2.4	2.9	2.8	2.9	2.9	2.1	1.8	3.9	.18	3.7	.68
13	.85	2.5	2.8	3.0	2.8	3.0	2.1	1.8	3.7	.45	2.9	.65
14	.82	2.6	2.9	2.9	2.8	2.7	2.0	1.8	3.4	.92	2.4	.76
15	.77	2.8	2.9	3.0	2.8	3.0	2.1	1.8	3.0	.70	2.1	.83
16	.82	2.7	2.9	2.8	2.9	2.6	2.2	1.7	2.7	.17	1.9	.77
17	.81	2.8	3.1	2.4	2.9	2.6	2.1	1.9	2.6	1.2	1.5	.94
18	.85	2.9	3.1	2.7	2.9	2.7	2.0	2.1	3.1	.98	1.3	1.0
19	.94	3.0	3.2	2.6	2.9	2.7	2.0	2.0	2.6	.77	1.2	1.2
20	1.1	2.8	3.2	2.5	3.0	2.7	1.9	2.2	2.4	1.1	1.1	6.3
21	1.2	2.8	3.0	2.6	3.0	2.7	1.9	2.3	2.6	1.1	1.0	1.4
22	1.4	2.9	3.0	2.7	3.0	2.7	1.8	2.3	2.3	1.6	.89	1.2
23	1.5	2.9	2.9	2.8	2.9	2.8	1.8	2.0	2.0	1.4	.82	1.3
24	1.6	2.9	2.9	2.9	3.1	2.7	1.8	2.1	1.8	1.3	.78	1.4
25	1.6	3.0	2.9	2.8	3.0	2.5	1.7	4.1	2.0	.88	.72	1.6
26	1.7	3.1	3.1	2.6	2.8	2.4	1.8	2.6	1.7	.82	.72	1.7
27	1.7	3.1	3.0	2.8	2.9	2.5	1.8	17	1.8	.57	.66	1.6
28	1.8	3.2	3.0	2.9	3.1	2.6	1.8	78	1.7	1.1	.61	1.6
29	1.7	3.1	3.1	2.8	---	2.5	2.0	25	1.6	.97	.64	1.5
30	1.8	3.1	3.1	2.8	---	2.5	2.2	5.7	1.6	.96	.67	1.4
31	1.8	---	3.1	2.8	---	2.5	---	2.3	---	1.1	.69	---
TOTAL	36.09	75.9	95.8	85.2	80.8	83.7	62.7	185.7	428.5	30.53	915.50	38.35
MEAN	1.16	2.53	3.09	2.75	2.89	2.70	2.09	5.99	14.3	.98	29.5	1.28
MAX	1.8	3.2	3.6	3.0	3.1	3.0	2.5	78	277	1.6	556	6.3
MIN	.77	1.8	2.8	2.4	2.7	2.4	1.7	1.7	1.6	.17	.61	.65
AC-FT	72	151	190	169	160	166	124	368	850	61	1820	76

CAL YR 1977	TOTAL	1210.42	MEAN 3.32	MAX 96	MIN .77	AC-FT 2400
WTR YR 1978	TOTAL	2118.77	MEAN 5.80	MAX 556	MIN .17	AC-FT 4200

07236500 FORT SUPPLY LAKE NEAR FORT SUPPLY, OK

LOCATION.--Lat 36°33'14", long 99°34'16", in NE¼SE¼ sec.17, T.24 N., R.22 W., Woodward County, Hydrologic Unit 11100203, in control tower at left end of Fort Supply Dam on Wolf Creek, 2.0 mi (3.2 km) southeast of Fort Supply and at mile 5.5 (8.8 km).

DRAINAGE AREA.--1,735 mi² (4,494 km²), of which 241 mi² (624 km²) is probably noncontributing.

PERIOD OF RECORD.--June 1942 to current year. Prior to October 1970, published as Fort Supply Reservoir near Fort Supply.

REVISED RECORDS.--WSP 1117: Drainage area.

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

REMARKS.--Reservoir is formed by an earth dam. Outlet works consist of a 540-foot (164.6 m) uncontrolled gravity type concrete weir, one 36-inch (914 mm) diameter gated by-pass, and one 18-foot (5.49 m) oval shaped conduit controlled by three vertical lift sluiceways. Regulated storage began May 4, 1942; conservation pool first filled in June 1942. Capacity, 100,700 acre-ft (124 hm³) at elevation 2,028.0 ft (618.134 m), crest of spillway and 13,890 acre-ft (17.1 hm³) at elevation 2,004.0 ft (610.819 m), conservation pool, designated in 1965. No storage below elevation 1,987.0 ft (605.688 m). Figures given herein represent total contents. Reservoir is used for flood control and conservation. Revised capacity table, based on survey in 1969, used since Oct. 1, 1972.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 99,500 acre-ft (123 hm³) June 25, 1957, elevation, 2,026.97 ft (617.820 m); no contents at times November 1942 to January 1943.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,630 acre-ft (19.3 hm³) May 31, elevation, 2,004.90 ft (611.094 m); minimum, 11,710 acre-ft (14.4 hm³) Sept. 19, elevation, 2002.78 ft (610.447 m).

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

2,002	10,430	2,004	13,890
2,003	12,080	2,005	15,830

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	14040	13980	14580	14210	14330	14000	14310	14190	14420	14420	13570	12430
2	14020	14040	14590	14230	14270	13890	14380	14270	14520	14440	13520	12360
3	14040	14080	14590	14250	14210	14060	14400	14460	14420	14460	13500	12340
4	14020	14140	14610	14210	14190	14120	14420	14500	14440	14460	13500	12310
5	13980	14170	14610	14170	14140	14230	14330	14460	14900	14460	13480	12310
6	13980	14210	14690	14060	14140	14250	14270	14500	14610	14360	13440	12260
7	14020	14230	14710	14100	14100	14290	14330	14500	14310	14350	13420	12200
8	13980	14310	14590	14100	14080	14290	14380	14440	14230	14420	13390	12170
9	14040	14350	14590	14140	14040	14290	14270	14400	14170	14230	13370	12170
10	13890	14400	14560	14170	14000	14270	14270	14500	14080	14270	13350	12170
11	13910	14440	14480	14190	14000	14290	14440	14270	13700	14330	13310	12220
12	13910	14520	14420	14230	14270	14750	14330	14120	13720	14230	13200	12070
13	13910	14520	14360	14290	14270	14590	14360	14080	13930	14170	13200	11910
14	13910	14560	14310	14360	14310	14420	14190	13980	14080	14150	13200	11910
15	13850	14560	14270	14400	14400	14270	14150	13950	14270	14120	13020	11930
16	13910	14560	14210	14420	14460	14120	14080	13980	14270	14100	13080	11810
17	13850	14560	14140	14290	14560	13980	14020	14000	14170	14080	13000	11890
18	13870	14610	14100	13980	14560	13980	13930	14080	14350	14170	12730	11910
19	13870	14590	14000	13890	14590	14040	13910	14120	14690	14190	12770	11790
20	13890	14500	13850	13850	14750	14080	13950	14140	14610	14170	12730	12120
21	13910	14500	13850	13890	14960	14230	14120	14210	14730	14120	12720	12190
22	13890	14540	13890	13980	14960	14210	13980	14330	14750	14040	12640	12260
23	13890	14520	13890	14000	14890	14170	14020	14480	14650	14040	12610	12290
24	13910	14520	13850	14080	14630	14310	14020	14460	14560	13980	12540	12310
25	13910	14520	13930	14140	14610	14360	14040	14500	14500	13980	12500	12340
26	13930	14560	13950	14170	14590	14420	14100	14610	14420	13870	12470	12430
27	13970	14540	14020	14230	14440	14440	14120	14960	14400	13830	12380	12450
28	13970	14560	14040	14310	14100	14150	14120	15120	14420	13800	12400	12490
29	13980	14560	14100	14360	---	14290	14120	15350	14420	13680	12410	12430
30	14020	14560	14170	14420	---	14310	14190	15490	14420	13630	12430	12450
31	14020	---	14120	14380	---	14210	---	15140	---	13610	12410	---
MAX	14040	14610	14710	14420	14960	14750	14440	15490	14900	14460	13570	12490
MIN	13850	13980	13850	13850	14000	13890	13910	13950	13700	13610	12380	11790
†	2,004.07	2,004.35	2,004.12	2,004.26	2,004.11	2,004.17	2,004.16	2,004.65	2,004.28	2,003.85	2,003.19	2,003.21
‡	-80	+540	-440	+260	-280	+110	-20	+950	-720	-810	-1,200	+40

CAL YR 1977 MAX 21580 MIN 9200‡ +4,920

WTR YR 1978 MAX 15490 MIN 11790‡ -1,650

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

07237000 WOLF CREEK NEAR FORT SUPPLY, OK

LOCATION.--Lat 36°34'00", long 99°33'05", in SE&SE& sec.9, T.24 N., R.22 W., Woodward County, Hydrologic Unit 11100203, near left bank on downstream side of pier of bridge on U.S. Highway 270, 1.0 mi (1.6 km) southeast of Fort Supply, 1.6 mi (2.6 km) downstream from Fort Supply Dam, and at mile 3.9 (6.3 km).

DRAINAGE AREA.--1,739 mi² (4,504 km²), of which 241 mi² (624 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year. Prior to October 1, 1941, published as "near Supply".

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,958.38 ft (596.914 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). See WSP 1921 for history of changes prior to Sept. 30, 1962.

REMARKS.--Records fair. Flow completely regulated since May 1942 by Fort Supply Lake (station 07236500).

AVERAGE DISCHARGE.--(Prior to regulation by Fort Supply Dam) 5 years (water years 1938-42), 104 ft³/s (2.95 m³/s), 73,350 acre-ft/yr (92.9 hm³/yr); (Since regulation by Fort Supply Dam) 36 years (water years 1943-78), 57.5 ft³/s (1.628 m³/s), 41,660 acre-ft/yr (51.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,200 ft³/s (402 m³/s) June 24, 1939, gage height, 15.60 ft (4.775 m), present datum, from rating curve extended above 8,000 ft³/s (227 m³/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 19.6 ft (5.97 m), present datum, was reached prior to October 1937, from information by State Highway Department.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,000 ft³/s (28.3 m³/s) June 6, gage height, 8.81 ft (2.685 m); minimum daily, 0.67 ft³/s (0.019 m³/s) Sept. 16.

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	1.8	1.2	15	2.6	50	105	1.6	1.6	788	2.1	1.2	.81
2	1.8	1.6	15	2.6	50	3.1	1.6	1.6	251	2.0	1.1	.79
3	1.7	1.6	15	18	50	2.4	1.6	1.6	244	1.9	1.1	.74
4	1.7	1.6	15	46	50	1.9	23	14	245	1.8	1.1	.73
5	1.7	1.5	16	47	50	1.8	51	48	244	1.8	1.0	.71
6	1.6	1.5	15	104	50	1.7	51	48	630	1.8	1.0	.70
7	1.6	1.6	15	2.8	50	1.7	36	47	546	1.7	.98	.69
8	1.6	1.6	22	2.2	50	1.6	1.4	47	244	1.7	.97	.70
9	1.5	1.6	40	2.2	50	1.6	1.4	48	242	1.6	.97	.72
10	1.5	1.6	51	2.2	50	1.6	14	47	240	1.6	1.0	.71
11	1.5	1.5	49	2.2	26	1.6	51	47	238	1.6	.98	.69
12	1.4	1.5	49	2.2	2.2	1.6	52	47	127	1.7	.94	.70
13	1.4	1.5	49	2.2	2.2	41	52	47	9.8	1.8	.93	.69
14	1.3	1.5	49	2.2	2.2	171	52	47	4.8	1.6	.91	.68
15	1.3	4.4	49	2.2	2.1	173	52	32	4.2	1.5	.91	.68
16	1.2	14	49	17	2.1	170	52	2.7	3.8	1.5	.93	.67
17	1.1	14	49	109	2.1	85	52	1.8	3.3	1.5	.89	.71
18	1.1	14	49	194	2.1	2.4	42	1.2	3.2	1.5	.88	.75
19	1.1	14	49	55	2.1	1.8	2.1	1.1	3.1	1.6	.89	.76
20	1.1	14	48	21	2.1	1.7	1.7	.95	3.0	1.5	.89	1.4
21	1.1	14	36	2.1	2.1	1.6	1.6	.99	17	1.4	.84	1.2
22	1.0	14	19	2.0	19	1.6	1.6	.95	53	1.4	.81	1.0
23	1.0	14	18	2.0	135	1.6	1.6	.86	53	1.4	.81	.98
24	1.0	14	9.0	2.0	197	1.6	1.6	24	52	1.4	.76	.95
25	1.0	14	2.8	2.0	56	1.6	1.6	48	51	1.3	.72	.97
26	1.0	14	2.7	2.0	55	1.6	1.6	50	25	1.3	.71	1.0
27	1.0	15	2.7	2.0	150	20	1.6	114	3.1	1.3	.70	.97
28	.98	15	2.7	2.0	236	52	1.6	235	2.5	1.3	.72	.94
29	.98	15	2.7	2.0	---	51	1.6	238	2.2	1.2	.72	.88
30	1.0	15	2.7	17	---	50	1.6	242	2.1	1.2	.72	.90
31	1.1	---	2.7	50	---	28	---	654	---	1.3	.71	---
TOTAL	40.16	239.8	809.0	721.7	1395.3	982.1	607.4	2139.35	4335.1	48.3	27.79	24.82
MEAN	1.30	7.99	26.1	23.3	49.8	31.7	20.2	69.0	145	1.56	.90	.83
MAX	1.8	15	51	194	236	173	52	654	788	2.1	1.2	1.4
MIN	.98	1.2	2.7	2.0	2.1	1.6	1.4	.86	2.1	1.2	.70	.67
AC=FT	80	476	1600	1430	2770	1950	1200	4240	8600	96	55	49

CAL YR 1977 TOTAL 14473.33 MEAN 39.7 MAX 2660 MIN .80 AC=FT 28710
WTR YR 1978 TOTAL 11370.82 MEAN 31.2 MAX 788 MIN .67 AC=FT 22550

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LOCATION.--Lat 36°26'18", long 99°16'40", in SE¼SE¼ sec.25, T.23 N., R.20 W., Woodward County, Hydrologic Unit 11100301, near right bank on downstream side of pier of bridge on State Highway 15, 200 ft (61.0 m) downstream from The Atchison, Topeka and Santa Fe Railway Co. bridge, 6.0 mi (9.7 km) east of Woodward, 7.2 mi (11.6 km) upstream from Indian Creek, 27.5 mi (44.2 km) downstream from Wolf Creek, and at mile 460.2 (740.5 km).

WATER-DISCHARGE RECORDS

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1731: 1951(M).

REMARKS.--Records fair. Some regulation since May 1942 by Fort Supply Lake on Wolf Creek 33 mi (53 km) upstream (station 07236500).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,000 ft³/s (1,190 m³/s) Oct. 10, 1946, gage height, 9.80 ft (2.987 m), site and datum then in use; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,810 ft³/s (51.3 m³/s) June 2, gage height, 9.27 ft (2.825 m), no peaks above base of 3,500 ft³/s (99.1 m³/s); minimum daily, 2.8 ft³/s (0.079 m³/s) Sept. 16, 17.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	15	26	26	38	151	61	37	1400	98	14	9.1
2	22	22	27	26	100	100	49	34	1720	95	17	8.5
3	22	17	27	31	71	57	45	51	1300	87	23	8.0
4	20	15	27	26	72	49	44	43	893	84	20	7.5
5	20	15	29	39	76	52	47	40	964	79	17	5.7
6	21	15	26	52	73	54	61	63	954	73	14	5.3
7	20	15	25	65	66	52	64	71	1290	67	14	4.9
8	19	18	30	46	80	49	62	68	1680	65	14	4.5
9	18	20	26	32	85	48	46	67	1460	59	14	4.5
10	18	17	34	46	95	47	61	67	1310	54	13	4.1
11	18	17	42	58	98	45	50	67	879	56	13	3.8
12	17	17	53	48	74	44	63	67	740	53	47	3.8
13	17	17	48	40	63	44	65	65	563	46	148	3.5
14	17	17	49	34	71	52	65	65	647	43	94	3.2
15	16	17	48	30	42	105	65	64	487	43	74	3.2
16	15	17	49	31	40	110	64	59	398	36	56	2.8
17	15	19	50	36	38	113	64	44	336	33	43	2.8
18	15	21	50	45	40	89	62	43	305	31	35	3.8
19	15	22	50	65	40	58	61	39	269	82	28	3.5
20	15	22	51	117	34	53	47	36	239	38	24	57
21	15	21	49	100	33	50	42	37	218	32	20	34
22	15	22	49	76	38	49	39	38	206	27	18	26
23	15	23	41	64	44	47	37	34	217	27	14	22
24	15	23	38	57	97	45	36	31	202	27	13	19
25	14	24	37	50	145	45	35	30	188	26	12	18
26	14	24	33	40	89	44	34	93	175	23	12	17
27	14	25	29	42	83	44	35	211	151	21	12	16
28	14	25	27	45	113	47	35	379	128	19	13	16
29	14	24	28	50	---	63	34	294	115	18	12	16
30	15	25	29	41	---	64	35	868	103	17	11	15
31	15	---	29	36	---	65	---	1260	---	15	9.7	---
TOTAL	523	591	1156	1494	1938	1935	1508	4165	19537	1474	868.7	348.5
MEAN	16.9	19.7	37.3	48.2	69.2	62.4	50.3	134	651	47.5	28.0	11.6
MAX	23	25	53	117	145	151	65	1260	1720	98	148	57
MIN	14	15	25	26	33	44	34	30	103	15	9.7	2.8
AC=FT	1040	1170	2290	2960	3840	3840	2990	8260	38750	2920	1720	691
CAL YR 1977	TOTAL	25764.1	MEAN	70.6	MAX	2010	MIN	2.2	AC=FT	51100		
WTR YR 1978	TOTAL	35538.2	MEAN	97.4	MAX	1720	MIN	2.8	AC=FT	70490		

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955, 1958-59, 1961-63, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURE: October 1974 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,760 micromhos Nov. 27, 1975; minimum daily, 348 micromhos Aug.

22, 1977.

WATER TEMPERATURE: Maximum daily, 35.5°C Aug. 12, 1976; minimum daily, 0.0°C Nov. 19, 20, 1975, Feb. 6, 1976.

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, SATUR- ATION	COLI- FORM, FECAL, UM=MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (CULS. PER 100 ML)
OCT											
13...	1345	18	2180	8.2	16.5	4	--	9.4	102	150	61
NOV											
02...	1330	19	2000	8.2	9.0	6	--	9.7	91	1500	1800
DEC											
21...	1600	47	1320	8.1	2.0	45	--	12.2	93	740	190
FEB											
13...	1500	77	1600	7.9	.5	10	--	12.4	92	--	--
MAR											
27...	1430	44	2130	8.2	19.0	2	--	11.0	126	--	79
APR											
18...	0800	63	1460	8.1	11.5	40	--	9.8	96	--	180
MAY											
23...	1745	33	2130	7.9	31.0	--	6.3	8.5	121	300	130
31...	1703	1290	--	--	--	--	--	--	--	--	--
JUN											
02...	1637	1780	--	--	--	--	--	--	--	--	--
14...	0830	692	1100	7.9	24.5	--	240	8.0	101	230	98
JUL											
13...	1700	52	1600	8.2	34.0	--	85	10.4	155	9300	1700
AUG											
03...	1040	37	2350	8.1	23.0	--	5.0	7.8	95	5600	9500
SEP											
12...	1400	3.8	3120	8.9	32.0	--	2.2	17.6	255	1100	4900

DATE	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS 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)
OCT										
13...	600	430	160	49	280	50	5.0	6.9	210	0
NOV										
02...	540	380	150	41	270	52	5.0	7.8	200	0
DEC										
21...	360	160	94	30	140	45	3.2	6.3	240	0
FEB										
13...	470	250	130	35	180	45	3.6	1.7	270	0
MAR										
27...	560	350	140	50	270	51	5.0	5.6	250	0
APR										
18...	420	220	110	35	160	45	3.4	6.1	240	0
MAY										
23...	570	390	150	48	270	50	4.9	6.8	--	--
31...	--	--	--	--	--	--	--	--	--	--
JUN										
02...	--	--	--	--	--	--	--	--	--	--
14...	290	120	80	23	130	47	3.3	17	--	--
JUL										
13...	440	280	120	34	200	49	4.2	8.5	--	--
AUG										
03...	590	440	160	47	240	46	4.3	7.7	--	--
SEP										
12...	660	520	200	39	420	56	7.1	9.1	--	--

ARKANSAS RIVER BASIN

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07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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, SUM OF CONSTITUENTS, DIS= SOLVED (MG/L)	SOLIDS, DIS= SOLVED (TONS PER AC-FT)	SOLIDS, DIS= SOLVED (TONS PER DAY)
OCT 13...	170	2.1	510	340	.7	29	1550	1480	2.11	75
NOV 02...	160	2.0	550	300	.6	23	1510	1440	2.05	77
DEC 21...	200	3.1	170	200	.6	19	803	778	1.09	102
FEB 13...	220	5.4	240	260	.7	22	998	1000	1.36	207
MAR 27...	210	2.5	410	360	.8	22	1400	1380	1.90	166
APR 18...	200	3.1	220	230	.8	17	902	897	1.23	153
MAY 23...	180	--	440	370	.9	23	1450	1420	1.97	129
31...	--	--	--	--	--	--	--	--	--	--
JUN 02...	--	--	--	--	--	--	--	--	--	--
14...	170	--	110	210	.8	20	705	693	.96	1320
JUL 13...	160	--	330	250	.7	27	1060	1070	1.44	149
AUG 03...	150	--	500	300	.7	27	1420	1370	1.93	142
SEP 12...	140	--	930	350	.7	22	2150	2060	2.92	22
DATE	NITRO= GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO= GEN, AMMONIA TOTAL (MG/L AS N)	NITRO= GEN, ORGANIC TOTAL (MG/L AS N)	NITRO= GEN,AM= MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO= GEN,NH4 + ORG, SUSP, TOTAL (MG/L AS N)	NITRO= GEN,AM= MONIA + ORGANIC DIS, TOTAL (MG/L AS N)	NITRO= GEN, TOTAL (MG/L AS N)	NITRO= GEN, TOTAL (MG/L AS NUS3)	PHOS= PHORUS, TOTAL (MG/L AS P)	PHOS= PHORUS, DIS= SOLVED (MG/L AS P)
OCT 13...	.72	4.6	--	--	--	.37	--	--	.47	.41
NOV 02...	.69	1.5	--	--	--	2.1	--	--	.54	.51
DEC 21...	.33	.10	--	--	--	.44	--	--	.32	.27
FEB 13...	.26	.87	.83	1.7	.30	1.4	2.0	8.7	.49	.44
MAR 27...	.71	1.5	.40	1.9	.00	1.9	2.6	12	.36	.33
APR 18...	.57	.01	1.6	1.6	.65	.95	2.2	9.6	.31	.19
MAY 23...	1.9	.08	1.6	1.7	.60	1.1	3.6	16	.30	.24
31...	--	--	--	--	--	--	--	--	--	--
JUN 02...	--	--	--	--	--	--	--	--	--	--
14...	2.1	.01	2.4	2.4	1.2	1.2	4.5	20	.64	.35
JUL 13...	.41	.01	2.6	2.6	1.8	.77	3.0	13	.29	.06
AUG 03...	.89	.68	1.0	1.7	.50	1.2	2.6	11	.38	.21
SEP 12...	1.4	1.6	.90	2.5	.50	2.0	3.9	17	1.2	.94

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible][illegible]

ARKANSAS RIVER BASIN

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07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED SOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS MG)	MERCURY SUSPENDED RECOVERABLE (UG/L AS MG)	MERCURY DISSOLVED SOLVED (UG/L AS MG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED SOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)
OCT 13...	--	--	--	--	--	--	--	--	--	--	--
NOV 02...	80	20	60	.0	.0	.1	0	0	0	0	0
DEC 21...	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	60	20	40	.0	.0	.0	1	1	0	0	0
MAR 27...	--	--	--	--	--	--	--	--	--	--	--
APR 18...	--	--	--	--	--	--	--	--	--	--	--
MAY 23...	--	--	20	--	--	.1	--	--	--	--	--
MAY 31...	--	--	--	--	--	--	--	--	--	--	--
JUN 02...	--	--	--	--	--	--	--	--	--	--	--
JUN 14...	--	--	--	--	--	--	--	--	--	--	--
JUL 13...	--	--	--	--	--	--	--	--	--	--	--
AUG 03...	80	60	20	.0	.0	.0	0	0	1	0	0
SEP 12...	--	--	--	--	--	--	--	--	--	--	--
DATE	SILVER, DISSOLVED SOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED SOLVED (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)	SEDIMENT, SUSPENDED % FINER THAN .062 MM
OCT 13...	--	--	--	--	4.5	--	--	--	89	4.3	93
NOV 02...	0	30	10	20	--	7.2	.3	20000	33	1.7	88
DEC 21...	--	--	--	--	--	--	--	--	116	15	95
FEB 13...	0	20	10	10	--	4.6	1.2	--	77	16	95
MAR 27...	--	--	--	--	4.5	--	--	12000	87	10	93
APR 18...	--	--	--	--	6.4	--	--	--	101	17	92
MAY 23...	0	--	--	--	--	4.5	--	23000	171	15	96
MAY 31...	--	--	--	--	--	--	--	--	690	2400	--
JUN 02...	--	--	--	--	--	--	--	--	690	3320	--
JUN 14...	--	--	--	--	13	--	--	400	--	--	99
JUL 13...	--	--	--	--	10	--	--	--	296	42	97
AUG 03...	0	80	50	30	8.1	--	--	--	16	1.6	24
SEP 12...	--	--	--	--	10	--	--	30000	61	.63	98

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ATRA- ZINE, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 02...	1330	ND	--	ND	ND	--	ND	--	ND	--	ND	--
FEB 13...	1500	ND	--	ND	ND	--	ND	--	ND	--	ND	--
MAY 23...	1745	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 03...	1040	ND	--	ND	ND	--	ND	--	ND	--	ND	--

DATE	DI- AZINON, TOTAL (UG/L)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
NOV 02...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 13...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 03...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL (UG/L)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI- THION, TOTAL (UG/L)	METHYL TRI- THION, TOT. IN BOTTOM MATL. (UG/KG)	PARA- THION, TOTAL (UG/L)
NOV 02...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
FEB 13...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 03...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOXA- PHENE, TOTAL (UG/L)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- THION, TOTAL (UG/L)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 02...	--	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 13...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 23...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG 03...	--	ND	--	ND	--	ND	--	ND	--	ND	--

ARKANSAS RIVER BASIN

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07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	NOV 2, 77 1330	MAR 27, 78 1430	MAY 23, 78 1745	JUN 14, 78 0830	SEP 12, 78 1400
TOTAL CELLS/ML	20000	12000	23000	400	30000
DIVERSITY: DIVISION	1.6	1.4	0.8	0.9	0.6
..CLASS	1.6	1.4	0.8	0.9	0.6
..ORDER	2.3	1.9	0.9	1.0	1.5
...FAMILY	2.7	2.5	1.4	2.4	1.6
....GENUS	3.0	2.7	1.8	2.9	1.7

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	--	-	--	-	--	-	11	3	770	3
....HYDRODICTYACEAE										
.....PEDIASTRUM	--	-	--	-	2900	13	--	-	--	-
....MICRACTINACEAE										
.....GOLENKINIA	--	-	140	1	--	-	*	0	--	-
....MICRACTINIUM	800	4	5900#	48	--	-	100#	25	--	-
....DUCYSTACEAE										
.....ANKISTRODESMUS	200	1	*	0	240	1	5	1	*	0
....DICTYOSPHAERIUM	400	2	--	-	--	-	18	4	--	-
....KIRCHNERITELLA	--	-	--	-	--	-	--	-	*	0
....DUCYSTIS	--	-	--	-	150	1	11	3	--	-
....SELENASTRUM	100	1	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-	580	2
....SCENEDESMACEAE										
.....ACTINASTRUM	--	-	190	1	--	-	49	12	--	-
....SCENEDESMUS	2400	12	93	1	2900	13	100#	26	770	3
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	100	1	--	-	--	-	--	-	--	-
....CHLAMYDOMONAS	1200	6	510	4	--	-	--	-	*	0
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...PENNALES										
....NAVICULACEAE										
.....ENTOMONEIS	--	-	*	0	--	-	--	-	--	-
..CENTRALES										
...COSCINOIDISCEAE										
....CYCLOTELLA	400	2	650	5	200	1	--	-	--	-
....MELOSIRA	--	-	--	-	--	-	3	1	--	-
...PENNALES										
....FRAGILARIACEAE										
.....ASTERIONELLA	--	-	--	-	14000#	62	--	-	--	-
....FRAGILARIA	--	-	--	-	1500	6	--	-	--	-
....SYNEDRA	--	-	*	0	290	1	--	-	190	1
....GOMPHONFMTACEAE										
.....GOMPHONEMA	--	-	*	0	--	-	--	-	--	-
....NAVICULACEAE										
.....AMPHIPLEURA	--	-	--	-	290	1	--	-	--	-
....CALONEIS	--	-	93	1	--	-	--	-	--	-
....NAVICULA	200	1	1100	9	--	-	--	-	--	-
....PINNULARIA	--	-	*	0	--	-	--	-	--	-
....NITZSCHIA										
.....NITZSCHIA	5600#	29	1800	15	240	1	--	-	190	1
....SURIPELLACEAE										
.....SURIPELLA	--	-	280	2	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
....CRYPTOMONODACEAE										
.....CRYPTOMONAS	200	1	*	0	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
....CHROOCOCCACEAE										
.....AGMENELLUM	1200	6	--	-	--	-	--	-	--	-
....ANACYSTIS	3900#	20	--	-	--	-	5	1	15000#	50
...HORMOGONALES										
....NOSTOCACEAE										
.....ANABAENOPSIS	--	-	--	-	--	-	20	5	--	-
....OSCILLATORIA										
.....OSCILLATORIA	2800	14	370	3	--	-	65#	16	12000#	39
...CHROOCOCCALES										
....CHROOCOCCACEAE										
.....GOMPHOSPHERIA	--	-	790	6	--	-	--	-	--	-

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK---Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

EUGLENOPHYTA (EUGLENOIDS)

.EUGLENOPHYCEAE

..EUGENALES

...EUGENACEAE

....EUGLENA

....TRACHELOMONAS

--	-	*	0	--	-	3	1	380	1
--	-	93	1	--	-	4	1	--	-

NOTE: # = DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* = OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

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07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1960	---	1760	---	2010	1230	---	2040	662	2340	2590	2960
2	---	2290	1960	2830	1470	1350	1880	2340	712	2310	2510	2580
3	2080	---	1990	---	---	---	2140	1850	750	2300	2080	3070
4	2080	---	1840	2370	1330	1870	2130	2050	816	2360	---	3040
5	2140	2640	1810	1560	1320	---	---	2070	---	2380	---	3070
6	2100	2700	2060	1470	1400	2020	1560	1620	1070	2380	2510	---
7	2100	2670	1760	1410	---	2210	1540	1430	966	2300	2500	3160
8	2080	1920	1970	1590	---	2100	1540	1450	834	2200	---	---
9	2120	---	2510	2240	---	---	1840	1430	800	---	2490	2760
10	2170	2160	---	2420	---	2010	1730	1510	---	2320	2520	---
11	2140	2200	---	---	---	2120	2040	1640	968	2240	---	2990
12	2190	2360	1320	2430	---	2180	1520	1680	1040	---	2260	3020
13	2350	2510	1420	---	---	---	1490	1780	1150	---	---	2910
14	---	2490	1420	2320	---	2290	---	1740	1030	---	514	2900
15	2370	2650	1500	2300	---	1330	1520	1780	792	---	787	3010
16	2320	2650	1320	---	---	1540	1520	1820	---	1970	892	2890
17	2350	2500	---	---	---	1360	1550	2160	1040	2140	1020	---
18	2320	2390	1460	---	---	1360	---	---	---	2180	867	2320
19	2320	---	1480	---	2240	1760	1540	2340	1400	1520	974	2790
20	2670	---	---	---	---	2000	1900	2300	1520	2020	---	---
21	---	1830	1430	---	2380	2070	2110	---	---	---	1700	1610
22	2690	1990	1380	1460	2200	2230	2350	2260	---	---	1440	1800
23	---	1990	1620	1540	2110	---	---	2280	1750	2320	1590	1720
24	2650	---	1700	1660	1510	2160	2330	---	1820	2360	1850	---
25	2380	1980	---	1820	1200	2160	2280	2320	1850	2310	2200	---
26	2390	1960	1890	1940	1250	2190	2360	961	1910	---	---	2250
27	2430	1920	1980	1950	1330	2220	---	1080	---	---	2510	2310
28	---	---	2060	2080	1260	2220	2270	---	2240	---	2480	2460
29	---	1760	2020	---	---	1610	2170	---	2280	---	2060	2560
30	2790	---	2200	2020	---	---	---	713	---	---	---	---
31	2780	---	2280	---	---	1520	---	543	---	---	3040	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	---	9.0	---	4.0	4.0	---	18.0	24.0	28.0	33.5	21.0
2	---	12.0	9.0	2.0	2.0	5.0	24.0	12.5	21.5	30.0	32.0	28.5
3	22.0	---	10.0	---	---	---	21.0	11.0	22.0	27.0	26.0	32.0
4	23.0	---	7.0	7.5	4.0	5.0	22.0	20.0	23.0	32.0	---	34.0
5	20.0	11.0	5.0	5.0	5.0	---	---	14.0	---	32.0	---	34.0
6	18.0	20.0	6.0	2.0	2.0	12.0	23.0	13.0	24.0	28.0	33.0	---
7	18.0	19.0	5.0	4.0	---	6.0	20.0	21.5	25.5	24.0	32.0	30.0
8	21.5	15.0	1.5	4.0	---	11.5	23.0	24.0	25.0	26.0	---	---
9	20.0	---	2.0	2.0	---	---	21.0	25.0	25.0	---	27.0	22.0
10	20.0	12.0	---	2.0	---	8.0	15.0	22.0	---	34.0	32.0	---
11	18.0	14.0	---	---	---	9.0	22.0	25.0	27.0	27.0	---	30.0
12	18.5	14.0	7.5	2.0	---	15.0	21.0	19.0	27.0	---	27.0	33.0
13	20.0	15.5	10.0	---	---	---	21.0	16.0	27.0	---	---	33.0
14	---	15.0	9.0	2.0	---	16.0	---	28.0	28.0	---	31.0	32.0
15	13.5	14.0	9.0	5.0	---	10.0	18.0	28.0	28.0	---	29.0	25.0
16	18.5	15.0	6.5	---	---	6.0	19.0	27.0	---	33.0	30.0	24.0
17	20.0	14.0	---	---	---	7.5	22.0	20.0	29.0	25.5	31.0	---
18	20.0	8.0	8.0	---	---	10.0	---	---	---	34.0	25.0	31.0
19	20.5	---	6.5	---	8.0	17.5	17.0	21.5	28.0	35.0	22.0	32.0
20	22.0	---	---	---	---	19.0	21.0	20.0	27.0	34.0	---	---
21	---	8.0	3.0	---	6.5	20.0	12.0	---	---	---	33.0	21.0
22	17.0	10.0	3.0	2.0	11.0	22.0	22.0	30.0	---	---	32.0	20.0
23	---	12.0	2.5	1.5	11.5	---	---	32.0	27.0	31.0	33.0	27.0
24	22.5	---	5.5	2.0	4.0	10.0	23.0	---	25.0	33.0	34.0	---
25	21.0	11.0	---	1.5	3.0	7.0	22.0	31.0	29.0	34.0	31.0	---
26	22.0	6.0	5.0	2.0	7.0	18.5	22.5	21.5	30.0	---	---	25.0
27	20.0	11.0	4.0	2.0	9.0	21.5	---	21.0	---	---	35.0	29.0
28	---	---	5.0	2.5	6.0	22.0	16.0	---	31.0	---	32.0	29.0
29	---	11.0	8.0	---	---	22.0	18.0	---	31.0	---	31.0	20.0
30	21.5	---	7.0	4.5	---	---	---	25.5	---	---	---	---
31	20.0	---	6.5	---	---	15.0	---	27.0	---	---	31.0	---

ARKANSAS RIVER BASIN

07238000 NORTH CANADIAN RIVER NEAR SEILING, OK

LOCATION.--Lat 36°11'06", long 98°55'15", in NW¼ sec.28, T.20 N., R.16 W., Major County, Hydrologic Unit 11100301, near center of span on downstream side of pier of bridge on U.S. Highway 60, 2.0 mi (3.2 km) upstream from Seiling Creek, 2.2 mi (3.5 km) north of Seiling, 2.8 mi (4.5 km) downstream from Deep Creek, and at mile 422.6 (680.0 km).

DRAINAGE AREA.--12,261 mi² (31,756 km²), of which 4,847 mi² (12,554 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1946 to current year.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1731: 1951(M).

GAGE.--Water-stage recorder. Datum of gage is 1,675.42 ft (510.668 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). July 1, 1946, to Aug. 17, 1964, at site 60 ft (18.3 m) downstream and prior to Oct. 1, 1954, at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records good except those for January and February which are poor. Some regulation by Fort Supply Lake on Wolf Creek 70.6 mi (113.6 km) upstream. (station 07236500).

AVERAGE DISCHARGE.--32 years, 215 ft³/s (6.089 m³/s), 155,800 acre-ft/yr (192 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s (935 m³/s) May 19, 1951, gage height, 15.61 ft (4.758 m), present datum; maximum gage height, 16.00 ft (4.877 m) Oct. 11, 1946, present datum; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,290 ft³/s (64.9 m³/s) June 10, gage height, 9.59 ft (2.923 m), no peaks above base of 3,500 ft³/s (99.1 m³/s); minimum daily, 2.8 ft³/s (0.079 m³/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	41	24	43	38	50	149	98	51	1400	122	18	8.1
2	38	28	44	29	50	195	99	53	1660	124	16	7.4
3	35	32	45	29	50	120	84	72	2010	115	19	6.5
4	32	32	46	28	50	85	78	98	2140	105	34	5.7
5	32	31	47	28	50	76	75	98	1590	97	30	5.3
6	31	30	45	29	50	78	74	90	1950	91	25	5.2
7	32	30	46	29	50	73	89	111	2150	86	22	4.7
8	31	34	46	30	50	72	95	131	1830	83	19	4.3
9	29	40	31	30	55	69	98	119	2090	80	19	4.0
10	27	40	32	31	55	67	90	110	2240	77	18	4.0
11	26	41	41	32	55	65	105	105	2000	74	17	4.0
12	26	39	56	32	55	61	96	98	1280	70	14	3.7
13	25	37	67	33	60	62	103	94	991	67	13	3.7
14	24	37	64	34	60	58	101	91	731	64	83	3.5
15	24	36	65	35	60	65	101	90	791	63	58	3.6
16	23	36	66	35	60	127	101	86	586	60	45	3.5
17	23	35	66	37	60	147	101	82	468	57	37	3.4
18	23	35	66	40	60	158	96	76	388	53	30	3.1
19	23	36	67	40	60	135	93	72	346	50	25	2.8
20	22	37	66	42	60	98	92	69	294	49	23	10
21	22	36	63	43	60	86	79	68	266	50	21	40
22	22	36	63	45	65	82	73	70	248	48	18	39
23	24	37	66	45	70	80	70	71	225	45	15	28
24	24	39	60	47	77	81	65	69	227	42	12	25
25	24	39	54	49	127	79	60	55	214	35	10	24
26	24	40	51	50	194	78	57	49	195	30	9.5	45
27	23	41	49	50	122	76	54	192	183	24	8.7	26
28	24	41	46	50	115	75	50	1450	166	23	13	23
29	23	42	43	50	---	74	49	1560	143	22	14	21
30	23	42	42	50	---	90	50	594	129	20	10	20
31	23	---	43	50	---	95	---	706	---	19	9.0	---
TOTAL	823	1083	1629	1190	1930	2856	2476	6680	28931	1945	705.2	387.5
MEAN	26.5	36.1	52.5	38.4	68.9	92.1	82.5	215	964	62.7	22.7	12.9
MAX	41	42	67	50	194	195	105	1560	2240	124	83	45
MIN	22	24	31	28	50	58	49	49	129	19	8.7	2.8
AC-FT	1630	2150	3230	2360	3830	5660	4910	13250	57380	3860	1400	769
CAL YR 1977	TOTAL	47111.9	MEAN	129	MAX	2870	MIN	6.0	AC-FT	93450		
WTR YR 1978	TOTAL	50635.7	MEAN	139	MAX	2240	MIN	2.8	AC-FT	100400		

ARKANSAS RIVER BASIN

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07238000 NORTH CANADIAN RIVER NEAR SEILING, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951, 1953-59, 1968-71, 1974 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 14...	0845	24	1850	8.4	9.0	2	10.2	94	24	455
NOV 03...	1330	34	1700	8.5	14.5	2	12.4	128	7	--
DEC 22...	1915	47	1400	8.1	2.5	110	11.2	88	21	446
JAN 25...	1315	49	900	8.0	1.0	4	12.0	90	10	--
FEB 14...	1545	64	1300	--	.5	--	13.4	98	--	--
MAR 09...	1040	68	--	--	--	--	--	--	--	--
29...	1740	57	1920	8.3	22.0	--	11.0	132	--	--
APR 13...	1805	102	--	--	--	--	--	--	--	--
20...	1415	93	1500	8.2	17.5	10	11.6	129	15	259
MAY 25...	1815	63	1580	8.2	28.5	2	11.6	159	--	--
31...	1930	980	--	--	--	--	--	--	--	--
JUN 15...	1630	803	1130	7.7	27.0	340	7.4	97	70	338
JUL 13...	1915	68	2000	8.1	30.0	6	7.7	107	42	--
AUG 03...	1415	22	2900	7.9	25.5	1	9.1	117	26	57
22...	1715	17	--	--	--	--	--	--	--	--
SEP 14...	1120	2.8	1870	8.3	25.5	7	10.5	135	23	--

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, DIS- SOLVED (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 14...	122	305	36	190	5.2	356	263	.5	1281	--
NOV 03...	--	--	--	--	--	490	255	--	--	15
DEC 22...	119	298	35	180	5.8	302	179	1.1	--	56
JAN 25...	--	--	--	--	--	612	170	.7	--	8
FEB 14...	--	--	--	--	--	--	--	--	--	--
MAR 09...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
APR 13...	--	--	--	--	--	--	--	--	--	--
20...	61	153	25	147	5.3	294	228	.5	--	44
MAY 25...	--	--	--	--	--	286	281	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
JUN 15...	85	213	29	119	12	71	166	.7	--	897
JUL 13...	--	--	--	--	--	336	354	.8	--	64
AUG 03...	15	43	4.4	227	6.5	--	311	.6	--	19
22...	--	--	--	--	--	--	--	--	--	--
SEP 14...	--	--	--	--	--	121	271	.5	--	9

ARKANSAS RIVER BASIN

07238000 NORTH CANADIAN RIVER NEAR SEILING, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT 14...	.20	1.0	1.2	5.4	.35	--	--	--	--	120
NOV 03...	.50	2.3	2.8	12	.11	--	--	--	--	--
DEC 22...	.60	1.0	1.6	7.3	.30	--	--	--	--	470
JAN 25...	.60	2.0	2.6	12	.27	--	--	--	--	--
FEB 14...	--	--	--	--	--	--	--	--	--	--
MAR 09...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
APR 13...	--	--	--	--	--	--	--	--	--	--
20...	.50	2.3	2.7	13	--	--	--	--	--	800
MAY 25...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
JUN 19...	1.9	4.2	6.1	27	.25	--	--	--	--	3500
JUL 13...	.20	2.2	2.4	11	.19	--	--	--	--	--
AUG 03...	.10	2.0	2.1	9.4	.14	1	3	15	5	820
22...	--	--	--	--	--	--	--	--	--	--
SEP 14...	.10	1.5	1.6	7.2	.13	--	--	--	--	--
DATE	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)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 14...	--	20	--	--	--	--	--	7.0	--	--
NOV 03...	--	--	--	--	--	--	--	2.0	--	--
DEC 22...	--	40	--	--	--	--	--	4.0	--	--
JAN 25...	--	--	--	--	--	--	--	3.0	--	--
FEB 14...	--	--	--	--	--	--	--	--	--	--
MAR 09...	--	--	--	--	--	--	--	--	130	24
29...	--	--	--	--	--	--	--	--	--	--
APR 13...	--	--	--	--	--	--	--	--	270	74
20...	--	50	--	--	--	--	--	5.0	--	--
MAY 25...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	650	1720
JUN 15...	--	540	--	--	--	--	--	21	--	--
JUL 13...	--	--	--	--	--	--	--	18	--	--
AUG 03...	46	50	.5	10	<1	4	24	20	--	--
22...	--	--	--	--	--	--	--	--	200	9.2
SEP 14...	--	--	--	--	--	--	--	7.0	--	--

07238500 CANTON LAKE NEAR CANTON, OK

LOCATION.--Lat 36°05'03", long 98°36'05", in SE&NE& sec.32, T.19 N., R.13 W., Blaine County, Hydro-logic Unit 11100301, near right end of Canton Dam on North Canadian River, 2.0 mi (3.2 km) northwest of Canton, and at mile 394.3 (634.4 km).

DRAINAGE AREA.--12,483 mi² (32,331 km²), of which 4,883 mi² (12,647 km²) is probably noncontributing.

RESERVOIR CONTENTS RECORDS

PERIOD OF RECORD.--April 1948 to current year. Prior to October 1970 published as Canton Reservoir near Canton.

REVISED RECORDS.--WSP 1341: Drainage area.

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

REMARKS.--Reservoir is formed by an earth dam. The outlet works consists of a concrete gravity, chute-type weir spillway controlled by sixteen taintor gates with net length of 640-feet (195.1 m), three sluice gates and two 24-inch (610 mm) valved pipes. Regulated storage began Apr. 15, 1948; conservation pool was first filled July 4, 1948. Capacity, 383,800 acre-ft (473 hm³) at elevation 1,638.0 ft (499.26 m) (flood-control pool), 116,000 acre-ft (143 hm³) at elevation 1,615.2 ft (492.31 m) (Normal water-supply pool, designated in 1965), 99,400 acre-ft (123 hm³) at elevation 1,613.0 ft (492 m) (crest of spillway), and 18,460 acre-ft (22.8 hm³) at elevation 1,596.5 ft (486.61 m) (conservation pool). Dead storage, 4 acre-ft (4,930 m³) at elevation 1,582.0 ft (482.19 m) (invert of bypass gates). Figures given herein represent total contents. Reservoir was designed for flood control, irrigation, and conservation, but owing to a lack of facilities, it is not being used for irrigation at this time. Revised capacity table, based on survey in 1966, used since Oct. 1, 1967.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 258,600 acre-ft (319 hm³) May 25, 1951, elevation, 1,628.05 ft (496.230 m); minimum since conservation pool was first filled, 867 acre-ft (1.07 hm³) May 5, 1955, elevation, 1,585.66 ft (483.309 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 122,000 acre-ft (150 hm³) June 14, elevation, 1,615.94 ft (492.539 m); minimum, 65,520 acre-ft (80.8 hm³) Dec. 22, elevation, 1,607.70 ft (490.027 m).

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

1,607	61,660	1,611	85,580
1,608	67,210	1,613	99,400
1,609	73,040	1,616	122,500

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	100700	99010	97080	66750	69210	74900	80610	83820	96020	117300	112000	106200
2	100500	98680	95170	66640	69330	75510	80730	84400	97650	117500	111800	106200
3	100200	98680	93420	66700	69390	75690	81500	84600	99700	117400	112100	106000
4	100000	98680	91770	66810	69500	75690	81820	84600	102200	117400	112000	105900
5	100200	98580	90190	66980	69620	75690	81950	84660	105000	117200	111800	105200
6	99900	98680	88100	67040	69850	76430	82010	85250	107400	117200	111600	104800
7	100000	98680	86510	67260	70090	76550	81880	85380	109900	117100	111400	103000
8	99900	99400	85190	67260	70260	76550	82010	85520	112200	116700	111300	100900
9	99600	99400	82850	67320	70380	76670	82720	85580	114500	116900	111200	98650
10	99900	99160	81050	67260	70490	76860	82720	85580	116600	116900	111000	96510
11	99400	99230	79220	67320	70670	76980	82520	85910	119400	116300	110700	94260
12	99230	99160	77540	67440	71080	76980	82910	85980	121000	116000	110400	92180
13	99080	99230	76180	67490	71320	77540	82720	85980	121500	115900	110200	90470
14	99080	99010	74480	67550	71490	77540	82970	86110	121800	115900	109700	87900
15	99010	99400	72920	67720	71730	77970	82970	86110	121500	115800	109700	85060
16	98720	99400	71020	67950	71960	78160	83300	86110	121200	115600	109300	82070
17	98800	99300	70260	67950	72140	78340	83360	86170	120700	115200	108800	79470
18	98720	99010	67780	68060	72260	78220	83620	86510	120100	114900	109200	79220
19	98690	99160	66470	68060	72320	78910	83430	86900	119100	114800	108700	77540
20	98510	99700	66130	68120	72500	79160	83430	87040	118700	114500	108600	76920
21	98510	99400	65800	68180	72560	79160	83100	87170	117800	114100	108300	75330
22	98650	99160	65650	68240	72800	79280	83430	87100	117000	114400	108100	73750
23	98650	99230	65910	68350	72920	80100	83430	87240	116200	114200	107900	72740
24	98650	99160	66190	68410	73210	79980	83490	87240	116300	114100	107600	72740
25	98650	99080	66190	68520	73450	80100	83430	87300	116400	113800	107400	72680
26	98580	99080	66300	68640	73870	80100	83430	87570	116700	113800	107100	72680
27	98510	99080	66360	68690	74240	80160	83300	89520	117000	113400	107300	72680
28	98580	99230	66410	68810	74540	80290	83300	90600	117100	113100	107400	72680
29	98580	99160	66530	68930	---	80420	83560	91970	117200	112800	107100	72560
30	98510	98720	66580	68980	---	80420	83750	93280	117200	112700	106900	72560
31	98650	---	66750	69160	---	80480	---	94540	---	112300	106600	---
MAX	100700	99700	97080	69160	74540	80480	83750	94540	121800	117500	112100	106200
MIN	98510	98580	65800	66640	69210	74900	80610	83820	96020	112300	106600	72560
†	1,612.90	1,612.90	1,607.92	1,608.34	1,609.25	1,610.21	1,610.72	1,612.32	1,615.35	1,614.73	1,613.98	1,608.92
‡	-2,050	+70	-31,970	+2,410	+5,380	+5,940	+3,270	+10,790	+22,660	-4,900	-5,700	-34,040

CAL YR 1977 MAX 101200 MIN 20230 † +16,850
WTR YR 1978 MAX 121800 MIN 65800 † -28,140

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

ARKANSAS RIVER BASIN

07238500 CANTON LAKE NEAR CANTON, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-50, 1960-64, 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	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)
OCT 20...	1630	98510	1560	8.7	18.0	15	--	8.7
NOV 22...	1650	99160	1600	8.5	10.0	10	--	10.8
DEC 11...	1145	79220	1564	8.5	3.5	--	--	12.9
19...	1330	66470	1626	8.3	7.0	35	--	13.2
JAN 30...	1700	68980	1600	8.2	2.5	2	--	11.6
FEB 15...	1400	71730	1750	8.3	1.0	2	--	12.9
MAR 16...	1310	78160	1680	8.4	8.5	--	40	12.2
APR 13...	1615	82720	1540	8.2	18.5	--	--	9.2
MAY 10...	1345	85580	1710	8.3	16.5	--	19	8.3
JUN 13...	0800	121500	1400	8.5	22.0	6	--	8.0
JUL 17...	1545	115200	1433	8.1	27.0	39	--	4.9
AUG 01...	1330	112000	1500	8.2	27.0	--	15	5.9
SEP 20...	1400	76920	1600	8.3	22.5	--	--	8.2

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACU3)	HARD- NESS, NONCAR- BONATE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SURP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	
OCT 20...	97	450	300	98	49	160	43	3.3	8.8
NOV 22...	102	440	290	100	47	160	43	3.3	9.0
DEC 11...	101	450	290	100	48	160	43	3.3	9.5
19...	115	440	300	100	47	160	43	3.3	9.1
JAN 30...	89	500	320	110	54	170	42	3.3	8.7
FEB 15...	96	450	300	100	49	170	44	3.5	8.6
MAR 16...	108	480	300	110	49	150	40	3.0	8.6
APR 13...	103	460	300	110	46	160	42	3.2	8.2
MAY 10...	90	470	300	110	47	160	42	3.2	8.4
JUN 13...	95	420	270	100	42	130	40	2.8	8.6
JUL 17...	64	420	250	100	41	150	43	3.2	8.9
AUG 01...	78	400	240	93	41	150	44	3.3	9.9
SEP 20...	99	370	220	85	39	170	49	3.8	10

ARKANSAS RIVER BASIN

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07238500 CANTON LAKE NEAR CANTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LINIT (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)
OCT 20...	180	0	150	.6	320	210	971	1.32
NOV 22...	190	0	160	1.0	350	210	1010	1.37
DEC 11...	190	0	160	1.0	320	220	998	1.36
19...	180	0	150	1.4	330	220	1020	1.39
JAN 30...	210	0	170	2.1	330	230	1060	1.44
FEB 15...	190	0	160	1.5	330	260	1010	1.37
MAR 16...	210	0	170	1.3	310	220	975	1.33
APR 13...	200	0	160	2.0	310	240	1010	1.37
MAY 10...	200	0	160	1.6	330	230	1020	1.39
JUN 13...	190	--	160	1.0	270	190	887	1.21
JUL 17...	200	0	160	2.5	270	200	882	1.20
AUG 01...	200	0	160	2.0	260	220	928	1.26
SEP 20...	190	0	160	1.5	270	220	965	1.31

ARKANSAS RIVER BASIN

07239000 NORTH CANADIAN RIVER AT CANTON, OK

LOCATION.--Lat 36°04'45", long 98°35'25", in NE&SW4 sec.33, T.19 N., R.13 W., Blaine County, Hydro-logic Unit 11100301, on right bank 2,700 ft (823.0 m) downstream from Canton Dam, 1.5 mi (2.4 km) northwest of Canton, 4.8 mi (7.7 km) upstream from Minnehaha Creek, and at mile 393.8 (633.6 km).

DRAINAGE AREA.--12,484 mi² (32,334 km²), of which 4,883 mi² (12,647 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSE 1311. Gage-height records collected in this vicinity since 1914 are contained in reports of U.S. Weather Service.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,562.50 ft (476.250 m) Corps of Engineers datum. Oct. 1, 1937, to Jan. 5, 1955, water-stage recorder at site 2.5 mi (4.0 km) downstream at datum 1.91 ft (0.582 m) lower prior to Oct. 1, 1950, and at datum 6.91 ft (2.106 m) lower thereafter.

REMARKS.--Records good. Flow partly regulated by Fort Supply Lake (station 07236500) for period May 1942 to April 1948 and completely regulated thereafter by Canton Lake (station 07238500).

AVERAGE DISCHARGE.--(Prior to regulation by Canton Dam) 11 years (water years 1938-48), 256 ft³/s (7,250 m³/s), 185,500 acre-ft/yr (229 hm³/yr); (since regulation by Canton Dam) 30 years (water years (1949-78), 168 ft³/s (4,758 m³/s), 121,700 acre-ft/yr (150 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s (702 m³/s) Oct. 12, 1946, gage height, 12.83 ft (3.911 m), site and datum then in use; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 13, 1923, reached a stage of 16.8 ft (5.121 m), at site 300 ft (91.4 m) upstream from former site at datum 1.91 ft (0.582 m) lower than present datum, from reports of U.S. Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,020 ft³/s (28.9 m³/s) Sept. 9, gage height, 9.46 ft (2.883 m); minimum daily, 3.3 ft³/s (0.093 m³/s) Jan. 8, 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	6.8	6.9	866	3.8	3.9	4.8	5.6	6.2	7.5	29	23	22
2	6.7	7.8	968	3.6	3.7	5.1	5.4	6.5	7.3	28	23	22
3	6.6	8.1	958	3.5	3.9	4.6	6.3	7.0	7.3	28	24	22
4	6.8	8.4	951	3.5	4.1	4.9	6.1	6.6	7.6	28	25	22
5	6.7	8.4	944	3.5	4.1	5.1	6.3	6.5	7.6	27	25	38
6	6.7	8.4	936	3.4	4.2	5.1	6.0	7.4	7.5	27	24	399
7	6.5	8.4	931	3.4	4.2	4.9	6.0	7.4	7.3	33	23	800
8	6.3	8.3	929	3.3	4.1	4.5	5.8	7.2	7.2	30	23	943
9	6.3	7.5	920	3.4	4.0	5.2	5.8	7.2	37	30	24	1010
10	6.3	7.5	911	3.5	4.1	5.4	5.8	7.2	109	30	24	1010
11	6.3	7.5	905	3.5	4.1	5.1	5.5	7.2	114	30	24	999
12	6.3	8.2	908	3.5	4.9	5.1	5.5	7.1	475	29	24	992
13	6.3	8.4	901	3.5	4.0	5.3	5.5	6.7	840	28	24	984
14	6.3	8.2	897	3.5	3.9	5.1	5.3	6.7	671	27	24	976
15	6.3	8.4	882	3.7	4.1	5.7	5.3	6.9	831	22	23	969
16	6.3	8.4	874	3.5	4.1	5.5	5.3	7.0	830	23	23	962
17	6.3	8.4	876	3.4	4.0	5.5	5.2	7.0	823	23	22	954
18	6.3	8.4	871	3.4	4.0	5.8	5.1	7.0	816	23	22	942
19	6.3	8.7	765	3.3	4.1	5.6	5.1	6.9	811	25	22	933
20	6.2	8.7	244	3.4	4.0	5.6	5.5	7.2	808	25	21	924
21	6.0	8.7	16	3.5	4.1	5.6	5.6	7.2	804	25	21	782
22	6.0	8.7	15	3.5	4.5	6.2	5.8	7.3	797	25	21	545
23	6.0	8.7	14	3.6	4.7	5.8	6.2	7.4	584	25	21	62
24	6.0	8.7	12	3.6	4.9	5.6	6.2	7.5	41	25	22	45
25	6.0	8.7	12	3.7	5.2	5.7	6.3	7.4	34	25	22	37
26	6.0	8.7	11	3.5	5.1	5.7	6.3	7.4	33	25	22	27
27	6.0	8.7	9.1	3.6	5.1	5.8	6.4	11	31	24	22	23
28	6.0	8.7	7.6	3.7	5.0	5.8	5.9	9.3	30	23	24	21
29	6.0	8.7	7.2	3.9	---	5.8	6.0	8.0	30	23	23	20
30	6.3	372	6.7	3.8	---	5.6	6.0	7.8	30	23	22	18
31	6.6	---	4.5	4.0	---	5.6	---	7.7	---	23	21	---
TOTAL	195.5	613.3	17552.1	110.0	120.1	167.1	173.1	226.9	9638.3	811	708	15503
MEAN	6.31	20.4	566	3.55	4.29	5.39	5.77	7.32	321	26.2	22.8	517
MAX	6.8	372	968	4.0	5.2	6.2	6.4	11	840	33	25	1010
MIN	6.0	6.9	4.5	3.3	3.7	4.5	5.1	6.2	7.2	22	21	18
AC-FT	388	1220	34810	218	238	331	343	450	19120	1610	1400	30750
CAL YR 1977 TOTAL	19966.7			MEAN 54.7	MAX 968	MIN 1.4	AC-FT 39600					
WTR YR 1978 TOTAL	45818.4			MEAN 126	MAX 1010	MIN 3.3	AC-FT 90880					

ARKANSAS RIVER BASIN

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07239000 NORTH CANADIAN RIVER AT CANTON, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-59, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1951 to September 1954.

WATER TEMPERATURE: October 1951 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, 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 20...	1700	6.0	1200	8.5	20.5	9	10.9	127	17	208	
NOV 22...	1615	8.7	1640	8.4	12.0	6	12.6	124	17	--	
DEC 11...	1030	916	1750	8.5	3.0	8	14.0	108	14	231	
JAN 30...	1745	3.9	1600	8.2	8.5	9	10.6	95	9	--	
FEB 15...	1500	4.1	1700	8.0	8.5	20	11.6	104	13	444	
MAR 16...	1230	5.5	1810	8.0	10.5	0	11.4	106	14	--	
APR 13...	1545	5.5	1480	8.4	19.0	9	9.4	107	27	434	
MAY 10...	1315	7.2	1770	8.0	19.0	1	9.5	108	15	--	
JUN 13...	0915	841	1430	8.3	22.0	47	8.4	100	22	442	
JUL 18...	1000	24	1505	8.1	25.0	18	6.7	85	19	--	
AUG 01...	1430	23	1500	8.2	29.0	20	8.0	108	20	503	
SEP 20...	1330	920	1500	8.4	22.5	41	8.4	101	23	--	
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 20...	36	92	27	153	8.9	291	213	.7	1020	--	
NOV 22...	--	--	--	--	--	--	735	217	--	--	3
DEC 11...	10	25	49	167	8.9	311	213	.7	--	--	20
JAN 30...	--	--	--	--	--	--	238	16	.8	--	17
FEB 15...	110	275	39	175	6.1	29	228	.7	--	--	79
MAR 16...	--	--	--	--	--	--	221	224	.8	--	13
APR 13...	93	233	48	150	7.7	436	210	.1	--	--	21
MAY 10...	--	--	--	--	--	--	255	221	.8	--	26
JUN 13...	100	250	46	139	8.8	295	202	.5	--	--	40
JUL 18...	--	--	--	--	--	--	258	208	.6	--	53
AUG 01...	130	325	42	160	8.7	267	208	.7	--	--	33
SEP 20...	--	--	--	--	--	--	307	277	.6	--	84

07239000 NORTH CANADIAN RIVER AT CANTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO ₂ +NO ₃ TOTAL (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 NO ₃)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 20...	.50	--	3.0	3.5	16	.16	--	--	--	--
NOV 22...	.60	2.1	--	2.7	--	.15	--	--	--	--
DEC 11...	<.10	--	1.6	1.6	--	.10	--	--	--	--
JAN 30...	.60	--	3.2	3.8	17	.23	--	--	--	--
FEB 15...	2.3	--	3.0	5.3	24	.19	8	<1	17	6
MAR 16...	.20	--	2.7	2.9	13	.26	--	--	--	--
APR 13...	.10	--	1.9	2.0	9.0	.14	--	--	--	--
MAY 10...	.30	--	2.4	2.7	12	.28	--	--	--	--
JUN 13...	.10	--	2.1	2.2	10	.15	--	--	--	--
JUL 18...	.20	--	3.4	3.6	16	.14	--	--	--	--
AUG 01...	.10	--	2.1	2.2	9.9	.60	4	<1	11	4
SEP 20...	.10	--	--	--	--	.14	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

385

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK

LOCATION.--Lat 35°33'44", long 97°57'32", on east line of sec.32, T.13 N., R.7 W., Canadian County, Hydro-logic Unit 11100301, near left bank on downstream side of pier of bridge on old U.S. Highway 81, 2.0 mi (3.2 km) north of courthouse in El Reno, 2.2 mi (3.5 km) downstream from Target Creek, and at mile 307.4 (494.6 km).

DRAINAGE AREA.--13,042 mi² (33,779 km²), of which 4,899 mi² (12,688 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1902 to April 1908, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at site 1.0 mi (1.6 km) upstream March 1914 to March 1934 and at present site thereafter are contained in reports of U.S. Weather Service. Published as Canadian River (North Fork) near El Reno 1902-4.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,299.02 ft (395.941 m) National Geodetic Vertical Datum of 1929. October 1902 to April 1908, nonrecording gage at site about 50 ft (15.2 m) downstream at different datum.

REMARKS.--Records fair. Some regulation by Fort Supply Lake (station 07236500) for period May 1942 to April 1948 and by Canton Lake (station 07238500) thereafter.

AVERAGE DISCHARGE.--(Prior to regulation by Canton Lake) 16 years (water years 1903-7, 1938-48), 264 ft³/s (7.476 m³/s), 191,300 acre-ft/yr (236 hm³/yr); (Since regulation by Canton Lake) 30 years (water years 1949-78), 197 ft³/s (5.579 m³/s), 142,700 acre-ft/yr (176 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s (425 m³/s) Oct. 28, 1941, gage height, 15.98 ft (4.871 m); maximum gage height, 18.20 ft (5.547 m) Sept. 21, 1965; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1923, reached an elevation of 1,326.3 ft (404.256 m) above mean sea level at railroad bridge 1.0 mi (1.6 km) above station, from reports of U.S. Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,750 ft³/s (135 m³/s) May 28, gage height, 11.49 ft (3.502 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	.60	.90	9.3	54	9.5	41	19	16	258	72	10	.00
2	.60	3.0	11	52	9.0	39	20	14	183	68	8.8	.00
3	.60	6.1	315	52	9.0	36	20	23	145	63	8.8	.00
4	.60	7.3	670	50	9.0	35	22	23	127	59	15	.00
5	.60	7.3	763	47	9.0	34	31	23	113	55	21	.00
6	.57	8.3	780	44	9.0	33	90	26	208	49	28	.00
7	.45	7.8	750	41	9.0	32	50	25	241	46	29	.00
8	.35	9.8	759	35	9.0	31	40	22	150	43	23	.00
9	.25	13	763	28	9.0	30	70	29	118	39	19	200
10	.20	12	711	25	9.0	30	165	34	97	37	16	544
11	.15	11	678	22	9.0	29	100	25	84	36	15	759
12	.15	9.8	703	19	9.0	29	55	19	79	32	13	785
13	.15	9.3	772	17	9.0	28	40	16	108	30	16	785
14	.10	8.8	821	16	15	35	31	13	118	29	13	776
15	.10	8.8	821	15	80	34	27	12	494	28	11	812
16	.10	8.3	816	14	65	33	24	11	650	26	9.3	850
17	.00	8.3	835	13	50	31	23	12	660	25	7.8	840
18	.00	7.8	825	13	40	30	20	11	670	23	6.9	845
19	.00	8.3	816	12	35	29	19	13	680	20	9.8	840
20	.00	8.8	816	12	30	26	18	60	700	19	9.8	874
21	.50	7.8	646	11	27	25	17	100	1050	16	7.3	890
22	2.0	8.3	279	11	25	23	16	133	1170	15	6.5	920
23	1.8	8.8	150	11	22	23	16	54	785	16	5.0	890
24	1.6	8.3	119	11	40	23	15	37	724	16	.00	610
25	1.5	8.8	103	10	83	22	15	27	591	18	.00	226
26	1.3	8.3	90	10	68	22	15	26	210	16	.00	160
27	1.2	8.8	80	10	52	22	14	530	128	14	.00	144
28	1.1	8.8	74	10	46	21	14	3870	102	13	.00	116
29	1.0	8.8	69	10	---	20	14	3390	88	12	.00	98
30	1.0	8.8	63	9.5	---	19	13	1100	79	11	.00	85
31	.95	---	59	9.5	---	19	---	450	---	13	.00	---
TOTAL	19,52	250,20	15166.3	694,0	795,5	884	1033	10144	10810	959	309,00	13049,00
MEAN	.63	8.34	489	22.4	28.4	28.5	34.4	327	360	30.9	9.97	435
MAX	2.0	13	835	54	83	41	165	3870	1170	72	29	920
MIN	.00	.90	9.3	9.5	9.0	19	13	11	79	11	.00	.00
AC-FT	39	496	30080	1380	1580	1750	2050	20120	21440	1900	613	25880
CAL YR 1977 TOTAL	35677.87			MEAN 97.7	MAX 4490	MIN .00	AC-FT 70770					
WTR YR 1978 TOTAL	54113.52			MEAN 148	MAX 3870	MIN .00	AC-FT 107300					

ARKANSAS RIVER BASIN

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-51, 1953, 1955-57, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1954 to September 1957, May 1974 to September 1975.

WATER TEMPERATURE: October 1954 to September 1957, May 1974 to September 1975.

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)	
NOV 23...	1145	52	1780	8.3	9.5	1	11.6	106	20	--	
DEC 11...	1745	807	1480	8.4	2.0	66	13.4	100	31	225	
19...	0930	967	1675	7.9	5.0	--	12.5	102	--	--	
JAN 30...	1100	9.5	1600	8.3	.0	1	14.8	105	13	--	
FEB 16...	1130	65	1320	8.3	-1.0	5	14.7	105	17	381	
MAR 17...	1200	31	1770	8.4	12.5	0	12.0	115	20	--	
APR 18...	1230	31	710	8.0	21.5	58	10.0	118	32	266	
MAY 11...	1045	25	1410	8.5	20.0	1	8.5	98	29	--	
JUN 13...	1415	152	1600	--	26.0	56	13.4	170	52	527	
JUL 17...	0945	75	1840	8.3	26.5	3	7.9	101	22	--	
AUG 01...	0900	52	1450	7.9	24.0	2	7.3	90	21	434	
SEP 20...	0930	1030	1470	8.3	24.0	18	8.1	101	33	--	
DATE		CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CaCO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
NOV 23...	--	--	--	--	--	--	706	217	--	6	.10
DEC 11...	10	27	45	178	9.2	108	213	.6	153	<.10	--
19...	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	--	--	--	--	--	--	747	227	.6	7	.30
FEB 16...	88	222	38	135	5.8	29	162	.5	10	.40	
MAR 17...	--	--	--	--	--	--	1013	215	.6	4	<.10
APR 14...	55	140	26	60	8.0	133	68	.1	210	.80	
MAY 11...	--	--	--	--	--	--	230	145	.7	35	<.10
JUN 13...	117	293	56	151	8.3	290	186	.5	98	.10	
JUL 17...	--	--	--	--	--	--	487	234	.7	12	<.10
AUG 01...	85	213	52	192	8.3	309	224	.7	1	<.10	
SEP 20...	--	--	--	--	--	--	446	92	.3	36	.10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07240000 LAKE HEFNER CANAL NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°33'11", long 98°57'11", in SW¼SW¼ sec.34, T.13 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, attached to left wing wall just downstream from outlet of inverted siphon, 2,600 ft (792.5 m) upstream from Lake Hefner, 3.0 mi (4.8 km) northeast of Bethany, and 7.6 mi (12.2 km) northwest of the State Capitol in Oklahoma City.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,200.96 ft (336.053 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 8, 1947, nonrecording gage at site 2.7 mi (4.3 km) upstream at different datum. Apr. 8, 1947, to Apr. 30, 1950, water-stage recorder at site 3.0 mi (4.8 km) upstream at different datum. May 1, 1950, to May 19, 1954, water-stage recorder and concrete control at present site and datum. May 20, 1954, to Apr. 25, 1957, water-stage recorder and concrete control at site 2,500 ft (762.0 m) downstream at datum 2.80 ft (0.853 m) lower than present datum., Used as supplementary gage after Apr. 25, 1975.

REMARKS.--Records fair. Use of canal began in March 1944. Canal diverts water from North Canadian River just upstream from Lake Overholser (station 07240500) and delivers water to Lake Hefner, capacity, 80,600 acre-ft (99.4 hm³), for municipal water supply of Oklahoma City. Subsequent to April 1950, small ground-water seepage, when head gates are closed, included in records.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,500 ft³/s (42.5 m³/s) May 28, 1955; no flow at times in each year.

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	1.7	2.2	.43	.38	.27	6.5	.00	.00	7.4	.00	.00	.00
2	1.7	2.7	.89	.75	.27	6.1	.00	.00	4.6	.00	.00	.00
3	1.8	2.3	.97	.61	.26	5.1	.00	.00	6.0	.00	.00	.00
4	1.8	2.1	.19	.59	.28	2.7	.00	.00	5.3	.00	.00	.00
5	1.7	2.0	581	.55	.29	1.4	.00	.00	5.1	.00	.00	.00
6	1.6	1.9	602	.42	.27	1.2	.00	.00	4.9	.00	.00	.00
7	1.7	1.9	500	.36	.32	1.3	.00	.00	3.6	.00	.00	.00
8	1.4	3.7	8.0	.18	.31	1.0	.00	.00	.33	.00	.00	.00
9	1.6	2.9	6.6	.28	.34	.95	.00	.00	.31	.00	.00	.00
10	1.8	2.4	7.1	.38	.33	.87	.00	.00	.17	.00	.00	.00
11	1.6	2.5	7.0	.31	.31	.59	.00	.00	.06	.00	.00	.40
12	1.8	2.5	512	.36	4.4	.63	.00	.00	.01	.00	.00	476
13	1.7	2.5	740	.36	1.4	.56	.00	.00	.00	.00	.00	469
14	1.6	2.6	674	.25	112	.36	.00	.00	.00	.00	.00	526
15	1.1	2.4	682	.31	318	.39	.00	.00	.00	.00	.00	583
16	1.1	2.2	668	.49	163	.34	.00	.00	.00	.00	.00	579
17	.92	1.8	690	.25	160	.30	.00	.00	.00	.00	.00	573
18	.87	1.2	694	.27	101	.24	.00	.00	.00	.00	.00	573
19	.84	1.2	693	.27	11	.20	.00	.29	.00	.00	.00	579
20	.90	1.0	681	.27	.69	.08	.00	6.3	.19	.00	.00	581
21	.83	.90	683	.27	.59	.08	.00	15	2.4	.00	.00	581
22	1.5	.47	356	.24	1.0	.13	.00	4.3	1.0	.00	.00	20
23	2.6	.13	1.7	.20	1.3	.20	.00	.99	.12	.00	.00	5.0
24	3.2	.01	1.0	.19	165	.23	.00	.21	.00	.00	.00	1.0
25	3.5	.00	1.0	.23	521	.20	.00	.05	.00	.00	.00	.50
26	2.8	.00	.86	.20	198	.15	.00	.28	.00	.00	.00	.00
27	2.5	.00	.85	.18	123	.10	.00	16	.00	.00	.00	.00
28	2.7	.00	.81	.21	41	.00	.00	1290	.00	.00	.00	.00
29	2.4	.00	.82	.21	---	.00	.00	1250	.00	.00	.00	.00
30	2.4	.00	.77	.21	---	.00	.00	1080	.00	.00	.00	.00
31	2.2	---	.72	.22	---	.00	---	18	---	.00	.00	---
TOTAL	55.86	45.51	8814.52	10.00	1925.63	31.90	.00	3681.42	45.49	.00	.00	5586.50
MEAN	1.80	1.52	284	.32	68.8	1.03	.000	119	1.52	.000	.000	186
MAX	3.5	3.7	740	.75	521	6.5	.00	1290	8.6	.00	.00	583
MIN	.83	.00	.43	.18	.26	.00	.00	.00	.00	.00	.00	.00
AC-FT	111	90	17480	20	3820	63	.00	7300	90	.00	.00	11080
CAL YR 1977	TOTAL	18368.60	MEAN 50.3	MAX 1430	MIN .00	AC-FT 36430						
WTR YR 1978	TOTAL	20196.83	MEAN 55.3	MAX 1290	MIN .00	AC-FT 40060						

ARKANSAS RIVER BASIN

389

07240500 LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°29'11", long 97°39'58", on north line of SW¼ sec.30, T.12 N., R.4 W., Oklahoma County, Hydrologic Unit 11100301, at control tower at left end of dam on North Canadian River, 2.9 mi (4.7 km) upstream from Mustang Creek, 9.0 mi (14.5 km) west of State Capitol in Oklahoma City, and at mile 281.5 (452.9 km).

DRAINAGE AREA.--13,221 mi² (34,242 km²), of which 4,899 mi² (12,688 km²) is probably noncontributing.

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

GAGE.--Nonrecording gage. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Oklahoma City Water Department). Prior to Oct. 1, 1955, at same site at datum 1,065.77 ft (324.847 m) elevation. Oct. 1, 1955, to Sept. 30, 1962, water-stage recorder at same site and present datum.

REMARKS.--Reservoir is formed by Ambursen-type dam flanked by long earth-fill sections. Outlet facilities are twenty-three taintor gates and one uncontrolled spillway. Storage began in 1917. Dam was partly washed out in 1923 and rebuilt in 1924. Capacity, 17,100 acre-ft (21.1 hm³) below elevation 1,242.27 ft (378.644 m), top of spillway gates. Dead storage, 1,400 acre-ft (1.73 hm³) below elevation 1,229.77 ft (374.834 m), sill of outlet work. Figures given herein represent total contents. Water diverted for municipal water supply by Oklahoma City. Revised capacity table used since Oct. 1, 1950.

COOPERATION.--Elevations and capacity table furnished by Oklahoma City Water Department.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 20,900 acre-ft (25.8 hm³) June 14, 1944, elevation, 1,242.67 ft (378.766 m), from capacity table then in use; minimum observed, 1,870 acre-ft (2.31 hm³) May 14, 1955, elevation, 1,230.62 ft (375.093 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 16,240 acre-ft (20.0 hm³) Mar. 1, elevation, 1,241.70 ft (378.470 m); minimum, 8,330 acre-ft (10.3 hm³) Dec. 6, elevation, 1,236.45 ft (376.870 m).

MONTHEND ELEVATION AND CONTENTS, AT 0800 WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

Date	Elevation (feet)+	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	1,237.95	10,530	--
Oct. 31.....	1,237.15	9,350	-1,180
Nov. 30.....	1,236.60	8,550	-800
Dec. 31.....	1,240.55	14,480	+5,930
CAL YR 77.....	--	--	+2,130
Jan. 31.....	1,240.20	13,950	-530
Feb. 28.....	1,241.70	16,240	+2,290
Mar. 31.....	1,240.85	14,940	-1,300
Apr. 30.....	1,240.30	14,100	-840
May 31.....	1,241.55	16,010	+1,910
June 30.....	1,240.90	15,020	-990
July 31.....	1,239.65	13,110	-1,910
Aug. 31.....	1,238.15	10,830	-2,280
Sept. 30.....	1,240.15	13,870	+3,040
WTR YR 78.....	--	--	+3,340

+ Elevations at 0800 the following day.

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER, NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°28'46", long 97°39'47", in southeast corner of SW¼ sec.30, T.12 N., R.4 W., Oklahoma County, Hydrologic Unit 11100301, on left bank 200 ft (61.0 m) upstream from bridge on State Highway 4, 0.5 mi (0.8 km) downstream from Lake Overholser, 2.4 mi (3.9 km) upstream from Mustang Creek, 9.1 mi (14.6 km) southwest of State Capitol in Oklahoma City, and at mile 281.0 (452.1 km).

DRAINAGE AREA.--13,222 mi² (34,245 km²), of which 4,899 mi² (12,688 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1952 to September 1968, October 1969 to September 1972, October 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,194.66 ft (364.132 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1961, at datum 10.00 ft (3.048 m) higher and through Mar. 24, 1971 at site 200 ft (61.0 m) downstream.

REMARKS.--Records poor. Some regulation by Canton Lake (station 07238500) and Lake Overholser (station 07238500) and Lake Overholser (station 07240500). Diversions above station into Lake Overholser and Lake Hefner Canal (station 07240000).

AVERAGE DISCHARGE.--24 years, 98.2 ft³/s (2.781 m³/s), 71,150 acre-ft/yr (87.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,700 ft³/s (360 m³/s) Nov. 3, 1974, gage height, 29.18 ft (8.894 m); no flow at times in 1952-57.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 40.9 ft (12.47 m), present datum, was reached in October 1923, from information by State Highway Department.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,360 ft³/s (95.2 m³/s) May 29, gage height, 23.06 ft (7.029 m); minimum observed, 0.46 ft³/s (0.013 m³/s) Aug. 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	1.6	2.0	1.7	51	4.0	7.2	9.2	6.5	553	125	1.0	1.8
2	1.6	2.3	1.7	51	4.4	6.2	8.8	6.3	493	146	.90	1.8
3	1.6	1.8	64	52	4.5	16	8.8	14	351	10	.90	1.8
4	1.6	1.7	255	52	3.6	43	8.5	30	294	2.0	.90	1.8
5	1.7	1.7	15	52	3.3	45	7.9	20	284	41	.80	1.8
6	1.7	1.6	5.0	50	3.2	46	7.7	8.7	280	61	.80	1.8
7	1.7	1.6	2.5	52	3.2	129	23	8.7	376	56	.70	1.8
8	1.6	2.4	2.0	52	3.2	56	34	7.6	219	26	.70	1.8
9	1.6	3.2	2.0	52	3.5	44	34	7.2	330	3.0	.70	1.8
10	1.8	2.0	2.0	52	3.2	43	34	7.1	364	2.0	.60	115
11	1.8	2.0	2.0	52	3.2	65	10	8.6	210	1.5	.60	200
12	1.6	2.0	2.0	52	3.3	41	20	54	20	16	.60	5.0
13	1.6	1.8	2.0	52	3.3	33	33	72	2.0	67	.60	3.0
14	1.6	1.8	2.0	52	3.5	5.8	33	69	160	25	.50	2.0
15	1.6	1.8	2.0	52	4.9	3.7	33	34	210	3.0	.50	2.0
16	1.6	28	2.0	52	4.7	8.0	34	8.4	464	2.0	.50	2.0
17	1.6	81	2.0	52	4.7	3.4	19	11	466	5.0	.50	2.0
18	1.6	1.9	2.0	52	5.0	3.3	5.6	9.7	439	3.0	.50	1.8
19	1.6	1.5	2.0	51	4.8	3.0	14	41	462	2.0	.50	1.8
20	1.5	1.4	2.0	51	4.8	2.8	2.4	136	551	2.0	.50	1.8
21	1.5	67	2.0	50	5.0	11	2.1	699	745	1.5	.46	1.8
22	1.8	31	2.0	48	5.2	29	1.8	907	1000	11	.50	1.8
23	2.3	1.6	2.0	47	5.5	26	1.3	414	873	52	.50	1.8
24	2.0	1.4	2.0	26	5.6	34	2.3	173	594	32	.50	200
25	1.9	1.4	2.0	4.0	6.0	12	5.5	131	585	3.0	.50	581
26	1.7	1.4	2.0	4.0	7.2	10	4.9	172	425	2.0	.50	223
27	1.7	1.4	2.0	4.0	6.4	11	4.7	685	192	2.0	1.5	40
28	1.7	1.4	2.0	4.0	7.2	11	4.7	1240	178	1.5	1.5	130
29	1.8	1.5	2.0	4.0	---	10	5.5	2140	133	1.5	1.5	158
30	1.8	1.8	22	4.0	---	9.7	6.2	1420	106	1.0	1.8	30
31	2.1	---	53	3.9	---	9.2	---	869	---	1.0	1.8	---
TOTAL	52.9	253.4	463.9	1232.9	126.4	777.3	418.9	9409.8	11359.0	707.0	24.36	1720.0
MEAN	1.71	8.45	15.0	39.8	4.51	25.1	14.0	304	379	22.8	.79	57.3
MAX	2.3	81	255	52	7.2	129	34	2140	1000	146	1.8	581
MIN	1.5	1.4	1.7	3.9	3.2	2.8	1.3	6.3	2.0	1.0	.46	1.8
AC=FT	105	503	920	2450	251	1540	831	18660	22530	1400	48	3410

CAL YR 1977 TOTAL 7968.70 MEAN 21.8 MAX 1090 MIN 1.0 AC=FT 15810
WTR YR 1978 TOTAL 26545.86 MEAN 72.7 MAX 2140 MIN .46 AC=FT 52650

Note: No gage height recorded Dec. 6 - Jan. 30.

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LOCATION.--Lat 35°30'01", long 97°11'37", in SW¼NW¼ sec.22, T.12 N., R.1 E., Oklahoma County, Hydrologic Unit 11100302, near left bank on downstream side of pier of county road bridge, 2.2 mi (3.5 km) northwest of Harrah, 3.8 mi (6.1 km) downstream from Choctaw Creek, and at mile 230.0 (370.1 km).

WATER-DISCHARGE RECORDS

REMARKS.--Records good. Some regulation by Canton Lake (station 07238500) and by Lake Overholser (station 07240500), where diversions are made into Lake Hefner Canal (station 07240000). Low flow sustained by part of sewage effluent from Oklahoma City.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,080 ft³/s (116 m³/s) at 0500 May 29, gage height, 14.31 ft (4.362 m), no other peaks above base of 4,000 ft³/s (113 m³/s); minimum daily, 43 ft³/s (1.22 m³/s) Sept. 5.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	62	73	75	90	104	96	77	1260	238	433	58
2	53	65	72	120	90	101	89	161	1150	284	135	56
3	47	85	73	120	99	98	86	322	810	307	98	51
4	51	89	71	122	92	101	89	339	553	215	94	48
5	58	76	247	121	85	106	96	182	440	194	93	43
6	66	66	181	116	83	131	93	150	543	204	84	51
7	64	62	104	117	92	137	94	155	573	173	78	53
8	67	70	86	109	97	404	89	190	472	173	76	53
9	57	267	75	112	92	237	112	114	472	152	75	64
10	49	208	76	134	92	172	237	96	378	76	74	154
11	47	120	79	128	120	157	431	95	489	103	92	119
12	49	92	70	122	225	166	168	99	365	103	103	320
13	52	82	69	138	1080	158	120	88	236	94	75	161
14	52	73	70	126	389	155	128	119	170	103	63	88
15	49	72	69	126	185	137	132	117	181	162	64	76
16	47	73	67	126	146	114	127	115	270	122	65	70
17	46	71	65	117	118	108	122	112	477	68	63	64
18	47	133	63	112	87	110	120	308	674	85	62	58
19	52	122	61	110	56	97	95	133	715	85	70	58
20	50	80	62	110	56	90	85	805	632	85	108	53
21	50	65	69	110	75	93	90	2680	802	85	71	62
22	51	65	70	110	97	92	77	2440	2570	86	62	136
23	149	139	75	110	159	115	71	1370	1690	87	62	81
24	351	111	70	110	219	223	62	731	1240	237	59	64
25	120	80	63	110	222	216	62	383	884	161	58	274
26	90	68	59	109	164	134	65	250	799	118	58	688
27	79	69	54	100	115	106	70	591	664	158	59	362
28	73	65	62	100	104	100	68	3110	331	153	58	220
29	75	67	68	100	---	101	69	3330	215	87	62	164
30	70	71	69	100	---	98	67	2320	284	72	62	269
31	64	---	68	95	---	95	---	1840	---	107	62	---
TOTAL	2232	2768	2460	3515	4529	4256	3310	22822	20339	4377	2678	4018
MEAN	72.0	92.3	79.4	113	162	137	110	736	678	141	86.4	134
MAX	351	267	247	138	1080	404	431	3330	2570	307	433	688
MIN	46	62	54	75	56	90	62	77	170	68	58	43
AC-FT	4830	5490	4880	6970	8980	8440	6570	45270	40340	8680	5310	7970
CAL YR 1977	TOTAL	48174	MEAN	132	MAX	2740	MIN	46	AC-FT	95550		
WTR YR 1978	TOTAL	77304	MEAN	212	MAX	3330	MIN	43	AC-FT	153300		

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1968 to current year.

WATER TEMPERATURE: October 1968 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,840 micromhos Apr. 2, 1978; minimum daily, 262 micromhos June 9, 1974.

WATER TEMPERATURE: Maximum daily, 35.0°C July 11, Aug. 9, 1969; minimum, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,840 micromhos Apr. 2; minimum daily, 340 micromhos May 29.

WATER TEMPERATURE: Maximum daily, 34.0°C July 10, 13; minimum daily, 0.0°C Dec. 27, 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)	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)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
OCT											
02...	0800	56	1590	8.2	19.0	--	--	--	--	--	--
12...	1130	52	1275	8.2	13.0	7	8.2	79	57	--	9.3
24...	0830	435	514	7.7	17.0	--	--	--	--	--	--
25...	1300	112	597	8.3	18.5	--	6.0	66	48	--	--
29...	1130	81	1970	7.0	20.0	--	--	--	--	--	--
NOV											
04...	0830	85	2020	7.7	15.0	--	--	--	--	--	--
08...	1030	68	1580	7.9	15.5	--	7.3	77	61	--	--
10...	0900	229	574	8.1	10.0	--	--	--	--	--	--
22...	1130	64	1709	8.1	14.0	--	10.7	106	76	--	4.8
24...	0830	114	1300	8.0	9.0	--	--	--	--	--	--
DEC											
08...	0930	85	1460	8.1	9.0	--	--	--	--	--	--
13...	0930	69	1520	8.3	10.0	--	8.8	81	81	--	12
13...	1000	69	1520	8.3	10.0	5	8.8	81	55	--	--
21...	0930	66	1690	7.9	1.0	--	--	--	--	--	--
28...	0930	66	1910	7.0	3.0	--	--	--	--	--	--
JAN											
03...	1100	110	1760	8.1	1.0	--	--	--	--	--	--
10...	1630	134	1500	8.0	.0	--	12.4	87	94	--	12
10...	1645	134	1500	8.0	.0	10	12.4	87	43	--	--
11...	1100	128	1850	7.2	2.0	--	--	--	--	--	--
15...	1130	126	2000	8.0	2.0	--	--	--	--	--	--
FEB											
04...	1030	92	2230	8.3	4.0	--	--	--	--	--	--
14...	1030	382	484	8.1	1.0	--	--	--	--	--	--
23...	1700	240	1827	7.9	9.0	--	9.2	82	110	--	12
28...	1000	94	1500	8.3	6.0	--	--	--	--	--	--
MAR											
02...	0900	94	1730	7.6	6.0	--	--	--	--	--	--
09...	1100	231	1090	8.1	4.5	--	--	--	--	--	--
21...	0900	85	2490	7.7	13.0	--	--	--	--	--	--
22...	1130	83	2400	8.0	15.5	--	9.0	94	81	--	11
28...	1245	94	2020	7.9	17.5	--	8.4	90	68	--	5.1
APR											
02...	0930	83	3840	7.5	20.0	--	--	--	--	--	--
11...	0800	550	756	7.6	14.0	--	--	--	--	--	--
19...	1030	85	1660	8.4	15.0	8	10.8	109	88	--	31
27...	0900	68	2230	7.5	17.0	--	--	--	--	--	--
MAY											
06...	0830	150	1160	7.0	15.5	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRON- 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)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
MAY											
12...	1800	9A	2000	6.9	25.0	--	--	--	--	--	--
18...	1100	432	930	7.5	19.5	--	1.8	20	220	--	19
18...	1101	432	930	7.5	19.5	100	1.8	20	--	16A	--
29...	0830	4020	340	7.4	21.0	--	--	--	--	--	--
31...	1030	1900	1050	8.2	25.5	--	4.4	55	69	--	14
JUN											
03...	0845	834	770	7.3	22.0	--	--	--	--	--	--
13...	1000	236	1271	7.9	24.5	80	6.0	73	50	--	14
13...	1001	236	1271	7.9	24.5	--	6.0	73	--	--	--
15...	0800	181	1640	7.5	15.0	--	--	--	--	--	--
25...	1800	842	1250	7.3	30.0	--	--	--	--	--	--
JUL											
07...	0730	173	2200	7.9	28.0	--	--	--	--	--	--
16...	0730	122	1720	8.3	29.0	--	--	--	--	--	--
25...	0800	154	1160	8.1	28.0	--	--	--	--	--	--
27...	1500	116	1760	8.8	31.5	2	>20.0	>282	88	--	11
AUG											
01...	0730	173	592	7.6	26.0	--	--	--	--	--	--
03...	1200	94	1400	8.2	26.5	10	10.0	126	60	--	18
15...	1030	56	2030	8.3	27.5	--	12.8	166	--	--	22
18...	0830	69	2210	7.5	25.0	--	--	--	--	--	--
21...	0800	71	1360	7.8	26.0	--	--	--	--	--	--
SEP											
03...	0800	52	1650	6.9	25.0	--	--	--	--	--	--
11...	0800	116	831	7.7	25.0	--	--	--	--	--	--
26...	0800	758	1320	7.3	23.0	--	--	--	--	--	--
26...	0900	751	1360	7.9	22.0	120	2.5	29	85	--	27

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-HF (COLS./ 100 ML)	STREP- TOCOCCT FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CAC03)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT										
02...	--	--	--	280	140	--	69	--	--	27
12...	1430	4330	--	--	--	--	--	--	--	--
24...	--	--	--	120	49	--	34	--	--	8.3
25...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	330	180	--	84	--	--	29
NOV										
04...	--	--	--	360	190	--	93	--	--	31
08...	--	K760000	1500	--	--	--	--	--	--	--
10...	--	--	--	130	51	--	38	--	--	9.2
22...	K190000	44000	480	--	--	--	--	--	--	--
24...	--	--	--	270	130	--	68	--	--	25
DEC										
08...	--	--	--	310	180	--	78	--	--	28
13...	K160000	K580000	980	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	330	180	--	84	--	--	30
28...	--	--	--	380	230	--	95	--	--	34
JAN										
03...	--	--	--	440	280	--	100	--	--	45
10...	1280	6200	150	--	--	--	--	--	--	--
10...	--	--	--	--	--	110	--	275	86	--
11...	--	--	--	400	250	--	96	--	--	38
15...	--	--	--	410	260	--	98	--	--	41
FEB										
04...	--	--	--	370	210	--	92	--	--	33
14...	--	--	--	170	52	--	57	--	--	7.7
23...	110	30000	250	--	--	--	--	--	--	--
28...	--	--	--	290	140	--	74	--	--	26
MAR										
02...	--	--	--	350	200	--	88	--	--	32
09...	--	--	--	250	130	--	63	--	--	22
21...	--	--	--	440	260	--	110	--	--	39
22...	78500	K1000	120	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
APP										
02...	--	--	--	630	450	--	170	--	--	51
11...	--	--	--	190	67	--	53	--	--	14
19...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	440	250	--	110	--	--	40
MAY										
06...	--	--	--	270	130	--	68	--	--	24
12...	--	--	--	380	210	--	94	--	--	35
18...	80000	K2600000	8000	--	--	--	--	--	--	--
18...	--	--	--	112	--	75	--	--	20	--
29...	--	--	--	130	22	--	39	--	--	7.6
31...	--	--	--	--	--	--	--	--	--	--
JUN										
03...	--	--	--	210	83	--	56	--	--	18
13...	110000	K13800	390	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	410	160	--	110	--	--	33
25...	--	--	--	340	200	--	87	--	--	29
JUL										
07...	--	--	--	430	200	--	110	--	--	37
16...	--	--	--	460	230	--	110	--	--	44
25...	--	--	--	260	120	--	66	--	--	23
27...	290000	44000	K5500	--	--	--	--	--	--	--
AUG										
01...	--	--	--	150	42	--	44	--	--	9.5
03...	8000	K22000	740	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	350	160	--	97	--	--	25
21...	--	--	--	240	88	--	63	--	--	21
SEP										
03...	--	--	--	280	110	--	69	--	--	27
11...	--	--	--	170	73	--	44	--	--	15
26...	--	--	--	340	200	--	88	--	--	30
26...	--	K400000	40000	--	--	104	--	260	32	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SODIUM, TOTAL RECONV- ERABLE (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, TOTAL RECONV- ERABLE (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	ALKA- LITY (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)
OCT										
02...	--	220	5.7	--	170	0	140	1.7	140	290
12...	--	--	--	--	--	--	--	--	--	--
24...	--	54	2.2	--	86	0	71	2.7	36	81
25...	--	--	--	--	--	--	--	--	--	--
29...	--	260	6.2	--	180	0	150	29	130	400
NOV										
04...	--	270	6.2	--	210	0	170	6.7	140	430
08...	--	--	--	--	--	--	--	--	--	--
10...	--	61	2.3	--	100	0	82	1.3	47	86
22...	--	--	--	--	--	--	--	--	--	--
24...	--	150	4.0	--	180	0	150	2.9	140	230
DEC										
08...	--	180	4.4	--	160	0	130	2.0	160	290
13...	--	--	--	--	--	--	8	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
21...	--	220	5.2	--	190	0	160	3.8	140	340
28...	--	230	5.2	--	180	0	150	29	180	370
JAN										
03...	--	200	4.2	--	190	0	160	2.4	260	320
10...	--	--	--	--	--	--	--	--	--	--
10...	211	--	--	12	--	--	--	--	--	--
11...	--	230	5.0	--	180	0	150	18	190	360
15...	--	250	5.4	--	190	0	160	3.0	230	380
FEB										
04...	--	320	7.3	--	190	0	160	1.5	150	480
14...	--	48	1.9	--	88	0	72	1.1	34	80
23...	--	--	--	--	--	--	--	--	--	--
28...	--	170	4.3	--	180	0	150	1.4	110	300
MAR										
02...	--	220	5.1	--	190	0	160	7.6	150	330
09...	--	120	3.3	--	140	0	110	1.8	130	170
21...	--	340	7.1	--	210	0	170	6.7	150	570
22...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	400
APR										
02...	--	540	9.3	--	230	0	190	12	200	1000
11...	--	84	2.7	--	150	0	120	6.0	76	110
19...	--	--	--	--	--	--	--	--	--	--
27...	--	290	6.0	--	230	0	190	12	160	450
MAY										
06...	--	140	3.7	--	170	0	140	27	150	180
12...	--	280	6.3	--	210	0	170	42	170	430
18...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--
29...	--	23	.9	--	130	0	110	8.3	28	26
31...	--	--	--	--	--	--	--	--	--	--
JUN										
03...	--	72	2.1	--	160	0	130	13	96	87
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
15...	--	170	3.7	--	300	0	250	15	120	290
25...	--	130	3.1	--	170	0	140	14	210	170
JUL										
07...	--	280	5.9	--	280	0	230	5.6	130	490
12...	--	190	3.9	--	280	0	230	2.2	220	280
25...	--	140	3.8	--	170	0	140	2.2	150	180
27...	215	--	--	14	--	--	--	--	--	--
AUG										
01...	--	59	2.1	--	130	0	110	5.2	43	86
03...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
18...	--	310	7.3	--	230	0	190	12	130	500
21...	--	180	5.0	--	190	0	160	4.8	100	260
SEP										
03...	--	230	5.9	--	210	0	170	42	140	310
11...	--	99	3.3	--	120	0	98	3.8	100	120
26...	--	150	3.5	--	170	0	140	14	240	190
26...	--	--	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	FLUO- RIDE, TOTAL (MG/L AS F)	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)	SOLIDS, RESIDUE AT 105 DEG. C SUS- PENDED (MG/L)	SOLIDS, SUSP. TOTAL, RESIDUE AT 110 DEG. C (MG/L)	SOLIDS, VOLATILE, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N ₃)
OCT										
02...	--	930	--	1.26	141	--	--	--	--	--
12...	.9	962	976	1.31	135	--	7	105	1.9	8.3
24...	--	283	--	.38	332	--	--	--	--	--
25...	--	349	--	.47	106	--	29	57	1.3	5.7
29...	--	1080	--	1.47	236	--	--	--	--	--
NOV										
04...	--	1160	--	1.58	266	--	--	--	--	--
08...	--	949	--	1.29	174	--	15	134	1.0	4.5
10...	--	324	--	.44	200	--	--	--	--	--
22...	--	950	--	1.29	164	--	14	143	5.7	25
24...	--	766	--	1.04	236	--	--	--	--	--
DEC										
08...	--	861	--	1.17	198	--	--	--	--	--
13...	--	975	--	1.33	162	--	46	154	35	150
13...	.7	--	--	--	--	11	--	--	--	--
21...	--	987	--	1.34	176	--	--	--	--	--
28...	--	1090	--	1.48	194	--	--	--	--	--
JAN										
03...	--	1070	--	1.46	318	--	--	--	--	--
10...	--	1110	--	1.51	402	--	29	175	1.1	4.9
10...	.7	--	--	--	--	20	--	--	--	--
11...	--	1090	--	1.48	377	--	--	--	--	--
15...	--	1200	--	1.63	408	--	--	--	--	--
FEB										
04...	--	1280	--	1.74	318	--	--	--	--	--
14...	--	282	--	.38	291	--	--	--	--	--
23...	--	1100	--	1.50	713	--	136	160	.98	4.3
28...	--	857	--	1.17	218	--	--	--	--	--
MAR										
02...	--	1010	--	1.37	256	--	--	--	--	--
09...	--	624	--	.85	389	--	--	--	--	--
21...	--	1430	--	1.94	328	--	--	--	--	--
22...	--	1360	--	1.85	305	--	15	142	.72	3.2
28...	--	1070	--	1.46	272	--	17	201	1.2	5.1
APR										
02...	--	2310	--	3.14	518	--	--	--	--	--
11...	--	426	--	.56	633	--	--	--	--	--
19...	1.0	941	--	1.28	216	30	45	123	56	250
27...	--	1320	--	1.80	242	--	--	--	--	--
MAY										
06...	--	683	--	.93	277	--	--	--	--	--
12...	--	1170	--	1.59	310	--	--	--	--	--
18...	--	501	--	.68	584	--	692	125	.22	.97
18...	.5	--	--	--	--	668	--	--	--	--
29...	--	220	--	.30	2390	--	--	--	--	--
31...	--	558	--	.76	2860	--	328	100	.29	1.3
JUN										
03...	--	444	--	.60	1000	--	--	--	--	--
13...	.6	748	--	1.02	477	179	208	135	1.5	6.7
13...	--	--	--	--	--	--	--	--	--	--
15...	--	956	--	1.30	467	--	--	--	--	--
25...	--	767	--	1.04	1740	--	--	--	--	--
JUL										
07...	--	1320	--	1.80	617	--	--	--	--	--
16...	--	1040	--	1.41	343	--	--	--	--	--
25...	--	677	--	.92	281	--	--	--	--	--
27...	.8	957	--	1.30	300	17	14	110	.62	2.7
AUG										
01...	--	343	--	.47	160	--	--	--	--	--
03...	.6	741	--	1.01	188	66	58	126	2.2	9.5
15...	--	--	--	--	--	--	--	--	--	--
18...	--	1290	--	1.75	240	--	--	--	--	--
21...	--	782	--	1.06	150	--	--	--	--	--
SEP										
03...	--	953	--	1.30	134	--	--	--	--	--
11...	--	488	--	.66	153	--	--	--	--	--
26...	--	816	--	1.11	1670	--	--	--	--	--
26...	.6	833	--	1.13	1690	564	330	107	.28	1.2

ARKANSAS RIVER BASIN

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07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- (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)	PHOS- PHORUS, ORTHOPHOS- PHATE TOTAL (MG/L AS P)
OCT										
02...	--	--	--	--	12	14	15	71	8.0	--
12...	.52	1.7	1.9	2.4	--	--	--	--	14	5.6
24...	--	--	--	--	--	--	--	--	--	--
25...	.22	.72	--	1.5	4.1	--	--	--	11	.01
29...	--	--	--	--	--	--	--	--	--	--
NOV										
04...	--	--	--	--	--	--	--	--	6.0	--
08...	.38	1.2	--	1.4	12	--	--	--	6.6	.01
10...	--	--	--	--	--	--	--	--	2.6	--
22...	.26	.85	--	6.0	14	--	--	--	7.5	6.7
24...	--	--	--	--	--	--	--	--	5.0	--
DEC										
08...	--	--	--	--	--	--	--	--	7.5	--
13...	.18	.59	--	35	13	--	--	--	2.8	5.4
13...	--	--	2.0	--	--	16	18	81	--	--
21...	--	--	--	--	--	--	--	--	11	--
28...	--	--	--	--	--	--	--	--	9.3	--
JAN										
03...	--	--	--	--	--	--	--	--	4.4	--
10...	.09	.30	--	1.2	9.4	--	--	--	3.1	2.8
10...	--	--	1.5	--	--	9.7	11	50	--	--
11...	--	--	--	--	--	--	--	--	4.8	--
15...	--	--	--	--	--	--	--	--	4.7	--
FEB										
04...	--	--	--	--	--	--	--	--	6.0	--
14...	--	--	--	--	--	--	--	--	1.9	--
23...	.12	.39	--	1.1	14	--	--	--	4.4	3.6
28...	--	--	--	--	--	--	--	--	4.8	--
MAR										
02...	--	--	--	--	--	--	--	--	7.4	--
09...	--	--	--	--	--	--	--	--	2.1	--
21...	--	--	--	--	--	--	--	--	8.9	--
22...	.28	.92	--	1.0	13	--	--	--	6.2	4.2
28...	.04	.13	--	1.2	9.7	--	--	--	4.8	3.8
APR										
02...	--	--	--	--	--	--	--	--	5.7	--
11...	--	--	--	--	--	--	--	--	2.4	--
19...	.65	2.1	5.0	57	5.9	9.1	14	62	3.9	2.7
27...	--	--	--	--	--	--	--	--	6.9	--
MAY										
06...	--	--	--	--	--	--	--	--	.30	--
12...	--	--	--	--	--	--	--	--	7.1	--
18...	.22	.72	--	.44	6.5	--	--	--	3.1	1.4
18...	--	--	<.10	--	--	7.1	7.1	--	--	--
29...	--	--	--	--	--	--	--	--	.57	--
31...	.08	.26	--	.37	1.0	--	--	--	.99	.45
JUN										
03...	--	--	--	--	--	--	--	--	1.4	--
13...	.69	2.3	2.1	2.2	2.1	3.2	5.5	24	2.0	1.7
13...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	4.2	--
25...	--	--	--	--	--	--	--	--	1.4	--
JUL										
07...	--	--	--	--	--	--	--	--	4.6	--
16...	--	--	--	--	--	--	--	--	3.8	--
25...	--	--	--	--	--	--	--	--	3.0	--
27...	.48	1.6	.90	1.1	3.3	4.9	5.8	26	5.7	3.9
AUG										
01...	--	--	--	--	--	--	--	--	3.6	--
03...	.75	2.5	2.6	2.9	2.4	4.3	6.9	31	3.8	3.3
15...	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	6.5	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	6.4	--
SEP										
03...	--	--	--	--	--	--	--	--	12	--
11...	--	--	--	--	--	--	--	--	4.0	--
26...	--	--	--	--	--	--	--	--	1.3	--
26...	.11	.36	7.3	.39	2.7	1.1	8.4	37	1.4	.48

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC TOTAL (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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT										
12...	1130	--	--	--	--	--	--	--	--	--
25...	1300	--	--	--	--	--	--	--	--	--
NOV										
08...	1030	--	--	3	--	4	--	1	--	130
DEC										
13...	0930	--	--	--	--	--	--	--	--	--
13...	1000	--	--	--	--	--	--	--	--	--
JAN										
10...	1630	--	--	--	--	--	--	--	--	--
10...	1645	10	1	--	10	--	9	--	750	--
FEB										
23...	1700	--	--	--	--	--	--	--	--	--
MAR										
22...	1130	--	--	0	--	0	--	2	--	40
APR										
19...	1030	--	--	--	--	--	--	--	--	--
MAY										
18...	1100	--	--	1	--	0	--	1	--	40
18...	1101	--	--	--	--	--	--	--	15700	--
JUN										
13...	1000	--	--	--	--	--	--	--	--	--
JUL										
27...	1500	4	<1	--	10	--	9	--	230	--
AUG										
03...	1200	--	--	<1	--	0	--	1	--	<10
15...	1030	--	--	--	--	--	--	--	--	--
SEP										
26...	0900	--	--	--	--	--	--	--	9100	--

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	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)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT										
12...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
NOV										
08...	--	21	--	70	--	--	--	--	--	30
DEC										
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--
JAN										
10...	--	--	--	--	--	--	--	--	--	--
10...	118	--	80	--	<5	20	1	4	52	--
FEB										
23...	--	--	--	--	--	--	--	--	--	--
MAR										
22...	--	0	--	440	--	--	--	--	--	10
APR										
19...	--	--	--	--	--	--	--	--	--	--
MAY										
18...	--	10	--	390	--	--	--	--	--	10
18...	--	--	750	--	--	--	--	--	--	--
JUN										
13...	--	--	--	--	--	--	--	--	--	--
JUL										
27...	23	--	120	--	<5	26	<1	2	27	--
AUG										
03...	--	2	--	10	--	--	--	--	--	<3
15...	--	--	--	--	--	--	--	--	--	--
SEP										
26...	--	--	860	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	PERI- PHYTON BIOMASS ASH WEIGHT G/30 M	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/30 M	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	BIOMASS CHLORO- PHYLL RATIO PLANK- TON (UNITS)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUORUM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUORUM (UG/L)	CHLOR-A PERI- PHYTON CHROMO FLUORUM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO FLUORUM (MG/M2)
OCT										
12...	19	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	12000	--	--	--	--	--
NOV										
08...	--	4	--	--	1100	482	8,30	0,000	--	--
DEC										
13...	--	--	--	--	1200	--	--	--	0,000	0,000
13...	19	--	--	--	--	--	--	--	--	--
JAN										
10...	--	--	--	--	9000	--	--	--	--	--
10...	17	--	--	--	--	--	--	--	--	--
FEB										
23...	--	--	--	--	1100	--	--	--	--	--
MAR										
22...	--	4	--	--	13000	--	--	--	--	--
APR										
19...	22	--	--	--	110000	--	--	--	--	--
MAY										
10...	--	2	--	--	42000	1345	59,5	5,14	--	--
18...	52	--	--	--	--	--	--	--	--	--
JUN										
13...	22	--	2,13	2,83	1	333	135	13,8	,040	,000
JUL										
27...	31	--	--	--	4500	59,2	321	57,3	--	--
AUG										
03...	19	2	--	--	140000	81,3	246	32,1	--	--
15...	--	--	19,8	27,2	--	--	--	--	13,1	2,54
SEP										
26...	18	--	--	--	37000	1437	34,8	,000	--	--

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued
 PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	OCT 25,77 1300	NOV 8,77 1030	DEC 13,77 0930	JAN 10,78 1630	FEB 23,78 1700	MAR 22,78 1130				
TOTAL CELLS/ML	12000	1100	1200	9000	1100	13000				
DIVERSITY: DIVISION	1.7	1.2	1.7	1.7	1.8	1.1				
..CLASS	1.7	1.2	1.7	1.7	1.8	1.1				
...ORDER	2.0	1.5	2.0	1.9	2.0	2.0				
....FAMILY	2.7	2.6	2.6	2.4	2.6	2.6				
.....GENUS	2.9	2.8	3.2	2.9	3.0	2.7				
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										
...CHARNACIACEAE										
....SCHWOFDERIA	190	2	10	1	--	--	--	--	110	1
...COELASTRACEAE										
....COELASTRUM	--	--	--	--	--	--	--	--	--	--
...HYDRODICTYACEAE										
....PEDTASTRUM	--	--	--	--	--	--	--	--	--	--
...MICRACTINIACEAE										
....GOLENKINIA	--	--	59	6	71	6	--	--	--	--
...MICRACTINTUM	1100	9	--	--	--	--	--	--	1000	8
...OOCYSTACEAE										
....ANKISTRODESUS	260	2	40	4	130	11	730	8	140	13
....CHODATELLA	260	2	--	--	18	1	--	--	--	--
...DICTYOSPHAERIUM	--	--	--	--	36	3	--	--	--	--
...KIRCHNERIELLA	64	1	--	--	36	3	64	1	--	--
...OOCYSTIS	--	--	--	--	--	--	350	4	--	--
...SELENASTRUM	--	--	20	2	120	9	380	4	--	--
...SCENEDESMACEAE										
....ACTINASTRUM	--	--	--	--	--	--	--	--	--	--
....CRUCIGENIA	--	--	--	--	--	--	--	--	--	--
...SCENEDESMUS	1400	12	79	7	--	--	1000	11	--	--
...TETRASTRUM	260	2	--	--	--	--	250	3	92	8
...TETRASPORALES										
...PALMELLACEAE										
...SPHAEROCYSTIS	--	--	--	--	--	--	--	--	--	--
...TETRASPORA	--	--	--	--	--	--	--	--	--	--
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	64	1	20	2	--	--	--	--	25	2
...PHACOTACEAE										
...PTEROMONAS	*	0	--	--	--	--	--	--	--	--
...ZYGNEMATALES										
...DESMIDIACEAE										
...COSMARIVUM	--	--	--	--	--	--	--	--	--	--
CHRYSDOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCEACEAE										
....CYCLOTELLA	570	5	49	5	98	8	700	8	--	--
...MELOSIRA	--	--	--	--	--	--	64	1	--	--
...STEPHANODISCUS	--	--	--	--	--	--	--	--	--	--
...PENNALES										
...CYMBELLACEAE										
....AMPHORA	--	--	10	1	--	--	--	--	--	--
...DIATOMACEAE										
....DIATOMA	--	--	--	--	27	2	--	--	--	--
...FRAGILARIACEAE										
....SYNEDRA	--	--	110	10	27	2	220	2	59	5
...GOMPHONEMACEAE										
....GOMPHONEMA	64	1	30	3	--	--	*	0	--	--
...NAVICULACEAE										
....CALONEIS	--	--	--	--	--	--	--	--	--	--
...NAVICULA	570	5	40	4	27	2	570	6	42	4
...NITZSCHACEAE										
....NITZSCHIA	1900#	16	510#	48	360#	29	130	1	230#	21
...SURIPELLACEAE										
....SURIPELLA	--	--	--	--	--	--	*	0	*	0
...XANTHOPHYCEAE										
...METEROCOCCALES										
...CENTRITRACTACEAE										
....CENTRITRACTUS	64	1	--	--	--	--	--	--	--	--

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

CONT

ARKANSAS RIVER BASIN

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07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

(CON)

DATE TIME	OCT 25,77 1300	NOV 8,77 1030	DEC 13,77 0930	JAN 10,78 1630	FEB 23,78 1700	MAR 22,78 1130
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCEALES						
...CHROOCOCCEACEAE						
....AGMENELLUM	* 0					
....ANACYSTIS	130 1				3900# 43	
....COCCOCHLORIS	--				--	
...HORMOGONIALES						
...NOSTOCACEAE						
....CYLINDROSPERMUM	--		210# 17		--	
...OSCILLATORIACEAE						
....LYNGBYA	--				140 13	
....OSCILLATORIA	4600# 39		--		270# 24	
EUGLENOPHYTA (EUGLENIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	260 2	69 6	62 5	250 3	50 5	--
....PHACUS	64 1	30 3	18 1	64 1	8 1	890 7
....TRACHLOMONAS	--	--	--	* 0	8 1	--

NOTE: # = DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* = OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	APR 19,78 1030	MAY 18,78 1100	JUN 13,78 1000	JUL 27,78 1500	AUG 3,78 1200	SEP 26,78 0900				
TOTAL CELLS/ML	110000	42000	1500000	4500	140000	37000				
DIVERSITY: DIVISION	1.1	1.6	1.6	0.7	1.3	0.7				
..CLASS	1.1	1.6	1.6	0.7	1.3	0.7				
...ORDER	1.4	2.0	1.9	0.7	1.9	0.9				
...FAMILY	1.9	2.9	2.3	0.9	2.3	1.1				
....GENUS	2.0	3.2	2.9	1.1	2.6	1.1				
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	--	-	--	-	--	-	*	0	230	1
...COELASTRACEAE										
...COELASTRUM	--	-	--	-	890000	6	460	10	--	-
...HYDRODICTYACEAE									1200	3
...PEDIASTRUM	3600	3	--	-	--	-	--	-	--	-
...MICRACTINIACEAE									*	0
...GOLENKINIA	--	-	--	-	*	0	5A	1	--	-
...MICRACTINIUM	11000	11	--	-	250000	2	--	-	6600	5
...OOCYSTACEAE									--	-
...ANKISTRODESUS	1800	2	--	-	180000	1	5A	1	4500	3
...CHODATELLA	1800	2	--	-	*	0	--	-	2800	2
...DICTYNSPHAERIUM	1800	2	2300	6	--	-	--	-	2400	2
...KIRCHNERIELLA	--	-	--	-	*	0	--	-	3100	2
...OOCYSTIS	--	-	--	-	*	0	--	-	--	-
...SELENASTRUM	--	-	390	1	--	-	--	-	--	-
...SCENEDESMACEAE										
...ACTINASTRUM	--	-	1600	4	--	-	--	-	1400	1
...CRUCIGENIA	--	-	--	-	570000	4	--	-	--	-
...SCENEDESMUS	11000	10	7400	18	2700000	17	120	3	8300	6
...TETRASTRUM	--	-	780	2	570000	4	--	-	1400	1
...TETRASPORALES										
...PALMELLACEAE										
...SPHAEROCYSTIS	--	-	2900	7	--	-	--	-	--	-
...TETRASPORACEAE										
...TETRASPORA	--	-	--	-	--	-	--	-	230	1
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	900	1	--	-	*	0	--	-	*	0
...PHACOTACEAE										
...PTEROMONAS	--	-	--	-	--	-	--	-	--	-
...ZYGNEATALES										
...DESMIDIACEAE										
...COSMARIVM	--	-	--	-	--	-	--	-	*	0
CHRYSDOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
...CYCLOTELLA	66000	62	980	2	4600000	30	--	-	20000	14
...HELOSIRA	--	-	--	-	--	-	--	-	--	-
...STEPHANODISCUS	--	-	--	-	--	-	29	1	--	-
...PENNALES										
...CYMBELLACEAE										
...AMPHORA	--	-	--	-	*	0	--	-	--	-
...DIATOMACEAE										
...DIATOMA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
...SYNEDRA	--	-	2300	6	--	-	--	-	--	-
...GOMPHONEMATACEAE									*	0
...GOMPHONEMA	--	-	590	1	--	-	--	-	--	-
...NAVICULACEAE										
...CALONEIS	--	-	*	0	--	-	--	-	--	-
...NAVICULA	--	-	2300	6	*	0	--	-	1000	1
...NITZSCHACEAE										
...NITZSCHIA	3600	3	5900	14	290000	2	--	-	--	-
...SURIPELLACEAE									230	1
...SURIPELLA	--	-	1800	4	--	-	--	-	*	0
...XANTHOPHYCEAE										
...HETEROCOCCALES										
...CENTRITRACTACEAE										
...CENTRITRACTUS	--	-	--	-	--	-	--	-	--	-

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

CONT

ARKANSAS RIVER BASIN

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07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

(CON)

DATE TIME	APR 19,78 1030		MAY 18,78 1100		JUN 13,78 1000		JUL 27,78 1500		AUG 3,78 1200		SEP 26,78 0900	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
..CHROCOCCALES												
..CHROCOCCACEAE												
....AGMENELLUM	--	-	--	-	--	-	--	-	--	-	460	1
....ANACYSTIS	3600	3	--	-	320000	2	3600# 80		27000# 19		*	0
....COCCOCHLORIS	--	-	--	-	--	-	170	4	--	-	--	-
..HORMOGONALES												
..NOSTOCACEAE												
....CYLINDROSPERMUM	--	-	--	-	--	-	--	-	--	-	--	-
....OSCILLATORIACEAE												
....LYNGBYA	--	-	--	-	1500000	10	--	-	--	-	--	-
....OSCILLATORIA	--	-	12000# 2#		3200000# 21		--	-	62000# 44		32000# 85	
EUGLENOPHYTA (EUGLENOIDS)												
..EUGLENOPHYCEAE												
..EUGLENALES												
..EUGLENACEAE												
....EUGLENA	--	-	390	1	--	-	--	-	--	-	*	0
....PHACUS	--	-	--	-	--	-	--	-	--	-	--	-
....TRACHELOMONAS	*	0	--	-	*	0	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, 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	1570	1720	1720	1930	---	2000	2220	1810	931	1560	592	1630
2	1590	1790	1780	1930	---	1730	3840	1980	980	1800	631	1640
3	1600	1650	1770	1760	2070	1680	2010	1030	770	1800	1190	1650
4	1720	2020	1640	1800	2230	1990	1890	478	868	1470	1730	1640
5	1640	1560	1710	1780	2190	2060	1920	855	936	1640	1920	1550
6	1650	1550	1600	1810	2040	2190	1830	1160	1150	1820	1880	1570
7	1880	1690	1640	1820	1900	1690	1840	1210	1240	2200	1840	1510
8	1660	1710	1460	1920	1920	1120	1850	1480	1140	1830	1820	1500
9	1650	---	1570	1920	2000	1080	1950	1230	1400	1810	1910	1500
10	1650	574	1630	1990	2070	1500	1810	1550	1360	1820	2060	1430
11	1680	683	1580	1850	1760	1520	756	1680	916	1850	1990	831
12	1730	1030	1590	1910	1760	1530	879	2000	1170	1910	2080	1450
13	1690	1490	1650	1860	545	1970	1300	1670	1280	1880	1680	1530
14	1690	1590	1630	1950	484	1990	1790	1710	1430	1980	1710	1420
15	1680	1630	1620	2000	680	1920	1790	1550	1640	1800	1820	1560
16	1750	1630	1700	1880	1050	1940	1710	1630	1590	1720	1900	1570
17	1700	1680	1730	---	1310	2310	1640	1110	1540	1980	2140	1530
18	1710	1680	1710	---	1540	2420	1590	1060	1560	1750	2210	1560
19	1690	966	1640	---	1730	2240	1560	---	1460	1960	1990	1400
20	1700	1100	1670	---	1720	2230	1750	---	1490	1960	2010	1400
21	1750	1460	1690	---	---	2490	1850	377	---	1910	1360	1480
22	1690	1700	1790	---	---	2350	1830	350	782	1940	1550	1620
23	1460	1860	1780	---	---	2430	1860	1060	803	1930	1880	---
24	514	1300	1850	---	1220	2140	1950	910	1020	1520	2060	1340
25	573	1370	1850	---	1080	1440	1920	834	1250	1160	1870	1480
26	885	1630	1820	---	1210	1390	1940	963	1320	1580	1930	1320
27	1370	1730	1860	---	1220	1620	2230	1350	1380	1720	1880	1470
28	1640	1710	1910	---	1500	1980	2130	356	1400	918	2020	1470
29	1970	1820	1780	---	---	2160	1950	340	1460	1370	2020	1480
30	1820	1640	1750	---	---	2220	1980	958	1560	1600	2050	1480
31	1770	---	1730	---	---	2280	---	1010	---	1810	1730	---

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	23.0	19.0	5.0	3.0	---	5.0	15.5	19.0	26.0	28.0	26.0	23.0
2	19.0	14.0	7.0	1.0	---	6.0	20.0	16.0	27.0	29.0	25.5	25.0
3	17.0	14.5	8.0	1.0	3.0	4.0	18.0	12.0	22.0	28.0	26.0	25.0
4	17.0	15.0	9.0	2.5	4.0	6.0	18.0	11.0	25.0	29.0	24.0	26.0
5	18.0	17.0	8.0	5.0	3.0	6.0	20.0	15.0	24.0	28.5	23.0	26.0
6	18.0	17.0	4.0	4.0	4.0	9.0	17.0	15.5	25.0	28.0	23.5	24.5
7	17.0	16.0	7.0	6.5	3.0	7.0	25.0	17.0	24.0	28.0	24.0	24.0
8	18.0	16.0	9.0	4.0	2.0	5.5	20.0	17.0	24.0	28.0	25.0	25.0
9	18.0	---	2.0	1.0	2.0	4.5	21.0	19.0	27.0	28.0	24.0	24.0
10	15.0	10.0	2.5	.0	3.0	10.0	16.5	20.0	23.0	34.0	26.5	25.0
11	14.0	10.0	7.0	2.0	3.5	9.0	14.0	18.0	24.0	28.5	25.0	25.0
12	11.0	10.0	6.0	2.5	4.5	8.0	15.0	25.0	29.0	29.5	27.0	26.0
13	11.0	10.0	9.0	4.0	3.0	10.0	16.5	18.5	28.0	34.0	28.0	26.5
14	14.0	11.5	9.0	2.0	1.0	10.0	18.0	25.0	18.0	29.0	26.0	26.5
15	14.0	14.0	8.0	2.0	3.0	10.0	18.0	22.0	15.0	28.0	26.0	25.0
16	12.0	15.0	9.0	3.0	3.0	8.5	20.0	21.0	25.5	29.0	26.0	26.0
17	13.0	11.0	8.0	---	3.0	15.0	20.0	19.0	26.0	28.0	29.0	25.0
18	14.0	9.0	6.0	---	3.0	11.0	16.0	21.0	27.0	29.0	25.0	25.0
19	14.0	13.0	7.5	---	3.0	12.0	14.0	---	25.0	27.0	24.0	25.0
20	15.0	17.0	4.0	---	4.0	15.0	13.0	---	26.0	27.0	23.0	24.5
21	22.0	9.0	1.0	---	---	13.0	16.0	23.0	---	27.0	26.0	24.0
22	13.0	10.0	1.5	---	---	15.0	15.0	22.0	23.5	27.0	27.0	20.0
23	17.0	12.0	4.0	---	---	17.0	14.0	26.0	25.0	26.0	27.0	20.0
24	17.0	9.0	7.0	---	9.0	11.5	16.0	24.0	29.0	26.5	27.0	26.0
25	18.0	10.0	4.0	---	7.5	8.0	15.0	25.0	30.0	28.0	26.0	24.0
26	16.0	7.5	2.0	---	6.5	8.5	16.0	24.0	27.0	28.0	26.5	23.0
27	17.0	8.0	.0	---	6.5	11.0	17.0	23.0	27.0	28.0	26.0	21.0
28	18.0	8.0	3.0	---	6.0	14.0	22.0	21.0	27.5	25.0	24.0	22.0
29	20.0	7.0	6.0	---	---	17.0	18.5	21.0	28.0	31.0	25.0	22.0
30	19.5	7.0	6.0	---	---	15.0	21.0	27.0	29.0	26.0	23.0	22.0
31	18.0	---	7.5	---	---	20.0	---	28.0	---	28.0	23.0	---

ARKANSAS RIVER BASIN

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07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK

LOCATION.--Lat 35°15'53", long 96°12'25", in center of SW¼ sec.12, T.9 N., R.10 E., Hughes County, Hydrologic Unit 11100302, near left bank on downstream side of pier of bridge on U.S. Highway 75, 2.3 mi (3.7 km) upstream from Wewoka Creek, 2.5 mi (4.0 km) northeast of Wetumka, and at mile 84.4 (135.8 km).

DRAINAGE AREA.--14,290 mi² (37,011 km²), of which 4,899 mi² (12,688 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 977: 1942. WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 683.28 ft (208.264 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 19, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good. Some regulation by Lake Overholser (station 07240500) and other dams upstream.

COOPERATION.--Gage-height record and 27 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--41 years, 664 ft³/s (18.80 m³/s), 481,100 acre-ft/yr (593 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,000 ft³/s (1,870 m³/s) Apr. 15, 1945, gage height, 26.40 ft (8.047 m); no flow Aug. 27 to Oct. 11, 1954, Aug. 25 to Oct. 22, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1923 reached a stage of 26.9 ft (8.20 m), from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
May 22	1115	*8,210 233	*10.16 3.097	June 6	2015	7,610 216	9.76 2.975

Minimum daily discharge, 26 ft³/s (0.74 m³/s) Sept. 6-8.

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	50	93	93	75	134	225	153	234	2560	575	139	3A
2	50	92	87	72	126	197	146	230	2490	477	121	35
3	48	85	83	74	120	174	145	62A	1660	427	111	34
4	47	80	79	75	114	157	153	690	1910	385	125	32
5	46	76	79	76	108	148	172	465	1420	334	254	30
6	47	75	80	80	100	143	151	329	3450	330	203	26
7	48	75	85	88	96	191	142	39A	4740	334	166	26
8	50	81	81	102	90	472	136	708	2390	295	146	26
9	50	9A	80	83	96	433	143	366	1430	257	136	2A
10	49	9A	136	74	110	372	1140	250	1090	229	126	30
11	49	90	137	64	130	308	642	199	817	225	114	29
12	48	87	102	62	200	354	242	195	764	220	108	2A
13	46	107	101	70	613	283	192	16A	588	207	100	29
14	46	155	92	66	392	250	240	150	601	191	92	28
15	45	135	81	70	529	230	296	140	560	181	91	36
16	44	115	77	67	779	218	211	132	475	169	89	62
17	43	102	75	66	479	210	176	129	398	160	85	109
18	42	93	72	64	150	195	158	146	543	152	75	83
19	41	87	70	62	130	184	156	392	1470	176	66	69
20	41	81	69	60	120	172	151	462	735	175	62	62
21	45	79	70	72	110	214	149	1280	873	152	60	55
22	48	79	70	90	120	241	148	5820	2470	138	56	50
23	62	85	73	110	200	227	148	2830	1770	132	52	47
24	59	100	71	140	242	700	141	2140	1800	121	48	44
25	52	97	69	120	211	364	132	1730	2050	115	51	41
26	55	90	69	115	185	272	128	1150	1460	141	51	40
27	69	84	73	108	187	234	125	993	1160	124	45	50
28	122	91	73	100	226	233	122	3200	922	12A	43	57
29	128	102	74	120	---	231	128	3530	838	157	44	50
30	107	102	75	150	---	197	135	2810	755	138	42	262
31	98	---	75	140	---	169	---	2450	---	117	40	---
TOTAL	1775	2814	2551	2715	6097	7998	6301	34344	44189	6962	2941	1536
MEAN	57.3	93.8	82.3	87.6	218	258	210	1108	1473	225	94.9	51.2
MAX	128	155	137	150	779	700	1140	5820	4740	575	254	262
MIN	41	75	69	60	90	143	122	129	398	115	40	26
AC-FT	3520	5580	5060	5390	12090	15860	12500	68120	87650	13810	5830	3050

CAL YR 1977	TOTAL	69857	MEAN 191	MAX 5030	MIN 41	AC-FT 138600
WTR YR 1978	TOTAL	120223	MEAN 329	MAX 5820	MIN 26	AC-FT 238500

ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1954 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1953 to current year.

WATER TEMPERATURE: October 1953 to current year.

REMARKS.--Samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples at or near 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.

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, 37,100 micromhos Dec. 31, 1954; minimum daily, 98 micromhos Apr.

30, 1977.

WATER TEMPERATURE: Maximum daily, 39.0°C July 5, 1971; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,140 micromhos Jan. 9; minimum daily, 261 micromhos May 22.

WATER TEMPERATURE: Maximum daily, 34.0°C July 9-11; minimum daily, 0.0°C on many days during winter months.

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)	TUP- RID- ITY (ITU)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DEMAND, CHEM- ICAL (PER- CENT SATUR- ATION)	CULI- FORM, FECAL, 0.7 HMF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
05...	0730	46	1720	7.9	17.0	--	--	--	--	--	--
06...	1200	47	1150	8.8	20.0	19	--	10.2	112	60	--
15...	0730	46	1550	7.7	10.0	--	--	--	--	--	--
25...	0730	54	1530	7.7	15.0	--	--	--	--	--	--
NOV											
03...	1030	87	1650	8.6	17.0	12	--	13.6	143	--	--
05...	0730	77	1890	8.0	17.0	--	--	--	--	--	--
09...	1120	98	--	--	11.5	--	--	--	--	--	--
15...	0730	140	1630	7.6	13.5	--	--	--	--	--	--
25...	0730	100	1650	8.1	10.0	--	--	--	--	--	--
DEC											
05...	0730	79	1470	8.2	8.0	--	--	--	--	--	--
08...	1015	83	1575	--	11.0	1	--	12.7	119	36	--
15...	0730	85	1580	7.6	5.5	--	--	--	--	--	--
25...	0730	69	1810	7.7	2.5	--	--	--	--	--	--
JAN											
05...	0730	77	1790	8.5	2.5	--	--	--	--	--	--
06...	1315	83	1920	8.1	6.0	15	--	12.7	104	--	63
15...	0730	70	2050	7.6	.0	--	--	--	--	--	--
25...	0730	120	1750	8.2	5.0	--	--	--	--	--	--
FEB											
07...	1515	96	1730	8.2	.5	10	--	15.8	111	260	340
27...	1120	179	--	--	7.0	--	--	--	--	--	--
MAR											
05...	0730	153	1310	7.7	2.0	--	--	--	--	--	--
08...	1230	533	940	7.6	6.0	360	--	10.9	88	2700	6600
09...	1130	445	--	--	5.5	--	--	--	--	--	--
15...	0730	231	1210	7.8	10.0	--	--	--	--	--	--
21...	1400	199	1660	--	19.5	--	--	--	--	--	--
25...	0730	388	922	7.5	9.0	--	--	--	--	--	--
APR											
05...	0730	190	1670	7.3	20.0	--	--	--	--	--	--
09...	1900	156	1300	6.9	20.5	40	--	11.0	125	K7000	120
15...	0730	324	1660	7.2	19.5	--	--	--	--	--	--
25...	0730	132	1530	7.0	17.0	--	--	--	--	--	--
MAY											
03...	1430	854	836	8.4	13.0	900	--	7.1	70	K14000	K48000
05...	0730	472	662	7.0	13.0	--	--	--	--	--	--
15...	0730	140	1150	7.1	21.5	--	--	--	--	--	--
25...	0730	1900	418	7.4	25.0	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07242000 NORTH CANADIAN RIVER NEAR WETUMKA, 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)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	CULI- FORM, FECAL, 0.7 UM=MF (COLS./ 100 ML)	STREP- TOCUCCI KF AGAR (COLS. PER 100 ML)
JUN												
05...	0730	1510	766	7.3	24.0	--	--	--	--	--	--	--
08...	1030	2410	331	7.8	23.0	--	530	6.4	75	--	47000	8800
15...	0730	578	1330	7.4	25.5	--	--	--	--	--	--	--
25...	0730	2130	1070	7.2	26.5	--	--	--	--	--	--	--
JUL												
05...	0730	332	1330	7.9	30.0	--	--	--	--	--	--	--
06...	1300	328	1230	8.8	32.0	--	34	--	--	--	K190	K370
15...	0730	184	1520	7.7	30.0	--	--	--	--	--	--	--
25...	0730	113	1610	8.2	28.5	--	--	--	--	--	--	--
AUG												
05...	0730	276	1210	7.9	25.0	--	--	--	--	--	--	--
15...	0730	93	1680	7.6	26.0	--	--	--	--	--	--	--
16...	0945	89	1670	8.4	26.0	--	18	8.4	105	--	400	1500
25...	0730	49	1540	7.6	25.5	--	--	--	--	--	--	--
SEP												
04...	0730	34	1790	7.7	24.5	--	--	--	--	--	--	--
06...	1200	26	1650	8.5	29.5	--	14	10.3	136	--	120	440
15...	0730	29	1720	7.5	25.0	--	--	--	--	--	--	--
25...	0730	41	1470	7.3	19.5	--	--	--	--	--	--	--

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, 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)
OCT												
05...	320	130	--	72	--	--	33	240	61	5.9	16	230
06...	--	--	--	--	--	--	--	--	--	--	--	--
15...	320	110	--	76	--	--	32	200	56	4.9	14	260
25...	310	96	--	76	--	--	29	200	57	5.0	14	260
NOV												
03...	--	--	40	--	100	24	--	--	--	--	--	--
05...	370	160	--	92	--	--	34	240	57	5.4	18	250
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	300	140	--	76	--	--	27	210	59	5.3	15	200
25...	350	130	--	89	--	--	30	200	54	4.7	14	260
DEC												
05...	340	130	--	90	--	--	29	180	52	4.2	14	260
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	400	220	--	100	--	--	37	180	49	3.9	11	220
25...	390	170	--	100	--	--	34	220	54	4.9	14	270
JAN												
05...	390	160	--	99	--	--	35	230	55	5.1	15	260
06...	390	170	--	100	--	--	35	230	55	5.0	14	270
15...	460	260	--	110	--	--	44	260	54	5.3	15	240
25...	380	210	--	93	--	--	37	220	55	4.9	12	210
FEB												
07...	330	150	--	84	--	--	28	230	60	5.6	10	210
27...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
05...	270	120	--	72	--	--	22	150	54	4.0	10	180
08...	210	100	--	55	--	--	17	120	55	3.6	8.1	130
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	270	150	--	70	--	--	23	140	52	3.7	9.0	150
21...	--	--	--	--	--	--	--	--	--	--	--	--
25...	190	100	--	50	--	--	15	120	57	3.8	6.7	100
APR												
05...	360	190	--	86	--	--	35	200	54	4.6	14	210
05...	260	120	--	64	--	--	24	160	56	4.3	9.4	170
15...	370	140	--	87	--	--	36	210	54	4.8	14	280
25...	280	130	--	61	--	--	31	200	59	5.2	13	180
MAY												
03...	150	22	--	34	--	--	15	97	58	3.5	6.5	150
05...	160	49	--	46	--	--	12	67	46	2.3	5.3	140
15...	250	100	--	63	--	--	22	160	57	4.4	10	180
25...	140	28	--	45	--	--	7.5	28	29	1.0	5.0	140
JUN												
05...	220	94	--	62	--	--	17	70	40	2.0	5.6	160
08...	100	10	--	29	--	--	7.6	32	39	1.4	4.3	--
15...	350	120	--	92	--	--	29	130	44	3.0	8.8	280
25...	290	160	--	75	--	--	24	99	42	2.5	8.1	150
JUL												
05...	310	130	--	76	--	--	28	160	52	4.0	9.6	210
06...	360	160	--	91	--	--	31	150	47	3.5	9.1	--
15...	340	110	--	84	--	--	32	190	54	4.5	9.9	280
25...	360	100	--	85	--	--	35	200	54	4.6	11	310
AUG												
05...	300	100	--	76	--	--	26	140	50	3.5	10	240
15...	290	110	--	67	--	--	30	230	62	5.9	13	220
16...	290	92	--	69	--	--	29	220	61	5.6	12	--
25...	330	64	--	78	--	--	32	190	55	4.6	11	320
SEP												
04...	350	120	--	86	--	--	33	230	58	5.3	13	280
06...	360	100	--	91	--	--	33	230	57	5.3	13	--
15...	320	75	--	79	--	--	30	220	59	5.3	13	300
25...	350	130	--	85	--	--	33	180	52	4.2	12	270

ARKANSAS RIVER BASIN

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07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CAR- BONATE (MG/L AS CO3)	ALKA- LINITY (MG/L AS CAO3)	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, TOTAL (MG/L AS F)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT												
05...	0	190	4.6	150	340	--	--	--	970	--	--	1.32
08...	--	--	--	--	--	--	--	--	--	920	--	--
15...	0	210	8.3	110	280	--	--	--	872	--	--	1.19
25...	0	210	8.3	120	290	--	--	--	852	--	--	1.16
NOV												
03...	--	--	--	--	--	--	--	--	--	--	--	--
05...	0	210	4.0	190	380	--	--	--	1090	--	--	1.48
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	160	8.0	130	350	--	--	--	927	--	--	1.26
25...	0	210	3.3	120	350	--	--	--	642	--	--	.87
DEC												
05...	0	210	2.6	130	300	--	--	--	850	--	--	1.16
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	180	8.8	220	280	--	--	--	948	--	--	1.29
25...	0	220	8.6	160	350	--	--	--	1060	--	--	1.44
JAN												
05...	10	230	1.4	180	350	--	--	--	1040	--	--	1.41
08...	0	220	3.4	180	340	--	--	10	1080	--	1040	1.47
15...	0	200	9.6	270	370	--	--	--	1220	--	--	1.66
25...	0	170	2.1	200	350	--	--	--	1030	--	--	1.40
FEB												
07...	0	170	2.1	120	370	--	--	12	966	--	958	1.31
27...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
05...	0	150	5.7	99	250	--	--	--	766	--	--	1.04
08...	0	110	5.2	69	200	--	--	4	524	--	543	.71
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	120	3.8	140	210	--	--	--	684	--	--	.93
21...	--	--	--	--	--	--	--	--	--	--	--	--
25...	0	62	5.1	48	230	--	--	--	532	--	--	.72
APR												
05...	0	170	17	140	340	--	--	--	938	--	--	1.28
05...	0	140	34	100	280	--	--	2	753	--	723	1.02
15...	0	230	28	140	340	--	--	--	941	--	--	1.28
25...	0	150	29	130	310	--	--	--	843	--	--	1.15
MAY												
03...	1	120	1.0	50	140	--	--	4	425	--	422	.58
05...	0	110	22	35	110	--	--	--	378	--	--	.51
15...	0	150	23	110	230	--	--	--	714	--	--	.97
25...	0	110	8.9	26	40	--	--	--	239	--	--	.33
JUN												
05...	0	130	13	110	96	--	--	--	447	--	--	.61
08...	--	94	--	29	46	--	--	3	210	--	214	.29
15...	0	230	18	130	200	--	--	--	792	--	--	1.08
25...	0	120	15	160	150	--	--	--	650	--	--	.88
JUL												
05...	0	170	4.2	160	220	--	--	--	793	--	--	1.08
06...	--	200	--	170	230	--	--	7	753	--	807	1.02
15...	0	230	8.9	130	270	--	--	--	887	--	--	1.21
25...	0	250	3.1	130	290	--	--	--	940	--	--	1.28
AUG												
05...	0	200	4.8	100	210	--	--	--	704	--	--	.96
15...	0	180	8.8	120	350	--	--	--	963	--	--	1.31
16...	--	200	--	110	340	--	--	8	931	--	901	1.27
25...	0	260	13	100	290	--	--	--	881	--	--	1.20
SEP												
04...	0	230	8.9	120	370	--	--	--	1010	--	--	1.37
06...	--	260	--	120	350	--	--	8	998	--	1000	1.36
15...	0	250	15	130	340	--	--	--	982	--	--	1.34
25...	0	220	22	170	240	--	--	--	867	--	--	1.18

ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, DIBS= SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS= PENDE (MG/L)	NITRO= GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO= GEN, AMMONIA TOTAL (MG/L AS N)	NITRO= GEN, URGANIC TOTAL (MG/L AS N)	NITRO= GEN,AM= MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO= GEN,NH4 + ORG, SUBP. TOTAL (MG/L AS N)	NITRO= GEN,AM= MONIA + ORGANIC DIBS, 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)	PHOS= PHORUS, DIBS= SOLVED (MG/L AS P)
OCT												
05...	120	..	..	..	..	..	..	..	..	..	..	..
06...	..	..	<.10	..	..	3.5	..	..	3.5	..	.45	..
15...	108	..	..	..	..	..	..	..	..	..	..	..
25...	124	..	..	..	..	..	..	..	..	..	..	..
NOV												
03...	..	32	1.1	..	..	4.2	..	..	5.3	24	2.0	..
05...	227	..	..	..	..	..	..	..	..	..	..	..
09...	..	..	..	..	..	..	..	..	..	..	..	..
15...	350	..	..	..	..	..	..	..	..	..	..	..
25...	173	..	..	..	..	..	..	..	..	..	..	..
DEC												
05...	181	..	..	..	..	..	..	..	..	..	..	..
08...	..	25	4.9	..	..	3.4	..	..	8.3	37	4.1	..
15...	218	..	..	..	..	..	..	..	..	..	..	..
25...	197	..	..	..	..	..	..	..	..	..	..	..
JAN												
05...	216	..	..	..	..	..	..	..	..	..	..	..
06...	242	..	5.9	1.1	.90	2.0	.10	1.9	7.9	35	2.2	1.8
15...	231	..	..	..	..	..	..	..	..	..	..	..
25...	334	..	..	..	..	..	..	..	..	..	..	..
FEB												
07...	250	..	1.7	4.8	3.8	8.6	3.0	5.6	10	46	3.6	3.3
27...	..	..	..	..	..	..	..	..	..	..	..	..
MAR												
05...	316	..	..	..	..	..	..	..	..	..	..	..
08...	754	..	3.4	.80	2.7	3.5	2.8	.73	6.9	31	2.4	1.3
09...	..	..	..	..	..	..	..	..	..	..	..	..
15...	427	..	..	..	..	..	..	..	..	..	..	..
21...	..	..	..	..	..	..	..	..	..	..	..	..
25...	557	..	..	..	..	..	..	..	..	..	..	..
APR												
05...	481	..	..	..	..	..	..	..	..	..	..	..
05...	317	..	.02	.12	4.5	4.6	3.9	.71	4.6	20	1.4	.48
15...	823	..	..	..	..	..	..	..	..	..	..	..
25...	300	..	..	..	..	..	..	..	..	..	..	..
MAY												
03...	980	..	.72	.12	9.9	10	8.4	1.6	11	47	2.8	.44
05...	482	..	..	..	..	..	..	..	..	..	..	..
15...	270	..	..	..	..	..	..	..	..	..	..	..
25...	1230	..	..	..	..	..	..	..	..	..	..	..
JUN												
05...	1820	..	..	..	..	..	..	..	..	..	..	..
08...	1370	..	.33	.03	2.8	2.8	2.5	.32	3.1	14	.98	.18
15...	1240	..	..	..	..	..	..	..	..	..	..	..
25...	3740	..	..	..	..	..	..	..	..	..	..	..
JUL												
05...	711	..	..	..	..	..	..	..	..	..	..	..
06...	667	..	.00	.00	2.3	2.3	1.7	.59	2.3	10	.74	.25
15...	441	..	..	..	..	..	..	..	..	..	..	..
25...	287	..	..	..	..	..	..	..	..	..	..	..
AUG												
05...	525	..	..	..	..	..	..	..	..	..	..	..
15...	242	..	..	..	..	..	..	..	..	..	..	..
16...	224	..	.00	.02	2.1	2.1	1.4	.69	2.1	9.3	1.3	.81
25...	117	..	..	..	..	..	..	..	..	..	..	..
SEP												
04...	92	..	..	..	..	..	..	..	..	..	..	..
06...	70	..	.01	.02	1.8	1.8	.20	1.6	1.8	8.0	1.5	.83
15...	76	..	..	..	..	..	..	..	..	..	..	..
25...	96	..	..	..	..	..	..	..	..	..	..	..

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, SUS- PENDE RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)
OCT 06...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 03...	80	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 08...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 06...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 07...	40	0	40	0	0	0	0	0	1	0	0	0
27...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 08...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
APR 05...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 03...	1000	1000	40	0.1	0.1	0.0	0	0	0	0	0	0
JUN 08...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 06...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 10...	210	200	6	0	0	0	0	0	0	1	1	0
SEP 06...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE 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- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	CHLOR-A PHI- PHYTON CHROMO- GRAPHIC FLUORUM (MG/M2)	CHLOR-H PHI- PHYTON CHROMO- GRAPHIC FLUORUM (MG/M2)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
UCT 06...	--	--	--	25	--	--	--	--	--	--	--	--
NOV 03...	--	--	--	9.0	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	70	19	--
DEC 08...	--	--	--	21	--	--	--	--	--	--	--	--
JAN 06...	--	--	--	8.4	--	--	--	--	--	37	8.3	79
FEB 07...	30	10	20	--	8.2	2.5	--	--	--	53	14	81
27...	--	--	--	--	--	--	--	--	--	110	53	--
MAR 08...	--	--	--	18	--	--	10000	--	--	696	1000	84
09...	--	--	--	--	--	--	--	--	--	540	649	--
21...	--	--	--	--	--	--	--	--	--	160	86	--
APR 05...	--	--	--	12	--	--	--	--	--	111	47	98
MAY 03...	160	150	10	--	8.6	--	180000	--	--	2200	5070	75
JUN 08...	--	--	--	26	--	--	6500	400	000	--	--	--
JUL 06...	--	--	--	17	--	--	--	--	--	367	325	84
AUG 10...	20	20	5	--	9.3	45.0	49000	--	--	52	12	94
SEP 06...	--	--	--	18	--	--	96000	--	--	44	3.1	86

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued
 PHYTOPLANKTON ANALYSES, MARCH 1978 TO SEPTEMBER 1978

DATE TIME	MAR 8,78 1230	MAY 3,78 1430	JUN 8,78 1030	AUG 16,78 0945	SEP 6,78 1200					
TOTAL CELLS/ML	10000	180000	6500	49000	96000					
DIVERSITY: DIVISION	1.5	1.2	1.2	1.3	1.1					
..CLASS	1.5	1.2	1.2	1.3	1.1					
...ORDER	1.7	1.7	2.1	1.5	1.3					
...FAMILY	2.5	2.7	2.2	1.6	1.9					
....GENUS	2.7	3.1	2.7	1.7	2.7					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT				
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	--	--	14000	8	--	1900	2			
...HYDRODICTYACEAE										
....PEDIASTRUM	260	3	10000	6	--	--	--			
...MICRACTINIACEAE										
....GOLENKINIA	--	--	1900	1	--	*	0			
....MICRACTINIUM	--	--	3800	2	--	--	--			
...UOCYSTACEAE										
....ANKISTRUDESMIIS	210	2	2600	1	--	*	0			
....DICTYOSPHAERTUM	320	3	--	--	--	940	1			
....KIRCHNERITELLA	53	1	--	47	1	--	*	0		
...OOCYSTIS	--	--	5100	3	95	1	*	0		
....TETRAEDRON	--	--	--	--	460	1	*	0		
....WESTELLA	--	--	--	--	--	*	0	*	0	
...SCENEDESMACEAE						14000#	19			
....ACTINASTRUM	--	--	5800	3	140	2	--	--	--	
....CRUCIGENTIA	--	--	5100	3	1100#	18	--	--	--	
...SCENEDESMUS	5100#	51	47000#	26	810	13	6200	13	14000#	15
....TETRASTRUM	--	--	2600	1	--	--	920	2	2100	2
..TETRASPORALES										
...COCCOMYXACEAE										
...ELAKATOTHRIX	--	--	--	--	--	--	540	1		
...PALMELLACEAE										
...SPHAEROCYSTIS	--	--	23000	13	--	--	2700	3		
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	--	--	--	--	140	2	--	--	--	--
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--	--	--	--	140	2	--	--	--	--
...CHLOROCOCCALES										
...OOCYSTACEAE										
...GLOEOACTINIUM	--	--	--	--	--	--	2100	2		
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCEACEAE										
....CYCLOTELLA	540	6	40000#	22	47	1	8500#	17	1600	2
...PENNIALES										
...ACHNANTHACEAE										
....COCCONEIS	--	--	--	--	47	1	--	--	--	--
...CYMBELLACEAE										
....AMPHORA	--	--	*	0	--	--	--	--	--	--
....CYMBELLA	110	1	--	--	--	--	--	--	--	--
...FRAGILARIACEAE										
....SYNEDRA	540	6	--	--	--	--	--	--	--	--
...GOMPHONEMATACEAE										
....GOMPHONEMA	110	1	--	--	--	--	--	--	--	--
...NAVICULACEAE										
....NAVICULA	210	2	1300	1	47	1	--	--	--	--
...NITZSCHACEAE										
....NITZSCHIA	900	9	--	--	47	1	*	0	*	0
...SURIRELLACEAE										
....SURIRELLA	53	1	*	0	47	1	--	--	--	--
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	--	--	--	--	--	--	--	13000	14
....ANACYSTIS	630	6	--	--	1800#	27	31000#	62	36000#	38
...HORMOGONALES										
...OSCILLATORIACEAE										
....OSCILLATORIA	--	--	15000	9	1900#	29	1800	4	--	--
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	740	7	--	--	47	1	--	--	*	0
....TRACHELONONAS	160	2	--	--	--	--	--	--	--	--

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1750	710	1620	1800	1660	1770	1370	1280	396	1300	1360	1720
2	1760	922	1690	1800	1550	1770	1280	1040	718	1290	1460	1660
3	1760	1600	1360	1890	1600	1370	1390	822	762	1280	1600	1710
4	1740	1780	1410	1770	1600	1250	1550	546	817	1370	1580	1790
5	1720	1890	1470	1790	1670	1310	1670	662	766	1330	1210	1790
6	1620	1850	1580	1870	1590	1380	1600	889	697	1350	1840	1740
7	1620	1780	1610	1930	1780	1120	1700	1140	445	1410	1020	1690
8	1540	1640	1610	1850	1740	888	1820	794	427	---	1000	1660
9	1580	1600	1640	2140	1750	1080	1880	637	430	1390	1300	2030
10	1480	1690	1730	1910	1780	915	1860	635	671	1330	1390	1710
11	1430	1780	1730	---	1640	1720	436	832	927	1360	1460	1580
12	1410	1790	1750	1930	637	1300	892	932	914	1390	1650	1470
13	1430	1570	1690	1920	561	1660	1270	1180	1140	1640	1740	1550
14	1480	1760	1680	2000	1030	1160	1240	1210	1170	1600	1700	1710
15	1550	1630	1580	2050	1360	1210	1660	1150	1330	1520	1680	1720
16	1580	1110	1540	1910	968	1500	1760	1030	1050	1480	1730	1600
17	1590	867	1520	1940	744	1650	971	1210	1070	1500	1720	1390
18	1560	905	1500	---	641	1640	918	1280	857	1550	1780	1380
19	1570	---	1520	---	684	1750	1080	1370	410	1610	1840	1430
20	1550	1190	1540	---	706	1830	1310	575	822	1620	1740	1480
21	1540	1190	1580	---	766	1730	1400	756	1260	1820	1720	1460
22	---	1380	1560	---	726	1480	1460	261	495	1740	1730	1550
23	1460	1500	1590	1860	852	1120	1560	345	991	1540	1500	1480
24	1480	1620	1630	1780	1020	1040	1590	391	860	1540	1530	1510
25	1530	1650	1810	1750	1370	922	1530	418	1070	1610	1540	1470
26	1530	1720	1830	1840	1430	867	1610	611	683	1540	1630	1720
27	1460	1350	1810	1800	1570	1290	1520	868	808	1580	1720	1720
28	1440	1220	1840	1590	1860	1720	1590	568	905	1430	1770	1500
29	1380	1250	1790	1500	---	1540	1520	501	1040	1530	1830	1390
30	1250	1440	1790	1670	---	1840	---	404	1230	1570	1860	1210
31	821	---	1780	1700	---	1510	---	395	---	1580	1800	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	19.5	5.0	2.0	.0	4.5	17.5	17.5	24.5	29.5	27.0	22.5
2	24.0	15.0	5.0	.0	.5	5.0	18.5	15.5	24.0	30.0	25.5	24.0
3	16.0	15.0	8.0	.0	.0	1.0	18.5	12.0	24.0	30.0	26.0	24.5
4	16.5	16.0	8.5	1.0	1.5	.5	18.0	12.0	24.0	30.0	24.5	24.5
5	17.0	17.0	8.0	2.5	3.0	2.0	20.0	13.0	24.0	30.0	25.0	25.0
6	17.0	16.0	.0	2.0	.5	7.0	18.0	14.5	24.0	30.0	25.0	25.0
7	18.0	15.5	1.0	2.5	.5	6.5	20.0	16.5	23.0	29.5	25.0	24.0
8	18.0	15.0	.5	.0	.0	5.0	20.5	18.5	23.0	---	25.0	24.0
9	17.0	11.5	.0	.0	.0	4.5	20.5	17.5	23.5	34.0	25.5	25.5
10	16.5	6.0	.0	.0	.0	5.5	18.0	19.0	23.5	34.0	25.5	25.5
11	14.0	6.5	3.0	---	3.0	9.0	14.5	19.0	24.5	34.0	26.0	25.0
12	10.0	12.0	4.5	.0	2.5	7.0	14.5	22.0	25.0	30.0	25.5	25.0
13	10.0	12.5	8.0	.0	.5	9.0	15.5	19.0	25.5	29.5	25.5	25.0
14	12.0	13.0	5.0	.0	.0	9.0	17.5	20.5	25.0	29.0	27.0	25.0
15	10.0	13.5	5.5	.0	1.0	10.0	19.5	21.5	25.5	30.0	26.0	25.0
16	10.0	14.0	8.5	.0	1.0	7.0	20.5	20.5	26.0	30.0	26.0	25.0
17	11.0	13.0	8.0	.0	.0	7.0	19.5	21.0	25.5	28.0	25.5	25.0
18	11.5	13.5	8.0	---	.0	11.0	15.5	20.5	25.0	27.0	24.5	25.0
19	15.0	---	8.5	---	.0	11.5	13.5	23.0	25.0	29.0	25.0	25.0
20	16.5	13.5	3.0	---	.0	12.0	13.5	23.0	25.0	28.0	25.5	25.0
21	16.0	8.0	3.0	---	.5	13.0	13.0	25.0	25.5	28.0	25.5	21.0
22	---	8.5	1.5	---	.0	14.0	22.0	27.5	23.0	27.0	25.5	17.5
23	18.5	10.5	3.0	.5	.5	14.0	19.0	23.0	25.0	27.0	25.5	19.0
24	16.5	9.5	4.5	.0	5.5	12.0	19.0	25.0	26.0	28.0	25.5	18.5
25	15.0	10.0	2.5	.5	4.5	9.0	17.0	25.0	26.5	28.5	25.5	19.5
26	14.0	8.5	1.0	.0	4.0	10.0	28.0	25.5	27.0	28.0	26.0	19.0
27	16.5	7.5	.0	.0	2.0	12.0	16.0	25.0	28.0	27.5	25.5	19.0
28	20.5	7.5	2.0	.0	5.0	12.0	17.0	25.0	28.5	25.5	25.5	19.5
29	18.5	6.0	5.0	.5	---	15.0	18.5	24.0	29.5	27.0	25.5	19.5
30	18.0	7.5	5.0	.0	---	15.0	---	23.0	29.5	27.5	23.5	19.5
31	19.0	---	4.0	.0	---	16.5	---	24.0	---	28.0	23.0	---

ARKANSAS RIVER BASIN

415

07242350 DEEP FORK NEAR ARCADIA, OK

LOCATION.--Lat 35°38'58", long 97°21'12", on east line of NE¼ sec.36, T.14 N., R.2 W., Oklahoma County, Hydrologic Unit 11100303, on left bank at upstream side of county road bridge, 1.9 mi (3.1 km) southwest of Arcadia, 2.0 mi (3.2 km) upstream from Coffee Creek, and at mile 213.1 (342.9 km).

DRAINAGE AREA.--105 mi² (272 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR OK-76-1; 1975 (gage height only).

GAGE.--Water-stage recorder. Datum of gage is 941.65 ft (287.0 m), Nation Geodetic Vertical Datum of 1929. Prior to Nov. 1, 1974 at site 0.3 mi (0.5 km) downstream at same datum. Beginning May 2, 1978 the gage was temporarily moved 1.3 mi (2.1 km) downstream to county road bridge, at a 5.00 ft (1.524 m) lower datum.

REMARKS.--Records good prior to May 2 and poor thereafter. Low flow sustained by part of sewage effluent from Oklahoma City.

AVERAGE DISCHARGE.--9 years, 63.2 ft³/s (1.709 m³/s), 445,790 acre-ft/yr (56.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft³/s (405 m³/s) Nov. 2, 1974, gage height, 26.9 ft (8.20 m) from floodmark; minimum daily, 9.8 ft³/s (0.28 m³/s) Aug. 9, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)	GAGE HEIGHT (ft) (m)
May 20	0500	2,550 72.2	12.00 3.658	May 28	0900	*3,890 110	*15.30 4.663
May 21	0830	3,600 102	14.64 4.462	June 21	2200	3,600 102	14.80 4.511

Minimum daily discharge, 9.8 ft³/s (0.28 m³/s) Aug. 9.

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	18	19	24	21	24	29	29	79	132	29	38	21
2	17	18	24	19	26	27	28	46	120	27	29	21
3	13	19	24	21	24	26	27	300	55	24	26	21
4	17	19	26	22	26	22	28	83	59	24	25	19
5	17	20	50	22	24	21	26	32	55	28	15	17
6	18	21	38	21	26	21	29	29	62	23	13	17
7	22	21	26	21	25	47	25	29	56	24	14	23
8	38	22	24	20	24	65	25	24	55	24	14	21
9	25	22	24	20	24	35	25	19	53	25	9.8	38
10	22	27	23	25	25	31	124	21	44	23	15	102
11	25	27	24	20	25	28	52	23	46	27	21	46
12	24	25	24	21	483	27	36	32	48	23	12	37
13	24	24	23	20	234	26	31	24	40	21	21	31
14	25	23	22	24	53	26	30	24	40	23	23	25
15	26	24	22	24	43	26	29	28	46	29	29	29
16	23	24	23	54	38	25	29	23	38	31	28	29
17	26	24	21	44	35	25	27	254	38	27	29	25
18	28	23	21	42	34	24	27	104	50	27	24	24
19	28	24	20	54	31	24	27	148	61	27	29	24
20	29	24	21	38	35	22	27	1870	48	24	29	24
21	30	22	21	35	32	23	27	1400	1360	24	27	63
22	29	23	22	25	31	23	27	196	1180	24	27	31
23	25	25	22	29	81	24	26	75	57	184	29	33
24	27	26	21	28	65	61	25	53	39	39	27	32
25	25	23	21	29	51	35	26	48	38	28	25	87
26	22	24	17	35	34	32	26	50	31	27	29	31
27	22	24	20	31	29	30	25	292	23	24	26	31
28	24	23	21	26	30	31	26	2970	25	29	15	29
29	23	25	21	33	---	29	26	234	29	23	24	27
30	26	25	21	26	---	28	25	81	29	89	19	23
31	20	---	21	24	---	29	---	72	---	29	21	---
TOTAL	738	690	732	874	1612	922	940	8663	3957	1030	712.8	981
MEAN	23.8	23.0	23.6	28.2	57.6	29.7	31.3	279	132	33.2	23.0	32.7
MAX	38	27	50	54	483	65	124	2970	1360	184	38	102
MIN	13	18	17	19	24	21	25	19	23	21	9.8	17
AC=FT	1460	1370	1450	1730	5200	1830	1860	17180	7650	2040	1410	1950

CAL YR 1977	TOTAL	17584.0	MEAN 48.2	MAX 3200	MIN 13	AC=FT 34860
WTR YR 1978	TOTAL	21851.8	MEAN 59.9	MAX 2970	MIN 9.8	AC=FT 43340

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1969 to current year.

WATER TEMPERATURE: October 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 DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,370 micromhos Oct. 15, 1977; minimum daily, 198 micromhos June 8, 1974.

WATER TEMPERATURE: Maximum daily, 32.0°C July 21, 1977, July 14, 1978; minimum, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,950 micromhos July 10; minimum daily, 233 micromhos May 28.

WATER TEMPERATURE: Maximum daily, 32.0°C July 14; 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, 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, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT												
08...	0800	48	1520	6.5	18.0	--	--	--	--	--	230	130
12...	1500	24	1100	8.1	17.0	--	10.1	106	47	12	--	--
12...	1501	24	1100	8.1	17.0	10	10.1	106	--	--	--	--
24...	0820	27	490	7.6	15.0	--	--	--	--	--	140	53
31...	1100	21	1023	6.8	20.0	--	--	--	--	--	200	92
NOV												
03...	1100	20	1276	6.8	15.0	--	--	--	--	--	220	100
08...	1400	22	1030	8.0	16.5	--	8.2	88	59	--	--	--
12...	0930	29	1080	6.7	10.0	--	--	--	--	--	200	110
26...	0830	28	834	6.8	8.0	--	--	--	--	--	180	78
DEC												
06...	1100	38	698	7.2	4.0	--	--	--	--	--	170	68
09...	0900	28	1060	7.0	.0	--	--	--	--	--	210	100
13...	1430	23	1140	7.8	12.0	4	8.4	81	37	--	--	--
13...	1500	22	1140	7.8	12.0	--	8.4	81	52	11	--	--
31...	0934	26	1303	7.2	9.0	--	--	--	--	--	240	170
JAN												
05...	1000	26	1040	7.3	5.0	--	--	--	--	--	220	110
10...	1130	32	1240	9.1	.0	6	15.2	106	42	--	--	--
10...	1200	32	1240	9.1	.0	--	15.2	106	100	12	--	--
17...	0800	44	690	6.9	1.0	--	--	--	--	--	160	62
29...	0900	40	1400	6.9	1.0	--	--	--	--	--	240	120
FEB												
02...	1000	30	1190	7.0	3.0	--	--	--	--	--	240	110
13...	0930	234	398	7.5	2.0	--	--	--	--	--	120	33
21...	0900	32	1410	7.8	.0	--	--	--	--	--	260	130
24...	1415	65	840	8.0	10.0	--	10.2	94	81	6.0	--	--
MAR												
02...	0930	27	1080	7.2	8.0	--	--	--	--	--	270	120
08...	1100	65	695	7.2	7.0	--	--	--	--	--	190	78
19...	0800	28	1440	7.5	9.0	--	--	--	--	--	300	140
22...	1630	19	1500	8.6	20.0	--	15.0	170	120	21	--	--
APR												
11...	0900	56	806	6.9	13.0	--	--	--	--	--	200	70
16...	0700	34	1450	6.7	19.0	--	--	--	--	--	290	130
19...	1400	30	1500	8.1	17.0	--	9.5	101	88	16	--	--
19...	1401	30	1500	8.1	17.0	7	9.5	101	46	--	--	--
29...	0830	31	1120	7.3	17.0	--	--	--	--	--	240	100
MAY												
02...	1000	37	818	7.2	18.0	--	--	--	--	--	200	73

ARKANSAS RIVER BASIN

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07242350 DEEP FORK NEAR ARCADIA, 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, DTS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCA- BONATE (MG/L CACO3)
MAY												
12...	0900	32	1410	7.1	22.0	--	7.4	91	--	--	270	130
18...	1700	104	835	7.9	24.5	--	7.4	91	87	25	--	--
18...	1701	104	835	7.9	24.5	24	7.4	91	39	--	--	--
28...	0800	2970	233	7.6	19.0	--	--	--	--	--	110	18
JUN												
03...	0800	55	970	7.9	20.0	--	--	--	--	--	290	98
13...	1500	40	1400	8.2	27.0	--	10.4	132	46	16	--	--
13...	1501	40	1400	8.2	27.0	6	10.4	132	--	--	--	--
16...	0800	39	1480	7.0	25.0	--	--	--	--	--	310	140
22...	0800	1160	337	7.2	21.0	--	--	--	--	--	120	23
JUL												
10...	0800	23	1950	7.8	27.0	--	--	--	--	--	300	140
23...	0900	184	344	7.3	22.0	--	--	--	--	--	130	23
25...	1200	28	1040	8.1	31.5	--	6.9	96	57	.4	--	--
25...	1201	28	1040	8.1	31.5	23	6.9	--	40	--	--	--
30...	0800	89	1170	7.3	27.0	--	--	--	--	--	220	100
AUG												
01...	0800	39	723	7.6	22.0	--	--	--	--	--	170	71
03...	0930	26	1100	7.8	26.0	--	6.5	81	49	13	--	--
03...	0931	26	1100	7.8	26.0	13	6.5	81	37	--	--	--
10...	1020	15	1064	7.0	25.0	--	--	--	--	--	190	83
16...	0800	24	1080	6.5	25.0	--	--	--	--	--	220	130
SEP												
02...	0800	21	1490	6.8	25.0	--	--	--	--	--	220	140
12...	1000	37	978	7.6	26.0	--	--	--	--	--	190	95
25...	0830	87	447	6.6	24.0	--	--	--	--	--	120	41
26...	1300	31	1050	7.7	23.5	--	7.0	83	38	53	--	--
26...	1301	31	1050	7.7	23.5	37	7.0	83	34	--	--	--

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACO3)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	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)
OCT												
08...	--	50	--	25	--	210	65	6.1	--	16	120	0
12...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	36	--	13	--	44	39	1.6	--	6.0	110	0
31...	--	45	--	21	--	140	59	4.3	--	12	130	0
NOV												
03...	--	45	--	27	--	160	59	4.7	--	12	150	0
08...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	44	--	22	--	120	54	3.7	--	14	110	0
26...	--	41	--	18	--	94	52	3.1	--	8.8	120	0
DEC												
06...	--	37	--	18	--	73	47	2.5	--	8.0	120	0
09...	--	48	--	23	--	130	55	3.9	--	12	140	0
13...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	51	--	28	--	170	59	4.8	--	14	84	0
JAN												
05...	--	47	--	26	--	120	52	3.5	--	12	140	0
10...	46	--	115	--	156	--	--	--	13	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	38	--	16	--	74	49	2.5	--	6.5	120	0
29...	--	53	--	27	--	160	60	5.0	--	11	150	0
FEB												
02...	--	51	--	27	--	150	56	4.2	--	11	160	0
13...	--	33	--	10	--	30	34	1.2	--	4.0	110	0
21...	--	57	--	28	--	190	61	5.2	--	9.3	160	0
24...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
02...	--	59	--	29	--	120	48	3.2	--	10	180	0
08...	--	46	--	19	--	66	42	2.1	--	6.6	140	0
19...	--	64	--	34	--	180	55	4.5	--	18	190	0
22...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
11...	--	46	--	21	--	88	48	2.7	--	7.6	160	0
16...	--	60	--	34	--	170	55	4.3	--	14	200	0
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	49	--	29	--	120	50	3.4	--	13	170	0
MAY												
02...	--	47	--	21	--	84	46	2.6	--	8.9	160	0
12...	--	59	--	30	--	160	58	4.8	--	12	170	0
16...	--	--	--	--	--	--	--	--	--	--	--	--
18...	47	--	118	--	--	--	--	--	--	--	--	--
28...	--	30	--	8.0	--	9.3	15	.4	--	5.9	110	0
JUN												
03...	--	67	--	29	--	83	36	2.1	--	7.3	230	0

ARKANSAS RIVER BASIN

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07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ALKALINITY (MG/L AS CACO3)	CARRON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)
OCT												
08...	98	61	110	300	--	847	--	1.15	110	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	1.0	4.5
12...	--	--	--	--	.7	--	674	--	--	--	--	--
24...	90	4.4	49	58	--	285	--	.39	20	--	--	--
31...	110	33	120	160	--	611	--	.83	34	--	--	--
NOV												
03...	120	38	120	210	--	733	--	1.00	39	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
12...	90	35	100	150	--	609	--	.83	47	--	--	--
26...	98	30	79	140	--	478	--	.65	36	--	--	--
DEC												
06...	98	12	80	90	--	406	--	.55	41	--	--	--
09...	110	22	100	150	--	602	--	.82	45	--	--	--
13...	--	--	--	--	.4	--	--	--	--	13	--	--
13...	--	--	--	--	--	--	--	--	--	--	3.0	13
31...	69	8.5	130	300	--	748	--	1.02	52	--	--	--
JAN												
05...	110	11	140	140	--	613	--	.83	43	--	--	--
10...	--	--	--	--	.4	--	--	--	--	15	--	--
10...	--	--	--	--	--	--	--	--	--	--	.92	4.1
17...	98	24	70	100	--	382	--	.52	45	--	--	--
29...	120	30	120	300	--	772	--	1.05	83	--	--	--
FEB												
02...	130	26	120	200	--	698	--	.95	56	--	--	--
13...	90	5.6	37	49	--	239	--	.33	151	--	--	--
21...	130	4.1	120	270	--	783	--	1.06	67	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	.83	3.7
MAR												
02...	150	18	130	140	--	648	--	.88	47	--	--	--
08...	110	14	100	85	--	400	--	.54	70	--	--	--
19...	160	9.6	150	230	--	832	--	1.13	62	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	.36	1.6
APR												
11...	130	32	96	110	--	453	--	.62	68	--	--	--
16...	160	64	150	230	--	818	--	1.11	75	--	50	220
19...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	.2	--	--	--	--	31	--	--
29...	140	14	130	130	--	638	--	.87	53	--	--	--
MAY												
02...	130	16	100	96	--	482	--	.66	48	--	--	--
12...	140	22	150	250	--	796	--	1.08	68	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	.07	.31
18...	--	--	--	--	.5	--	--	--	--	175	--	--
28...	90	4.4	19	9.3	--	150	--	.20	1200	--	--	--
JUN												
03...	190	4.6	120	120	--	575	--	.78	85	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	3.2	14
13...	--	--	--	--	.7	--	--	--	--	20	--	--
16...	160	32	140	260	--	193	--	.26	19	--	--	--
22...	98	12	25	24	--	195	--	.27	621	--	--	--
JUL												
10...	160	4.8	130	420	--	1110	--	1.51	68	--	--	--
23...	110	10	30	25	--	199	--	.27	98	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	.52	2.3
25...	--	--	--	--	.7	--	--	--	--	101	--	--
30...	120	12	130	190	--	659	--	.90	158	--	--	--
AUG												
01...	98	4.8	87	99	--	418	--	.57	42	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	.8	--	--	--	--	48	--	--
10...	110	21	130	170	--	625	--	.85	25	--	--	--
18...	90	56	120	270	--	828	--	1.13	53	--	--	--
SEP												
02...	81	25	130	310	--	849	--	1.15	48	--	--	--
12...	90	4.4	130	150	--	582	--	.79	58	--	--	--
25...	75	37	44	51	--	260	--	.35	61	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	.83	3.7
26...	--	--	--	--	.7	--	--	--	--	82	--	--

ARKANSAS RIVER BASIN

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (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												
08...	--	--	--	--	--	--	--	--	--	--	--	--
12...	.78	2.6	--	1.8	.00	.00	12	--	12	--	--	4.5
12...	--	--	1.7	--	--	--	--	14	--	16	73	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
03...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	18
12...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
06...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	1.2	--	--	--	--	16	--	17	76	--
13...	.32	1.1	--	33	11	14	3.0	--	14	--	--	5.9
31...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
05...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	1.5	--	--	--	--	18	--	19	87	--
10...	.18	.59	--	1.1	14	18	1.0	--	15	--	--	4.6
17...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
02...	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
24...	.14	.46	--	.97	4.6	5.9	.10	--	4.7	--	--	2.0
MAR												
02...	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
22...	.29	.95	--	.65	14	18	3.0	--	17	--	--	7.2
APR												
11...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
19...	.49	1.6	--	50	15	19	2.0	--	17	--	--	4.6
19...	--	--	4.5	--	--	--	--	19	--	23	105	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
02...	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--
18...	.01	.03	--	.08	.01	.01	8.4	--	8.4	--	--	.90
18...	--	--	5.0	--	--	--	--	4.7	--	9.7	43	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
03...	--	--	--	--	--	--	--	--	--	--	--	--
13...	.00	.00	--	3.2	2.8	3.6	17	--	20	--	--	5.2
13...	--	--	3.0	--	--	--	--	10	--	13	60	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
10...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
25...	.88	2.9	--	1.4	6.7	8.6	1.5	--	8.2	--	--	2.7
25...	--	--	1.4	--	--	--	--	8.7	--	10	45	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
01...	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	5.3
03...	--	--	.10	--	--	--	--	10	--	10	47	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
02...	--	--	--	--	--	--	--	--	--	--	--	6.0
12...	--	--	--	--	--	--	--	--	--	--	--	2.7
12...	--	--	--	--	--	--	--	--	--	--	--	1.5
25...	--	--	--	--	--	--	--	--	--	--	--	4.7
26...	.87	2.9	--	1.7	9.6	12	1.4	--	11	--	--	--
26...	--	--	10	--	--	--	--	1.6	--	12	55	--

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07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible][illegible]

ARKANSAS RIVER BASIN

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV, FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV, FM BOT- TOM MA- TERIAL (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUB- PENDE- RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV, FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT												
12...	10	--	--	--	--	--	--	20	0	20	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	16
NOV												
08...	330	--	--	--	--	--	--	40	10	30	--	--
DEC												
13...	--	--	--	--	--	--	--	--	--	--	--	18
13...	300	--	--	--	--	--	--	30	0	400	--	--
JAN												
10...	--	--	<.5	--	10	1	3	31	--	--	--	17
10...	280	--	--	--	--	--	--	40	0	50	--	--
FEB												
24...	200	--	--	--	--	--	--	60	30	30	--	--
MAR												
22...	410	--	--	--	--	--	--	10	0	20	--	--
APR												
19...	290	--	--	--	--	--	--	30	10	20	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	17
MAY												
18...	220	140	--	.02	--	--	--	50	20	30	6	--
18...	--	--	--	--	--	--	--	--	--	--	--	10
JUN												
13...	50	--	--	--	--	--	--	40	20	20	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	14
JUL												
25...	60	--	--	--	--	--	--	20	20	<3	--	--
25...	--	--	<.5	--	<5	2	<2	22	--	--	--	15
AUG												
03...	90	--	--	--	--	--	--	20	10	6	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	13
SEP												
26...	120	--	--	--	--	--	--	60	40	20	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	12

DATE	TIME	PHENOLS (UG/L)	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	UI- AZINUN, TOTAL (UG/L)
OCT										
12...	1500	7	--	--	--	--	--	--	--	--
NOV										
08...	1400	6	.0	.00	.00	.0	.00	.00	.00	.00
DEC										
13...	1500	6	.0	.00	.00	.0	.00	.00	.00	.91
JAN										
10...	1200	7	.0	.00	.00	.0	.00	.00	.00	.68
FEB										
24...	1415	5	.0	.00	.00	.3	.00	.00	.00	.44
MAR										
22...	1630	7	.0	.00	.00	.0	.00	.00	.00	.60
APR										
19...	1400	2	.0	.00	.00	.0	.00	.00	.00	.65
MAY										
18...	1700	2	--	--	--	--	--	--	--	--
JUN										
13...	1500	1	.0	.00	.00	.0	.00	.00	.00	.23
JUL										
25...	1200	1	.0	.00	.00	.0	.00	.00	.00	.44
AUG										
03...	0930	4	.0	.00	.00	.0	.00	.00	.00	.60
SEP										
26...	1300	3	.0	.00	.00	.0	.00	.00	.00	.40

ARKANSAS RIVER BASIN

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07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	DI- ELDRIN TOTAL (UG/L)	ENDU- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHIUN, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)
OCT 12...	--	--	--	--	--	--	--	--	--
NOV 08...	.00	.00	.00	.00	.00	.00	.00	.00	.00
DEC 13...	.01	.00	.00	.00	.00	.00	.03	.00	.00
JAN 10...	.01	.00	.00	.00	.00	.00	.02	.00	.00
FEB 24...	.01	.00	.00	.00	.02	.00	.00	.00	.00
MAR 22...	.01	.00	.00	.00	.00	.00	.02	.00	.00
APR 19...	.01	.00	.00	.00	.00	.00	.03	.00	.00
MAY 18...	--	--	--	--	--	--	--	--	--
JUN 13...	.01	.00	.00	.00	.00	.00	.01	.00	.00
JUL 25...	.02	.00	.00	.00	.00	.00	.02	.02	.00
AUG 03...	.02	.00	.00	.00	.00	.00	.00	.02	.00
SEP 26...	.01	.00	.00	.00	.00	.00	.02	.00	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PEN- THANE TOTAL (UG/L)	TUX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
OCT 12...	--	--	--	--	--	--	--	--	--
NOV 08...	.00	--	.00	--	0	.00	.00	.00	.00
DEC 13...	.00	--	.00	--	0	.00	.03	.01	.00
JAN 10...	.00	--	.00	--	0	.00	.13	.00	.00
FEB 24...	.00	--	.00	--	0	.00	.27	.04	.10
MAR 22...	.00	--	.00	--	0	.00	.16	.06	.01
APR 19...	.00	--	.00	--	0	.00	.34	.02	.07
MAY 18...	--	--	--	--	--	--	1.2	.10	.23
JUN 13...	.00	.00	.00	--	0	.00	.08	.01	.06
JUL 25...	.00	.00	.00	--	0	.00	.07	.02	.01
AUG 03...	.00	.00	.00	--	0	.00	.12	.02	.03
SEP 26...	.00	.00	.00	.00	0	.00	.08	.02	.02

ARKANSAS RIVER BASIN

07242350 DEEP FORK NEAR ARCADIA, 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	1160	1140	1200	1290	1130	1120	1310	1160	1230	1250	723	1190
2	1140	1110	1150	1250	1190	1080	1420	818	610	1390	953	1490
3	1170	834	1160	1080	1160	1100	1400	428	970	1350	1050	1410
4	1160	905	1200	1050	1300	1110	1290	735	1140	1250	1180	1290
5	1200	1140	1160	1040	1270	1220	1300	873	1080	1420	1280	1320
6	1090	1240	698	1230	1240	1140	1220	1080	1150	1220	1130	1520
7	1000	1040	981	1260	1120	1160	1280	1000	714	1210	1290	1310
8	1520	1060	1060	1230	1130	695	1330	1070	953	1450	1230	1160
9	786	489	1060	1220	1170	949	1250	1160	1150	1280	1180	1020
10	1250	569	1260	1200	1170	1090	988	1080	1270	1950	1420	519
11	1250	994	1170	1250	1290	1150	806	1330	1310	1460	1140	705
12	1110	1080	1140	1300	1310	1230	1190	1410	1210	1260	1140	978
13	1200	1090	1100	1190	398	1240	1330	1170	1290	1290	1220	1040
14	1160	1080	1200	1230	800	1180	1330	1200	1240	1290	1200	1070
15	1250	1130	1140	1200	933	1280	1320	1210	1330	1180	1130	975
16	1150	1110	1140	1180	1030	1360	1450	1080	1480	1290	1180	1020
17	1180	1210	1210	690	1060	1370	1260	1180	1280	1260	1110	1030
18	1320	1100	1210	893	1100	1380	1330	698	1170	1280	1080	1160
19	1250	1090	1210	1060	1180	1440	1420	1020	784	1210	1160	1140
20	1210	1150	1180	1300	1190	1330	1380	330	965	1240	831	1050
21	1190	1230	1220	1230	1410	1360	1320	260	478	1410	1040	1060
22	1160	1180	1310	1180	1290	1510	1400	408	337	1390	1090	785
23	827	1140	1220	1060	836	1400	1330	864	694	290	1050	1120
24	505	1050	1250	939	840	1180	1300	1100	935	552	1110	1170
25	862	1260	1240	1090	980	1030	1300	1260	1040	933	1390	447
26	1060	1310	1200	1200	994	1180	1200	1220	1160	1250	1260	1010
27	1140	1200	1110	1550	1000	1340	1150	566	1220	341	1110	1070
28	1130	1240	1220	1390	1180	1330	1210	233	1290	825	1100	1180
29	1130	1200	1220	1400	---	1310	1120	736	1350	1090	---	1190
30	1190	1240	1090	1160	---	1410	1150	1020	1240	1170	---	1450
31	1120	---	1420	1190	---	1320	---	1230	---	1220	1230	---

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	23.0	20.0	9.0	3.0	5.0	6.0	16.0	18.0	25.0	21.5	22.0	24.0
2	19.0	13.0	9.0	2.0	3.0	8.0	18.0	18.0	22.0	28.5	25.0	25.0
3	18.0	15.0	8.0	4.0	3.0	4.0	21.0	14.0	20.0	27.5	25.0	25.0
4	17.5	18.0	10.0	7.0	3.0	.0	20.0	11.0	22.0	28.0	24.0	24.0
5	17.0	15.0	10.0	5.0	3.0	5.5	19.0	15.0	23.0	30.0	23.0	25.0
6	19.0	16.0	4.0	6.0	4.0	8.0	23.0	24.0	22.0	29.0	23.0	24.0
7	19.0	17.0	5.0	8.0	3.0	8.0	19.0	17.0	22.0	27.0	23.0	27.0
8	18.0	16.0	8.0	4.0	1.0	7.0	20.0	17.0	23.0	27.0	25.0	23.0
9	14.0	12.0	.0	6.0	2.0	4.0	19.0	18.0	20.0	27.0	25.0	24.0
10	20.0	9.0	1.0	5.0	3.0	11.0	16.0	18.0	23.0	27.0	25.0	23.0
11	14.0	11.0	.0	3.0	4.0	9.0	13.0	23.0	23.0	30.0	27.0	25.0
12	13.0	10.0	8.0	3.0	5.0	5.0	19.0	22.0	25.0	28.0	28.0	26.0
13	13.0	12.0	---	4.0	2.0	9.0	22.0	24.0	19.0	27.5	26.0	25.0
14	15.0	14.0	8.0	1.0	.0	10.0	20.0	17.0	24.0	32.0	27.0	25.0
15	13.0	16.0	10.0	1.0	.0	9.0	19.0	18.0	23.0	27.0	28.0	22.0
16	10.0	15.0	9.0	4.0	.0	9.0	19.0	21.0	25.0	27.0	25.0	26.0
17	11.0	13.0	9.0	1.0	.0	8.0	24.0	20.0	25.0	29.0	27.0	26.0
18	14.5	11.0	5.0	3.0	1.0	11.0	19.0	18.0	26.0	27.0	25.0	25.0
19	13.0	15.0	8.0	3.0	3.0	9.0	14.0	25.0	23.0	28.0	24.0	25.0
20	17.0	17.0	5.0	1.0	4.0	14.0	13.0	21.0	25.0	27.0	22.0	24.0
21	20.0	8.0	2.0	2.0	.0	11.0	13.0	21.0	26.0	27.0	26.0	29.0
22	19.0	9.0	2.0	1.0	2.0	15.0	14.0	27.0	21.0	26.0	26.0	25.0
23	18.0	11.0	6.0	4.0	4.0	17.0	20.0	24.0	24.0	22.0	28.0	20.0
24	15.0	9.5	8.0	4.0	5.0	9.0	17.0	27.0	25.0	24.0	30.0	23.0
25	17.0	10.0	4.0	4.0	5.0	7.0	17.0	26.0	26.0	28.0	26.0	24.0
26	20.0	8.0	2.0	.0	4.0	8.0	15.0	24.0	27.0	29.0	26.0	26.0
27	17.0	10.0	4.0	3.0	6.0	14.0	18.0	21.0	27.0	21.0	26.0	20.0
28	19.0	8.0	3.0	.0	8.0	17.0	20.0	19.0	27.5	24.0	25.0	21.0
29	18.0	8.0	7.0	1.0	---	19.0	17.0	20.0	27.5	26.0	---	21.0
30	19.0	8.0	9.0	3.0	---	17.0	20.0	23.0	27.5	27.0	---	20.0
31	20.0	---	9.0	3.0	---	17.0	---	27.0	---	27.0	27.0	---

LOCATION.--Lat 35°46'55", long 96°51'20", in NW¼NW¼ sec.14, T.15 N., R.4 W., Lincoln County, Hydrologic Unit 11100303, near left bank on downstream side of county road bridge, 1.0 mi (1.6 km) downstream from Beaver Creek and 4.5 mi (7.2 km) west of Kendrick.

PERIOD OF RECORD.--October 1955 to current year.

REMARKS.--Records good except for periods of no gage height record Jan. 15 to Feb. 15 which is poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft³/s (510 m³/s) Nov. 2, 1974, gage height, 19.20 ft (5.852 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,320 ft³/s (65.7 m³/s) at 0230 May 1, gage height, 10.77 ft (3.283 m), no other peaks above base of 2,000 ft³/s (56.6 m³/s); no flow at times.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.08	.25	1.8	1.2	441	7.9	.97	.00	.00
2	.00	.00	.00	.00	.15	2.0	1.2	4.2	31	.86	.00	.00
3	.00	.00	.00	.02	.45	1.6	1.3	190	6.1	.81	.00	.00
4	.00	.00	.00	.11	.60	1.4	1.7	8.3	4.9	.69	.00	.00
5	.00	.00	.00	.22	.50	1.6	1.4	3.6	13	.57	.00	.00
6	.00	.00	.00	.18	.45	1.7	1.4	2.9	12	.49	.00	.00
7	.00	.00	.00	.18	.40	2.1	1.2	129	6.4	.36	.00	.00
8	.00	.00	.00	.11	.35	2.3	1.2	5.6	4.2	.36	.00	.00
9	.00	.00	.00	.00	.30	1.8	1.2	2.6	3.8	.27	.00	.00
10	.00	.00	.00	.00	.25	1.5	1.6	2.0	3.5	.15	.00	.00
11	.00	.00	.00	.00	2.0	1.4	1.5	1.8	3.3	.09	.00	.00
12	.00	.00	.00	.00	.70	1.3	1.3	1.5	3.0	.05	.00	.00
13	.00	.00	.00	.02	.40	1.3	1.3	1.1	2.9	.00	.00	.00
14	.00	.00	.00	.07	.10	1.3	1.3	1.1	2.9	.39	.00	.00
15	.00	.00	.00	.10	2.0	1.2	1.3	1.1	2.8	.22	.00	.00
16	.00	.00	.00	.50	1.6	1.2	1.3	1.1	2.7	.07	.00	.00
17	.00	.00	.00	.40	1.4	1.1	1.4	1.5	2.6	.00	.00	.00
18	.00	.00	.00	.35	1.5	1.2	1.4	1.4	3.5	.00	.00	.00
19	.00	.00	.00	.30	1.5	1.1	1.5	9.1	3.4	.00	.00	.00
20	.00	.00	.00	.25	1.5	1.2	1.7	114	5.0	.00	.00	.00
21	.00	.00	.00	.20	1.5	1.2	1.8	214	231	.00	.00	.00
22	.00	.00	.00	.15	1.5	1.2	1.7	25	64	.00	.00	.00
23	.00	.00	.00	.40	2.1	1.5	1.8	8.1	6.7	1.8	.00	.00
24	.00	.00	.00	.50	2.6	9.1	1.8	4.9	2.6	.27	.00	.00
25	.00	.00	.00	.60	2.6	2.4	1.8	4.0	2.0	.00	.00	.00
26	.00	.00	.00	.45	2.1	1.6	1.8	3.8	1.6	.00	.00	.00
27	.00	.00	.00	.35	1.9	1.4	1.9	164	1.3	.00	.00	.00
28	.00	.00	.00	.60	2.1	1.3	1.9	362	1.2	.00	.00	.00
29	.00	.00	.10	.40	---	1.2	2.0	34	1.1	.00	.00	.00
30	.00	.00	.15	.25	---	1.2	5.2	13	1.0	.00	.00	.00
31	.00	---	.17	.20	---	1.2	---	7.0	---	.00	.00	---
TOTAL	.00	.00	.42	6.99	151.60	53.4	49.1	1762.7	437.4	8.42	.00	.00
MEAN	.000	.000	.014	.23	5.41	1.72	1.64	56.9	14.6	.27	.000	.000
MAX	.00	.00	.17	.60	.70	9.1	5.2	441	231	1.8	.00	.00
MIN	.00	.00	.00	.00	.15	1.1	1.2	1.1	1.0	.00	.00	.00
AC=FT	.00	.00	.8	14	301	106	97	3500	868	17	.00	.00
CAL YR 1977	TOTAL	1490.64	MEAN	4.08	MAX	1050	MIN	.00	AC=FT	2960		
WTR YR 1978	TOTAL	2470.03	MEAN	6.77	MAX	441	MIN	.00	AC=FT	4900		

ARKANSAS RIVER BASIN

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07243500 DEEP FORK NEAR BEGGS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1951 to current year.

WATER TEMPERATURE: November 1951 to current year.

REMARKS.--Samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples at or near 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.

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, 10,500 micromhos Jan. 12, 1955; minimum daily, 83 micromhos

June 10, 1974.

WATER TEMPERATURE: Maximum daily, 38.5°C Aug. 8, 1970; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,590 micromhos Sept. 18; minimum daily, 244 micromhos May 3.

WATER TEMPERATURE: Maximum daily, 35.0°C on several days during July; minimum daily, 1.0°C Jan. 16.

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)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	COLI- FORM, FECAL, 0.7 UM-HF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
05...	1700	22	723	8.4	21.0	--	--	--	--	--	--	--
07...	1145	17	440	7.9	19.0	33	--	7.2	79	20	--	--
15...	1700	14	1020	8.4	21.0	--	--	--	--	--	--	--
25...	1700	17	1390	8.5	19.0	--	--	--	--	--	--	--
NOV												
04...	1000	30	1125	8.1	18.0	62	--	8.8	94	31	--	--
05...	1600	28	1140	7.8	18.0	--	--	--	--	--	--	--
15...	1600	69	1040	8.0	18.0	--	--	--	--	--	--	--
25...	1600	19	855	7.8	13.0	--	--	--	--	--	--	--
DEC												
05...	1600	33	1040	8.2	9.0	--	--	--	--	--	--	--
07...	1030	33	1060	--	2.5	3	--	16.4	115	33	--	--
15...	1600	27	1230	8.1	12.0	--	--	--	--	--	--	--
25...	1600	35	1190	8.1	7.0	--	--	--	--	--	--	--
JAN												
05...	1600	30	1270	8.0	9.0	--	--	--	--	--	--	--
06...	0900	29	1210	9.0	3.0	20	--	19.1	144	--	--	120
15...	1600	20	1350	8.1	3.0	--	--	--	--	--	--	--
25...	1600	46	1420	8.2	8.0	--	--	--	--	--	--	--
FEB												
05...	1600	55	1230	8.4	7.0	--	--	--	--	--	--	--
07...	0900	46	1213	8.1	5	7	--	15.6	109	--	26	24
15...	1600	523	487	7.9	7.0	--	--	--	--	--	--	--
25...	1600	241	755	8.1	7.0	--	--	--	--	--	--	--
MAR												
05...	1600	136	904	7.5	7.0	--	--	--	--	--	--	--
08...	0900	689	790	7.6	5.5	370	--	11.7	94	--	1000	3800
15...	1600	131	902	8.1	9.0	--	--	--	--	--	--	--
26...	1630	556	552	7.5	11.0	--	--	--	--	--	--	--
APR												
04...	1700	98	988	8.2	--	--	--	--	--	--	--	--
06...	1115	117	692	7.9	20.5	190	--	7.5	84	--	K310	720
25...	1700	56	1190	8.2	21.0	--	--	--	--	--	--	--
MAY												
03...	0900	1723	503	7.4	14.5	850	--	7.1	71	--	32000	16000
05...	1800	1448	356	7.0	15.0	--	--	--	--	--	--	--
15...	1800	307	550	7.1	24.0	--	--	--	--	--	--	--
25...	1800	1170	367	7.0	28.0	--	--	--	--	--	--	--
JUN												
05...	1800	1851	387	7.1	23.0	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, 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)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	CULI- FURN, FECAL, 0.7 UM-HF (CULS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (CULS. PER 100 ML)
JUN												
07...	1115	3044	250	7.3	23.0	--	340	5.4	64	--	9000	58000
15...	1800	318	625	7.3	29.0	--	--	--	--	--	--	--
25...	1800	604	432	7.4	32.0	--	--	--	--	--	--	--
JUL												
05...	1530	162	560	8.1	32.0	--	130	--	--	--	250	440
05...	1800	162	671	8.1	34.0	--	--	--	--	--	--	--
15...	1800	36	869	7.7	34.0	--	--	--	--	--	--	--
25...	1800	20	1130	8.5	33.0	--	--	--	--	--	--	--
AUG												
05...	1800	29	1100	8.3	28.0	--	--	--	--	--	--	--
07...	1225	43	--	--	21.0	--	--	--	--	--	--	--
15...	1515	14	1250	8.0	30.0	--	32	7.0	93	--	240	4700
15...	1800	14	801	7.5	33.0	--	--	--	--	--	--	--
25...	1800	4.6	1066	7.8	32.0	--	--	--	--	--	--	--
SEP												
05...	1500	9.1	1200	8.0	27.0	--	19	6.5	82	--	220	380
05...	1800	9.1	1130	8.4	30.0	--	--	--	--	--	--	--
14...	1230	9.3	--	--	28.5	--	--	--	--	--	--	--
15...	1800	9.7	1360	8.0	31.0	--	--	--	--	--	--	--
25...	1800	10	1440	7.8	25.0	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07243500 DEEP FORK NEAR BEGGS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HARD- NESS (MG/L AS CACU3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CACU3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	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)
OCT												
05...	150	52	--	36	--	--	15	90	55	3.2	6.4	120
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	240	71	--	52	--	--	26	96	46	2.7	7.7	200
25...	270	82	--	58	--	--	31	190	59	5.0	9.2	230
NOV												
04...	--	--	26	--	65	24	--	--	--	--	--	--
05...	220	52	--	47	--	--	26	140	56	4.1	9.9	210
15...	230	68	--	50	--	--	26	120	52	3.4	8.3	200
25...	200	44	--	42	--	--	23	95	50	2.9	7.8	190
DEC												
05...	250	63	--	53	--	--	29	120	50	3.3	8.6	230
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	290	82	--	59	--	--	34	140	50	3.6	9.2	250
25...	280	75	--	56	--	--	34	140	51	3.6	9.3	250
JAN												
05...	290	78	--	59	--	--	35	150	52	3.8	9.2	260
08...	290	74	--	58	--	--	35	150	52	3.8	8.7	260
15...	310	90	--	62	--	--	38	160	52	3.9	9.7	270
25...	340	110	--	68	--	--	41	170	51	4.0	9.6	280
FEB												
05...	280	90	--	57	--	--	34	160	54	4.1	8.0	220
07...	260	99	--	59	--	--	32	160	55	4.2	7.9	220
15...	110	46	--	25	--	--	12	52	49	2.1	4.3	80
25...	170	75	--	38	--	--	19	81	50	2.7	5.2	120
MAR												
05...	220	86	--	49	--	--	23	96	48	2.8	5.4	160
08...	170	88	--	40	--	--	17	88	52	2.9	4.7	100
15...	230	95	--	51	--	--	26	90	45	2.6	5.5	170
26...	130	62	--	24	--	--	14	60	49	2.3	4.5	80
APR												
04...	240	79	--	53	--	--	25	110	50	3.1	6.8	190
06...	180	72	--	42	--	--	18	73	46	2.4	5.4	130
25...	310	77	--	65	--	--	35	150	47	3.2	6.3	280
MAY												
03...	86	38	--	20	--	--	8.8	50	54	2.3	4.4	59
05...	82	31	--	19	--	--	8.4	36	47	1.7	4.3	62
15...	140	45	--	31	--	--	14	55	46	2.1	5.1	110
25...	100	27	--	23	--	--	11	32	39	1.4	4.9	92
JUN												
05...	120	33	--	28	--	--	13	25	30	1.0	4.7	110
07...	68	13	--	16	--	--	6.9	20	37	1.1	3.7	--
15...	190	38	--	43	--	--	19	53	37	1.7	5.3	180
25...	130	30	--	30	--	--	13	37	36	1.4	4.4	120
JUL												
05...	210	44	--	51	--	--	21	58	36	1.7	6.1	--
05...	210	47	--	50	--	--	21	58	37	1.7	5.9	200
15...	240	53	--	54	--	--	26	89	44	2.5	6.7	230
25...	300	60	--	66	--	--	32	120	46	3.0	7.4	280
AUG												
05...	230	42	--	48	--	--	27	140	56	4.0	8.3	230
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	200	23	--	45	--	--	22	92	49	2.8	7.3	--
15...	200	28	--	44	--	--	22	85	47	2.6	7.3	210
25...	240	48	--	55	--	--	26	120	51	3.3	8.1	240
SEP												
05...	290	78	--	66	--	--	30	130	49	3.3	8.4	--
05...	290	78	--	62	--	--	32	130	49	3.3	8.3	250
14...	--	--	--	--	--	--	--	--	--	--	--	--
15...	290	53	--	62	--	--	33	170	55	4.3	9.2	290
25...	290	61	--	62	--	--	33	190	58	4.9	10	280

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	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)	FLUO- RIDE, TOTAL (MG/L AS F)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT												
05...	1	100	.8	38	150	--	--	--	393	--	--	.53
07...	--	--	--	--	--	.4	--	--	--	392	--	--
15...	1	170	1.3	74	170	--	--	--	501	--	--	.76
25...	1	190	1.2	120	270	--	--	--	782	--	--	1.06
NOV												
04...	--	--	--	--	--	.6	--	--	--	--	--	--
05...	0	170	5.3	130	180	--	--	--	643	--	--	.87
15...	0	160	3.2	77	170	--	--	--	581	--	--	.79
25...	0	160	4.8	65	120	--	--	--	478	--	--	.65
DEC												
05...	0	190	2.3	79	160	--	--	--	592	--	--	.81
07...	--	--	--	--	--	.5	--	--	--	--	--	--
15...	0	210	3.2	110	190	--	--	--	681	--	--	.93
25...	0	210	3.2	98	190	--	--	--	679	--	--	.92
JAN												
05...	0	210	4.2	98	210	--	--	--	713	--	--	.97
06...	1	220	.4	100	210	--	.6	.1	725	--	692	.99
15...	0	220	3.4	110	230	--	--	--	767	--	--	1.04
25...	0	230	2.8	100	260	--	--	--	798	--	--	1.09
FEB												
05...	7	190	1.5	130	220	--	--	--	685	--	--	.93
07...	0	180	2.8	87	240	--	.6	8.9	707	--	704	.96
15...	0	66	1.6	34	100	--	--	--	306	--	--	.42
25...	0	98	1.5	43	140	--	--	--	420	--	--	.57
MAR												
05...	0	130	8.1	50	170	--	--	--	510	--	--	.69
08...	0	82	4.0	39	170	--	.2	6.8	420	--	415	.57
15...	0	140	2.2	64	160	--	--	--	502	--	--	.68
26...	0	66	4.0	34	100	--	--	--	310	--	--	.42
APR												
04...	0	160	1.9	54	180	--	--	--	559	--	--	.76
06...	0	110	2.6	38	130	--	.0	6.1	381	--	377	.52
25...	0	230	2.8	79	200	--	--	--	664	--	--	.90
MAY												
03...	0	48	3.8	13	92	--	.2	5.5	275	--	223	.37
05...	0	51	9.9	15	65	--	--	--	204	--	--	.28
15...	0	90	14	27	94	--	--	--	319	--	--	.43
25...	0	75	15	26	53	--	--	--	214	--	--	.29
JUN												
05...	0	90	14	18	46	--	--	--	217	--	--	.30
07...	--	55	--	15	37	--	.2	8.1	148	--	140	.20
15...	0	150	14	34	78	--	--	--	339	--	--	.46
25...	0	98	7.6	23	63	--	--	--	239	--	--	.33
JUL												
05...	--	170	--	38	86	--	.5	9.4	363	--	372	.49
05...	0	160	2.5	39	96	--	--	--	381	--	--	.52
15...	0	190	7.3	54	140	--	--	--	493	--	--	.67
25...	4	240	1.5	76	170	--	--	--	645	--	--	.88
AUG												
05...	0	190	1.8	100	170	--	--	--	626	--	--	.85
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	180	--	60	130	--	.6	54	468	--	519	.64
15...	0	170	11	59	120	--	--	--	456	--	--	.62
25...	0	200	6.1	97	170	--	--	--	594	--	--	.81
SEP												
05...	--	210	--	89	180	--	.7	5.5	633	--	636	.86
05...	2	210	1.6	92	190	--	--	--	641	--	--	.87
14...	--	--	--	--	--	--	--	--	--	--	--	--
15...	0	240	4.8	97	240	--	--	--	766	--	--	1.04
25...	0	230	7.1	110	260	--	--	--	807	--	--	1.10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C. SUB- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG., SUBP., TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS, (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)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT												
05...	23	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	.60	--	--	1.7	--	--	2.2	10	.32	--
15...	21	--	--	--	--	--	--	--	--	--	--	--
25...	35	--	--	--	--	--	--	--	--	--	--	--
NOV												
04...	--	95	2.0	--	--	2.4	--	--	4.4	20	1.3	--
05...	48	--	--	--	--	--	--	--	--	--	--	--
15...	108	--	--	--	--	--	--	--	--	--	--	--
25...	24	--	--	--	--	--	--	--	--	--	--	--
DEC												
05...	52	--	--	--	--	--	--	--	--	--	--	--
07...	--	24	3.2	--	--	2.3	--	--	5.5	25	1.9	--
15...	49	--	--	--	--	--	--	--	--	--	--	--
25...	64	--	--	--	--	--	--	--	--	--	--	--
JAN												
05...	57	--	--	--	--	--	--	--	--	--	--	--
06...	56	--	3.0	.70	1.7	2.4	.10	2.3	5.4	24	2.3	2.6
15...	41	--	--	--	--	--	--	--	--	--	--	--
25...	99	--	--	--	--	--	--	--	--	--	--	--
FEB												
05...	102	--	--	--	--	--	--	--	--	--	--	--
07...	87	--	3.0	2.7	.80	3.5	.20	3.3	6.5	29	2.2	2.1
15...	432	--	--	--	--	--	--	--	--	--	--	--
25...	273	--	--	--	--	--	--	--	--	--	--	--
MAR												
05...	187	--	--	--	--	--	--	--	--	--	--	--
08...	781	--	1.2	.63	1.1	1.7	1.3	.42	2.9	13	.64	.39
15...	178	--	--	--	--	--	--	--	--	--	--	--
26...	465	--	--	--	--	--	--	--	--	--	--	--
APR												
04...	148	--	--	--	--	--	--	--	--	--	--	--
06...	120	--	.36	.08	1.5	1.6	.40	1.2	2.0	8.7	.45	.09
25...	100	--	--	--	--	--	--	--	--	--	--	--
MAY												
03...	1280	--	.80	.01	3.3	3.3	2.6	.69	4.1	18	.57	.03
05...	798	--	--	--	--	--	--	--	--	--	--	--
15...	264	--	--	--	--	--	--	--	--	--	--	--
25...	676	--	--	--	--	--	--	--	--	--	--	--
JUN												
05...	1090	--	--	--	--	--	--	--	--	--	--	--
07...	1220	--	.80	.03	1.6	1.6	.95	.65	2.4	11	.32	.03
15...	291	--	--	--	--	--	--	--	--	--	--	--
25...	390	--	--	--	--	--	--	--	--	--	--	--
JUL												
05...	159	--	.43	.01	1.1	1.1	.53	.57	1.5	6.8	.45	.26
05...	167	--	--	--	--	--	--	--	--	--	--	--
15...	47.9	--	--	--	--	--	--	--	--	--	--	--
25...	34.8	--	--	--	--	--	--	--	--	--	--	--
AUG												
05...	49.0	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	17.7	--	.01	.05	1.1	1.1	.56	.54	1.1	4.9	.36	.27
15...	17.2	--	--	--	--	--	--	--	--	--	--	--
25...	7.3	--	--	--	--	--	--	--	--	--	--	--
SEP												
05...	15.6	--	.01	.03	1.4	1.4	.79	.61	1.4	6.2	.22	.09
05...	15.7	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
19...	20.1	--	--	--	--	--	--	--	--	--	--	--
25...	21.8	--	--	--	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

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ARKANSAS RIVER BASIN

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07243500 DEEP FORK NEAR BEGGS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)
OCT 07...	--	--	--	--	--	--	--	--	--	--
NOV 04...	220	--	--	--	--	--	--	--	--	--
DEC 07...	--	--	--	--	--	--	--	--	--	--
JAN 06...	--	--	--	--	--	--	--	--	--	--
FEB 07...	40	0	40	.0	.0	.0	1	0	1	0
MAR 08...	--	--	--	--	--	--	--	--	--	--
APR 06...	--	--	--	--	--	--	--	--	--	--
MAY 03...	1100	1100	20	.0	.0	.0	0	0	0	0
JUN 07...	--	--	--	--	--	--	--	--	--	--
JUL 05...	--	--	--	--	--	--	--	--	--	--
AUG 07...	--	--	--	--	--	--	--	--	--	--
15...	100	60	40	.0	.0	.0	1	0	1	0
SEP 05...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--

DATE	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE 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- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. & FINER THAN .062 MM
OCT 07...	--	--	--	--	8.0	--	--	--	--	--	--
NOV 04...	--	--	--	--	3.0	--	--	--	--	--	--
DEC 07...	--	--	--	--	19	--	--	--	--	--	--
JAN 06...	--	--	--	--	9.8	--	--	--	47	3.7	95
FEB 07...	0	20	0	20	--	7.1	.4	--	29	3.6	88
MAR 08...	--	--	--	--	15	--	--	700	675	1260	98
APR 06...	--	--	--	--	17	--	--	--	278	88	98
MAY 03...	0	80	70	10	--	9.7	--	1300	1460	6790	97
JUN 07...	--	--	--	--	17	--	--	5900	--	--	--
JUL 05...	--	--	--	--	9.2	--	--	--	189	83	97
AUG 07...	--	--	--	--	--	--	--	--	100	12	--
15...	1	20	10	10	--	8.1	1.8	13000	57	2.2	96
SEP 05...	--	--	--	--	11	--	--	--	48	1.2	74
14...	--	--	--	--	--	--	--	--	110	2.8	--

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OK--Continued
PHYTOPLANKTON ANALYSES, MARCH 1978 TO AUGUST 1978

DATE TIME	MAR 8,78 0900	MAY 3,78 0900	JUN 7,78 1115	AUG 15,78 1515
TOTAL CELLS/ML	700	1300	5900	13000
DIVERSITY: DIVISION	1.6	1.1	1.0	1.2
..CLASS	1.6	1.1	1.0	1.2
...ORDER	2.1	1.4	1.3	1.7
...FAMILY	2.2	2.4	1.8	2.1
....GENUS	2.6	2.9	2.5	2.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
...SCHROEDERIA	--	-	32	2	--	-	--	-
...COELASTRACEAE								
...COELASTRUM	--	-	--	-	--	-	270	2
...MICRACTINIACEAE								
...MICRACTINIUM	--	-	--	-	170	3	110	1
...DUCYSTACEAE								
...ANKISTRODESMUS	--	-	--	-	*	0	140	1
...CLOSTERIOPSIS	--	-	--	-	*	0	--	-
...DICTYOSPHAERIUM	--	-	--	-	120	2	270	2
...NEPHROCYTIUM	--	-	--	-	--	-	240	2
...DUCYSTIS	--	-	--	-	*	0	--	-
...SPLENASTRUM	--	-	--	-	--	-	190	1
...TETRAEDRON	--	-	--	-	--	-	*	0
...NESTELLA	--	-	--	-	--	-	330	2
...SCENEDESMACEAE								
...ACTINASTRUM	--	-	--	-	--	-	220	2
...CRUCIGENIA	--	-	--	-	5A	1	110	1
...SCENEDESMUS	27	4	260*	20	120	2	980	7
...TETRASTRUM	--	-	130	10	120	2	110	1
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	--	-	--	-	5A	1	81	1
CHRYSPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	14	2	96	7	72	1	600	5
...MELOSTRA	--	-	--	-	72	1	--	-
...STEPHANODISCUS	--	-	--	-	--	-	*	0
...PENNALES								
...ACHNANTHACEAE								
...COCCONEIS	--	-	--	-	--	-	81	1
...CYMBELLACEAE								
...CYMBELLA	--	-	32	2	*	0	--	-
...FRAGILARIACEAE								
...SYNEDRA	--	-	32	2	--	-	--	-
...GOMPHONEMATACEAE								
...GOMPHONEMA	--	-	96	7	--	-	--	-
...NAVICULACEAE								
...CALONEIS	--	-	32	2	--	-	--	-
...DIPLONEIS			--	-	*	0	--	-
...GYROSTIGMA	14	2	--	-	--	-	*	0
...NAVICULA	110*	16	450*	35	100	2	*	0
...PINNULARIA	--	-	32	2	--	-	--	-
...NITZSCHACEAE								
...DENTICULA	--	-	--	-	*	0	--	-
...NITZSCHIA	--	-	64	5	87	1	220	2
...SURIARELLACEAE								
...SURIARELLA	14	2	--	-	*	0	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
...AGMENELLUM	--	-	--	-	--	-	870	7
...ANACYSTIS	82	12	--	-	170	3	430	3
...HORMOGONALES								
...NOSTOCACEAE								
...ANABAENA	--	-	--	-	230	4	--	-
...APHANIZOHENON	270*	39	--	-	--	-	--	-
...OSCILLATORIACEAE								
...LYNGBYA	--	-	--	-	810	14	--	-
...OSCILLATORIA	--	-	--	-	3500*	59	7600*	58

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

ARKANSAS RIVER BASIN

435

07243500 DEEP FORK NEAR BEGGS, OK--Continued
 PHYTOPLANKTON ANALYSES, MARCH 1978 TO AUGUST 1978

(CON)

DATE TIME	MAR 8,78 0900		MAY 3,78 0900		JUN 7,78 1115		AUG 15,78 1515	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	96	14	--	-	43	1	140	1
.....PHACUS	--	-	--	-	--	-	*	0
.....TRACHELOMONAS	69	10	32	2	58	1	--	-
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%

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, 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	736	1340	890	1220	1350	869	839	741	332	529	1380	971
2	902	1310	902	1220	1260	951	913	278	340	565	1360	1000
3	736	1240	945	1240	1200	927	945	244	313	606	1280	1040
4	675	1150	1010	1250	1220	943	988	483	361	640	1260	1080
5	723	1140	1040	1270	1230	904	1020	356	387	671	1100	1130
6	629	1100	1080	1300	1220	883	724	392	288	739	958	1160
7	662	1010	1080	1300	1210	1080	935	400	274	715	836	1200
8	708	936	1100	1330	---	887	938	276	361	728	762	1220
9	726	1020	1160	1310	1210	612	1090	294	405	749	835	1220
10	728	1210	1180	1350	1170	663	972	360	487	761	991	1250
11	768	854	1210	1340	1200	1060	456	431	524	781	906	1280
12	798	977	1210	1340	1120	815	865	448	582	793	814	1310
13	857	1170	1190	1340	536	829	883	468	614	815	746	1330
14	940	1140	1200	1340	406	738	956	514	614	820	756	1350
15	1020	1040	1230	1350	502	902	1070	550	625	869	801	1360
16	1100	1090	1230	1330	648	970	1160	588	654	911	859	1410
17	1190	1150	1220	1280	764	1020	1200	613	680	934	966	1480
18	1250	1120	1210	1400	720	1000	1220	918	719	966	1030	1590
19	1280	1010	1200	1370	616	1020	1230	709	726	1000	1090	1570
20	1330	1030	1210	1300	531	988	1260	754	666	1030	1120	1500
21	1350	1110	1220	1400	583	753	1240	747	547	1060	1120	1480
22	1360	1070	1270	1400	607	414	1160	365	410	1080	1110	1420
23	1310	942	1230	1400	782	626	1180	268	385	1110	1090	1400
24	1300	871	1250	1360	780	370	1160	324	708	1170	1080	1410
25	1390	855	1190	1420	755	407	1190	367	432	1130	1060	1440
26	1340	866	1180	1520	796	552	1170	362	480	1210	1020	1450
27	1300	891	1180	1570	844	589	1170	407	438	1220	983	1500
28	1300	896	1280	1510	697	768	1210	390	448	1200	944	1520
29	1280	886	1240	1510	---	711	1250	282	466	1170	936	1510
30	1340	889	1230	1470	---	732	1310	312	498	1450	932	1460
31	1300	---	1220	1470	---	770	---	323	---	1390	961	---

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	26.0	19.0	11.0	4.0	6.0	6.0	---	18.0	28.0	34.0	33.0	29.0
2	23.0	18.0	9.0	5.0	8.0	7.0	---	16.0	26.0	33.0	30.0	29.0
3	23.0	18.0	12.0	6.0	7.0	4.0	---	14.0	24.0	24.0	27.0	30.0
4	19.0	19.0	11.0	7.0	7.0	6.0	---	15.0	24.0	34.0	23.0	32.0
5	21.0	18.0	9.0	9.0	7.0	7.0	21.0	15.0	23.0	34.0	28.0	30.0
6	20.0	17.0	9.0	9.0	8.0	8.0	23.0	15.0	23.0	34.0	29.0	32.0
7	21.0	18.0	6.0	11.0	6.0	8.0	24.0	19.0	25.0	34.0	30.0	31.0
8	21.0	17.0	14.0	5.0	---	6.0	24.0	23.0	26.0	25.0	34.0	29.0
9	21.0	13.0	7.0	3.0	9.0	8.0	23.0	21.0	26.0	34.0	33.0	29.0
10	20.0	12.0	3.0	3.0	9.0	9.0	17.0	23.0	27.0	35.0	29.0	29.0
11	19.0	13.0	5.0	3.0	8.0	9.0	17.0	26.0	28.0	35.0	31.0	28.0
12	18.0	15.0	7.0	2.0	7.0	10.0	20.0	23.0	28.0	33.0	33.0	27.0
13	18.0	15.0	9.0	4.0	9.0	11.0	22.0	26.0	27.0	34.0	33.0	30.0
14	22.0	15.0	8.0	2.0	8.0	12.0	23.0	24.0	29.0	35.0	34.0	30.0
15	21.0	18.0	12.0	3.0	7.0	9.0	24.0	24.0	29.0	34.0	33.0	31.0
16	19.0	17.0	12.0	1.0	7.0	11.0	21.0	25.0	30.0	35.0	34.0	32.0
17	19.0	14.0	13.0	3.0	7.0	12.0	23.0	23.0	33.0	33.0	34.0	31.0
18	19.0	15.0	13.0	6.0	6.0	15.0	22.0	23.0	26.0	35.0	34.0	31.0
19	27.0	15.0	12.0	5.0	8.0	16.0	16.0	26.0	28.0	35.0	30.0	30.0
20	21.0	18.0	8.0	6.0	7.0	16.0	17.0	26.0	28.0	34.0	30.0	29.0
21	22.0	12.0	7.0	7.0	8.0	17.0	18.0	23.0	24.0	33.0	31.0	26.0
22	20.0	12.0	6.0	8.0	4.0	17.0	17.0	25.0	26.0	33.0	31.0	24.0
23	18.0	14.0	9.0	7.0	6.0	16.0	22.0	27.0	27.0	30.0	34.0	26.0
24	21.0	13.0	12.0	7.0	7.0	11.0	20.0	27.0	29.0	34.0	34.0	25.0
25	19.0	13.0	7.0	8.0	7.0	11.0	21.0	28.0	32.0	33.0	32.0	25.0
26	21.0	4.0	5.0	9.0	6.0	12.0	21.0	27.0	33.0	33.0	32.0	24.0
27	22.0	13.0	5.0	9.0	5.0	15.0	23.0	26.0	32.0	32.0	32.0	26.0
28	19.0	9.0	5.0	9.0	6.0	17.0	23.0	25.0	34.0	34.0	33.0	32.0
29	22.0	13.0	5.0	8.0	---	21.0	24.0	24.0	34.0	35.0	30.0	26.0
30	19.0	9.0	13.0	8.0	---	---	23.0	25.0	34.0	34.0	29.0	24.0
31	22.0	---	9.0	8.0	---	---	---	27.0	---	34.0	29.0	---

ARKANSAS RIVER BASIN

437

07244800 EUFAULA LAKE NEAR BROOKEN, OK

LOCATION.--Lat 35°18'25", long 95°21'45", in SW¼ sec.25, T.10 N., R.18 E., McIntosh County, Hydrologic Unit 11090204, in intake structure near left end of dam on Canadian River, 4.0 mi (6.4 km) northeast of Brooken and at mile 27.0 (43.4 km).

DRAINAGE AREA.--47,522 mi² (123,082 km²), of which 9,700 mi² (25,123 km²) is probably noncontributing.

PERIOD OF RECORD.--February 1964 to current year. Prior to October 1970 published as Eufaula Reservoir near Brooken.

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

REMARKS.--Reservoir is formed by an earth dam having a gated, concrete, ogee-type spillway weir controlled by 11, 40-foot (12.2 m) taintor gates. Closure for diversion was made Feb. 1, 1963 and regulated storage began Feb. 10, 1964; minimum power pool was first filled June 17, 1964. Capacity, 3,798,000 acre-ft (4.68 km³) at elevation 597.0 ft (181.966 m), top of flood control pool, 2,329,000 acre-ft (2.87 km³) at elevation 585.0 ft (178.308 m), top of power pool, and 864,800 acre-ft (1.07 km³) at elevation 565.0 ft (172.212 m), bottom of power pool. Dead storage is negligible. Figures given herein represent total contents. Reservoir is used for flood control, sediment control, power development, and other water uses. Revised capacity table, based on survey 1969, used since Oct. 1, 1972.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,791,000 acre-ft (4.67 km³) Apr. 25, 1973, elevation, 596.95 ft (181.950 m); minimum since power pool first filled, 1,182,000 acre-ft (1.46 km³) Nov. 4, 1964, elevation, 570.23 ft (173.806 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,607,000 acre-ft (3.21 km³) June 9, elevation 587.62 ft (179.107 m); minimum, 1,876,000 acre-ft (2.31 km³) Sept. 30, elevation, 580.21 ft (176.848 m).

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

580	1,858,000	584	2,228,000
581	1,946,000	586	2,434,000
582	2,036,000	588	2,649,000

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	2160000	2089000	2052000	2015000	1913000	2050000	2351000	2350000	2561000	2407000	2160000	1976000
2	2157000	2092000	2052000	2016000	1911000	2053000	2354000	2358000	2561000	2401000	2150000	1976000
3	2150000	2088000	2050000	2009000	1908000	2057000	2359000	2390000	2567000	2393000	2141000	1973000
4	2149000	2087000	2053000	2014000	1908000	2060000	2351000	2405000	2562000	2384000	2136000	1970000
5	2145000	2087000	2052000	2005000	1908000	2064000	2361000	2407000	2569000	2374000	2134000	1964000
6	2143000	2088000	2046000	2004000	1900000	2065000	2348000	2416000	2572000	2367000	2134000	1955000
7	2148000	2083000	2045000	2005000	1894000	2089000	2340000	2423000	2590000	2358000	2132000	1948000
8	2144000	2083000	2044000	2002000	1888000	2109000	2337000	2422000	2604000	2345000	2131000	1940000
9	2141000	2092000	2038000	2000000	1886000	2123000	2350000	2417000	2604000	2330000	2122000	1936000
0	2139000	2083000	2041000	1995000	1880000	2134000	2413000	2405000	2588000	2317000	2114000	1940000
11	2138000	2080000	2041000	1993000	1878000	2138000	2441000	2400000	2572000	2307000	2110000	1932000
12	2136000	2078000	2042000	1991000	1924000	2138000	2443000	2395000	2554000	2298000	2102000	1928000
13	2134000	2078000	2040000	1989000	1943000	2151000	2434000	2384000	2539000	2289000	2097000	1927000
14	2132000	2078000	2038000	1987000	1960000	2146000	2425000	2380000	2523000	2281000	2087000	1920000
15	2128000	2079000	2038000	1986000	1968000	2149000	2414000	2378000	2506000	2277000	2076000	1919000
16	2126000	2073000	2037000	1991000	1977000	2149000	2404000	2370000	2488000	2276000	2067000	1918000
17	2123000	2071000	2036000	1983000	1985000	2142000	2396000	2370000	2470000	2267000	2060000	1916000
18	2116000	2067000	2036000	1971000	1988000	2156000	2387000	2370000	2467000	2258000	2055000	1908000
19	2112000	2064000	2035000	1960000	1991000	2143000	2371000	2370000	2456000	2252000	2055000	1900000
20	2104000	2064000	2032000	1945000	1999000	2154000	2361000	2372000	2442000	2240000	2051000	1897000
21	2095000	2062000	2027000	1945000	1996000	2178000	2348000	2381000	2441000	2232000	2050000	1892000
22	2100000	2059000	2030000	1946000	2004000	2191000	2354000	2459000	2446000	2236000	2043000	1889000
23	2104000	2059000	2019000	1944000	2007000	2238000	2354000	2507000	2450000	2234000	2036000	1888000
24	2096000	2057000	2019000	1944000	2015000	2296000	2347000	2507000	2451000	2228000	2027000	1888000
25	2091000	2052000	2020000	1952000	2022000	2342000	2343000	2494000	2450000	2215000	2020000	1886000
26	2090000	2048000	2019000	1942000	2024000	2360000	2343000	2477000	2443000	2215000	2013000	1885000
27	2085000	2050000	2018000	1937000	2034000	2361000	2338000	2472000	2438000	2198000	2013000	1884000
28	2084000	2048000	2017000	1930000	2042000	2361000	2335000	2502000	2429000	2188000	2001000	1883000
29	2082000	2048000	2017000	1927000	---	2359000	2345000	2553000	2422000	2185000	1992000	1880000
30	2085000	2053000	2016000	1916000	---	2354000	2377000	2573000	2414000	2183000	1985000	1877000
31	2085000	---	2023000	1913000	---	2354000	---	2565000	---	2174000	1976000	---
MAX	2160000	2092000	2053000	2016000	2042000	2361000	2443000	2573000	2604000	2407000	2160000	1976000
MIN	2082000	2048000	2016000	1913000	1878000	2050000	2335000	2350000	2414000	2174000	1976000	1877000
†	582.52	582.18	581.85	580.63	582.06	585.23	585.46	587.24	585.81	583.45	581.34	580.22
‡	-81,000	-32,000	-30,000	-110,000	+129,000	+312,000	+23,000	+188,000	-151,000	-240,000	-198,000	-99,000

CAL YR 1977 MAX 2454000 MIN 1484000 ‡ +479,000
WTR YR 1978 MAX 2604000 MIN 1877000 ‡ -289,000

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

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK

LOCATION.--Lat 35°15'45", long 95°14'19", in SE¼SE¼ sec.12, T.9 N., R.19 E., Haskell County, Hydrologic Unit 11090204, near right bank on downstream side of pier of bridge on State Highway 2, 0.8 mi (1.3 km) north of Whitefield, 5.5 mi (8.8 km) upstream from Taleka (Snake) Creek, 8.2 mi (13.2 km) downstream from Eufaula Dam, and at mile 18.8 (30.2 km).

DRAINAGE AREA.--47,576 mi² (123,222 km²), of which 9,700 mi² (25,123 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1177: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 478.16 ft (145.743 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 11, 1939, nonrecording gage and Jan. 11, 1939, to Dec. 10, 1941, June 12, 1947, to Sept. 30, 1948, water-stage recorder, all at site 2.1 mi (3.4 km) downstream at datum 2.80 ft (0.853 m) lower. Dec. 11, 1941, to June 11, 1947, water-stage recorder at present site and datum.

REMARKS.--Records good. Prior to February 1964, occasional slight regulation by Conchas Lake in New Mexico and, except for 54 mi² (140 km²) of intervening area, completely regulated thereafter by Eufaula lake (station 07244800).

COOPERATION.--Gage-height record and 24 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(prior to regulation by Eufaula Dam) 25 years (water years 1939-63), 6,005 ft³/s (170.1 m³/s), 4,347,000 acre-ft/yr (5.36 km³/yr); (since regulation by Eufaula Dam) 11 years (water years 1968-78), 5,480 ft³/s (155.2 m³/s), 3,970,000 acre-ft/yr (4.90 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 281,000 ft³/s (7,960 m³/s) May 10, 1943, gage height, 25.5 ft (7.77 m); minimum daily, 0.4 ft³/s (0.11 m³/s) Oct. 8, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1898, that of May 10, 1943, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,700 ft³/s (530 m³/s) May 31, gage height, 8.99 ft (2.740 m); minimum daily, 43 ft³/s (1.22 m³/s) Jan. 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	638	158	945	55	1620	115	782	1750	15600	3530	4170	928
2	90	75	601	43	1550	521	133	3610	10000	3480	3800	290
3	2100	652	420	1740	1530	115	1450	3160	9170	3970	3600	134
4	646	123	77	936	834	74	3050	4970	9140	3690	2860	411
5	89	63	91	1100	132	52	3290	5140	7790	3790	775	2840
6	71	56	466	767	2350	48	3180	5410	9040	4110	155	2890
7	64	711	506	410	3100	657	4680	6010	12200	4000	123	2740
8	64	2700	499	70	3120	246	2970	6570	12200	5300	166	3070
9	54	795	529	194	3150	628	2250	6940	12100	5860	2250	784
10	464	1410	237	2130	2470	405	3360	7160	11900	4300	2480	141
11	117	882	66	2340	626	74	4480	7090	11700	4040	1960	2030
12	59	561	332	1650	242	56	5080	7110	11700	3190	1930	2000
13	51	85	677	1900	1120	52	7500	4530	9200	3510	1840	1390
14	774	344	536	134	154	822	7280	1580	8760	3470	3270	1200
15	124	782	562	52	98	970	7300	1650	8870	910	3540	505
16	62	1190	701	1040	87	697	7300	2280	8850	133	3380	243
17	837	1160	235	3010	129	2160	7410	2200	9080	1930	2290	83
18	2220	981	63	5400	633	795	7580	2130	9840	2890	1450	1470
19	2230	623	302	6140	80	105	4770	2140	9510	2540	510	2890
20	1870	86	1730	6120	76	421	4050	671	9700	3570	155	2040
21	3750	458	411	1290	650	1090	4090	178	7820	2750	962	620
22	366	1140	1370	118	440	873	1080	259	5160	615	2380	339
23	96	1590	1010	897	125	846	111	4350	5490	117	2390	256
24	2310	136	141	1310	173	2280	2610	12900	4410	1630	3240	76
25	3110	72	69	1130	369	591	1660	13800	5400	3860	3210	284
26	867	57	60	2350	70	1100	1260	13800	5630	4170	1870	235
27	1630	57	72	2670	66	2810	992	13700	5550	4260	1440	185
28	355	1360	453	2980	458	2780	1520	6220	4310	4230	3450	210
29	453	603	999	1390	---	2900	357	12300	4650	1200	3010	296
30	77	929	535	5470	---	2900	121	13700	4730	131	2750	237
31	768	---	64	3480	---	2800	---	18000	---	3050	2690	---
TOTAL	26426	19839	14759	58316	25452	29983	101696	191308	259500	94226	68096	30817
MEAN	852	661	476	1881	909	967	3390	6171	8650	3040	2197	1027
MAX	3750	2700	1730	6140	3150	2900	7580	18000	15600	5860	4170	3070
MIN	51	56	60	43	66	48	111	178	4310	117	123	76
AC-FT	52420	39350	29270	115700	50480	59470	201700	379500	514700	186900	135100	61130
CAL YR 1977 TOTAL	520583			1426		14000		51		1033000		
WTR YR 1978 TOTAL	920418			2522		18000		43		1826000		

ARKANSAS RIVER BASIN

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07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1944-64, 1967 to current year.

PERIOD OF DAILY RECORDS.--

SPECIFIC CONDUCTANCE: September 1944 to February 1945, September 1946 to September 1964, October 1966 to current year.

WATER TEMPERATURE: September 1944 to February 1945, September 1946 to September 1964, October 1966 to current year.

INSTRUMENTATION.--Water quality monitor since July 1969.

REMARKS.--In addition to water quality monitor, samples were collected by a local observer on a daily basis. Partial analyses were made each month on those samples 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 calculated from specific conductance values.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 22,900 micromhos Nov. 11, 1956; minimum daily, 40 micromhos Mar. 24, 1978.

WATER TEMPERATURE: Maximum daily, 31.0°C Sept. 4, 1944, Aug. 11, 19, 1973; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum 682 micromhos Feb. 18; minimum 40 micromhos March 24.

WATER TEMPERATURE: Maximum daily, 30.0°C July 16, Aug. 10, 13; minimum 0.5°C Jan. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHUS)	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, (PFU) 0.7 KF AGAR (COLS, PER 100 ML)	STREP- TOCOCCI FECAL, (COLS, PER 100 ML)
UCT											
05...	1015	--	--	--	18.0	--	--	--	--	--	--
05...	1030	--	531	8.3	18.0	--	--	--	--	--	--
15...	1030	--	539	8.2	18.0	--	--	--	--	--	--
17...	1010	--	--	--	13.0	--	--	--	--	--	--
19...	1300	--	450	7.9	17.5	8	--	9.0	94	--	130
25...	1200	--	521	8.1	19.0	--	--	--	--	--	--
NOV											
02...	1117	--	--	--	15.5	--	--	--	--	--	--
05...	1000	--	556	8.2	--	--	--	--	--	--	--
11...	1045	--	--	--	15.5	--	--	--	--	--	--
15...	0930	--	544	8.2	--	--	--	--	--	--	--
16...	0930	--	575	7.8	16.5	6	--	8.9	93	36	72
25...	1100	--	568	8.5	12.0	--	--	--	--	--	--
DEC											
05...	1100	--	537	8.3	12.0	--	--	--	--	--	--
12...	1031	--	--	--	5.5	--	--	--	--	--	--
14...	1130	--	540	7.9	9.5	6	--	10.9	96	K2	26
15...	1030	--	570	8.4	10.0	--	--	--	--	--	--
25...	0915	--	560	8.4	5.0	--	--	--	--	--	--
27...	1046	--	--	--	3.5	--	--	--	--	--	--
JAN											
05...	0930	--	528	8.3	9.0	--	--	--	--	--	--
10...	1100	--	470	8.4	2.5	30	--	13.4	96	K2	K10
14...	1000	--	568	8.3	4.0	--	--	--	--	--	--
23...	1015	--	--	--	1.0	--	--	--	--	--	--
26...	1000	--	547	8.3	3.0	--	--	--	--	--	--
FEB											
05...	1000	--	548	8.2	9.0	--	--	--	--	--	--
06...	1010	--	--	--	1.0	--	--	--	--	--	--
15...	1000	--	496	8.3	2.0	--	--	--	--	--	--
18...	1015	--	--	--	3.5	--	--	--	--	--	--
25...	1000	--	541	8.2	8.0	--	--	--	--	--	--
28...	1100	--	370	8.0	4.5	130	--	12.9	102	K560	2200
MAR											
05...	1130	--	495	8.4	9.0	--	--	--	--	--	--
07...	1300	--	500	7.9	9.5	15	--	10.6	95	61	89
10...	1010	--	--	--	6.5	--	--	--	--	--	--
15...	1100	--	534	8.2	7.0	--	--	--	--	--	--
23...	0900	--	494	8.2	11.0	--	--	--	--	--	--
APR											
04...	1630	--	555	8.5	14.0	3	--	11.6	113	70	24

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, 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)
APR											
06...	0930	--	511	8.2	15.0	--	--	--	--	--	--
15...	1100	--	535	8.0	14.0	--	--	--	--	--	--
25...	1100	--	541	8.3	17.0	--	--	--	--	--	--
MAY											
02...	0830	--	506	8.1	12.0	5	--	9.9	92	49	91
05...	1130	--	534	8.1	14.0	--	--	--	--	--	--
15...	1200	--	536	7.6	20.0	--	--	--	--	--	--
25...	1030	--	527	7.9	18.0	--	--	--	--	--	--
JUN											
05...	1000	--	522	6.3	19.0	--	--	--	--	--	--
14...	1230	--	560	7.6	20.0	--	6.2	6.8	75	K2	K5
15...	1000	--	529	7.9	20.0	--	--	--	--	--	--
23...	1100	--	534	7.4	22.0	--	--	--	--	--	--
JUL											
05...	1100	--	543	8.2	25.0	--	--	--	--	--	--
15...	0900	--	538	8.1	24.0	--	--	--	--	--	--
25...	1300	--	536	8.2	28.0	--	--	--	--	--	--
26...	1200	--	560	7.9	25.0	--	1.7	5.7	69	K240	43
AUG											
02...	1300	--	550	8.3	27.0	--	1.7	6.8	85	150	40
05...	1130	--	544	8.0	28.0	--	--	--	--	--	--
15...	1000	--	546	8.0	29.0	--	--	--	--	--	--
25...	1100	--	541	8.0	28.0	--	--	--	--	--	--
SEP											
05...	1100	--	551	7.4	28.0	--	--	--	--	--	--
12...	1000	--	532	7.6	24.5	--	1.1	6.9	84	280	160
15...	1130	--	535	7.9	28.0	--	--	--	--	--	--
25...	1100	--	567	7.9	23.0	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS 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)
OCT										
05...	--	--	--	--	--	--	--	--	--	--
05...	160	53	41	14	45	37	1.5	3.8	130	0
15...	170	50	43	14	47	38	1.6	3.8	140	0
17...	--	--	--	--	--	--	--	--	--	--
19...	140	38	35	12	48	42	1.8	4.3	120	0
25...	150	57	36	14	49	41	1.8	4.0	110	0
NOV										
02...	--	--	--	--	--	--	--	--	--	--
05...	160	40	44	13	45	37	1.5	3.7	150	0
11...	--	--	--	--	--	--	--	--	--	--
15...	150	48	37	13	50	42	1.8	4.1	120	0
16...	150	48	37	13	49	41	1.8	4.4	120	0
25...	170	41	46	14	46	36	1.5	3.7	160	0
DEC										
05...	170	49	46	14	47	37	1.6	3.6	150	0
12...	--	--	--	--	--	--	--	--	--	--
14...	160	59	40	14	49	40	1.7	4.4	120	0
15...	160	40	39	14	57	44	2.0	4.0	140	0
25...	170	45	45	14	53	40	1.8	3.8	150	1
27...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	150	52	39	13	47	40	1.7	3.8	120	0
10...	150	48	38	13	50	41	1.8	4.0	120	1
14...	170	47	45	14	50	38	1.7	3.8	150	0
23...	--	--	--	--	--	--	--	--	--	--
26...	150	48	37	13	50	42	1.8	4.0	120	0
FEB										
05...	150	48	37	13	54	44	1.9	4.3	120	0
06...	--	--	--	--	--	--	--	--	--	--
15...	140	43	37	12	44	40	1.6	3.8	120	0
16...	--	--	--	--	--	--	--	--	--	--
25...	160	44	42	13	44	37	1.5	3.6	140	0
28...	110	32	28	8.9	29	36	1.2	3.0	91	0
MAR										
05...	160	46	41	13	40	35	1.4	3.6	130	2
07...	150	53	41	12	45	38	1.6	4.0	120	0
10...	--	--	--	--	--	--	--	--	--	--
15...	150	48	37	13	48	41	1.7	4.1	120	0
23...	140	43	35	13	43	39	1.6	3.8	120	0
APR										
04...	160	57	41	13	50	40	1.7	6.2	120	0
06...	140	48	34	13	66	50	2.4	4.4	110	0
15...	140	51	35	13	50	43	1.8	4.4	110	0
25...	160	45	41	14	47	38	1.6	4.2	140	0
MAY										
02...	150	55	40	13	45	38	1.6	4.0	120	0
05...	--	--	--	--	--	--	--	--	120	0
15...	150	50	38	13	52	42	1.9	4.0	120	0
25...	140	54	38	12	49	42	1.8	4.0	110	0
JUN										
05...	140	51	35	13	41	38	1.5	3.7	110	0
14...	140	57	35	13	49	42	1.8	3.9	--	--
15...	140	49	36	12	45	40	1.7	3.9	110	0
23...	140	49	36	12	45	40	1.7	3.9	110	0
JUL										
05...	140	38	35	12	50	43	1.9	4.0	120	0
15...	140	47	35	12	50	43	1.9	4.0	110	0
25...	140	43	37	12	52	44	1.9	4.0	120	0
26...	140	50	36	12	48	42	1.8	4.5	--	--
AUG										
02...	140	43	35	12	49	43	1.8	4.2	--	--
05...	140	35	37	12	50	43	1.8	3.9	130	0
15...	150	50	38	13	50	41	1.8	4.0	120	0
25...	140	43	37	12	50	43	1.8	4.1	120	0
SEP										
05...	150	53	41	12	49	40	1.7	4.1	120	0
12...	140	49	38	11	46	41	1.7	4.0	--	--
15...	140	47	37	11	49	43	1.8	4.2	110	0
25...	170	51	50	12	45	35	1.5	4.0	150	0

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ALKALINITY (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLORIDE, RIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT										
05...	--	--	--	--	--	--	--	--	--	--
05...	110	1.0	42	68	--	--	295	--	.40	70
15...	110	1.4	48	78	--	--	299	--	.41	100
17...	--	--	--	--	--	--	--	--	--	--
19...	98	2.4	48	75	.3	2.1	270	284	.37	2270
25...	90	1.4	50	81	--	--	289	--	.39	2430
NOV										
02...	--	--	--	--	--	--	--	--	--	--
05...	120	1.5	43	70	--	--	305	--	.41	51
11...	--	--	--	--	--	--	--	--	--	--
15...	98	1.2	51	71	--	--	298	--	.41	629
16...	98	3.0	48	72	.1	2.2	290	285	.39	932
25...	130	.8	46	64	--	--	317	--	.43	61
DEC										
05...	120	1.2	45	68	--	--	296	--	.40	72
12...	--	--	--	--	--	--	--	--	--	--
14...	98	2.4	51	76	.2	2.4	290	296	.39	420
15...	110	.9	49	87	--	--	308	--	.42	467
25...	120	1.0	48	75	--	--	314	--	.43	58
27...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	98	1.0	46	73	--	--	283	--	.38	841
10...	100	.8	56	69	.3	2.1	294	293	.40	1690
14...	120	1.2	47	74	--	--	301	--	.41	109
23...	--	--	--	--	--	--	--	--	--	--
26...	98	1.0	48	78	--	--	300	--	.41	1900
FEB										
05...	98	1.2	50	78	--	--	328	--	.45	117
08...	--	--	--	--	--	--	--	--	--	--
15...	98	1.0	47	68	--	--	288	--	.36	70
16...	--	--	--	--	--	--	--	--	--	--
25...	110	1.4	48	69	--	--	301	--	.41	300
28...	75	1.5	38	41	.3	.5	198	194	.27	245
MAR										
05...	110	.9	43	63	--	--	280	--	.38	39
07...	98	2.4	45	69	.3	2.4	264	278	.36	468
10...	--	--	--	--	--	--	--	--	--	--
15...	98	1.2	48	77	--	--	286	--	.39	749
23...	98	1.2	44	67	--	--	267	--	.36	426
APR										
04...	98	.6	48	87	.1	1.3	296	306	.40	2440
06...	90	1.1	54	110	--	--	--	--	--	--
15...	90	1.8	52	75	--	--	291	--	.40	5740
25...	110	1.1	47	68	--	--	292	--	.40	1310
MAY										
02...	98	1.5	49	70	.2	2.1	286	283	.39	2790
05...	98	1.5	53	79	--	--	299	--	.41	4150
15...	98	4.8	52	84	--	--	295	--	.40	1310
25...	90	2.2	49	77	--	--	280	--	.38	10400
JUN										
05...	90	.8	47	71	--	--	331	--	.45	6960
14...	84	--	51	77	.3	2.8	293	283	.40	6930
15...	90	2.2	48	77	--	--	284	--	.39	6800
23...	90	7.0	47	77	--	--	286	--	.39	4240
JUL										
05...	98	1.2	50	81	--	--	299	--	.41	3060
15...	90	1.4	49	83	--	--	302	--	.41	742
25...	98	1.2	49	78	--	--	308	--	.42	3210
26...	89	--	44	79	.2	4.3	292	282	.40	3290
AUG										
02...	94	--	45	80	.2	3.9	288	286	.39	2960
05...	110	2.1	46	79	--	--	308	--	.42	644
15...	98	1.9	49	89	--	--	310	--	.42	2960
25...	98	1.9	47	82	--	--	302	--	.41	2620
SEP										
05...	98	7.6	44	74	--	--	307	--	.42	2350
12...	91	--	44	74	.3	4.6	299	277	.41	1620
15...	90	2.2	44	74	--	--	297	--	.40	405
25...	120	3.0	44	70	--	--	319	--	.43	245

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO ₂ +NO ₃ TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NH ₄ + URG, SUSP. TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N+P)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT										
05...	..	..	..	..	..	..	..	..	..	..
05...	..	..	..	..	..	..	..	..	..	..
15...	..	..	..	..	..	..	..	..	..	..
17...	..	..	..	..	..	..	..	..	..	..
19...	.09	.06	..	..	..	.35	..	..	.05	.03
25...	..	..	..	..	..	..	..	..	..	..
NOV										
02...	..	..	..	..	..	..	..	..	..	..
05...	..	..	..	..	..	..	..	..	..	..
11...	..	..	..	..	..	..	..	..	..	..
15...	..	..	..	..	..	..	..	..	..	..
18...	.20	.08	..	..	..	.37	..	..	.18	.18
25...	..	..	..	..	..	..	..	..	..	..
DEC										
05...	..	..	..	..	..	..	..	..	..	..
12...	..	..	..	..	..	..	..	..	..	..
14...	.28	.14	..	..	..	.47	..	..	.02	.01
15...	..	..	..	..	..	..	..	..	..	..
25...	..	..	..	..	..	..	..	..	..	..
27...	..	..	..	..	..	..	..	..	..	..
JAN										
05...	..	..	..	..	..	..	..	..	..	..
10...	.18	.03	.67	.70	.45	.25	.88	1.9	.07	.03
14...	..	..	..	..	..	..	..	..	..	..
23...	..	..	..	..	..	..	..	..	..	..
26...	..	..	..	..	..	..	..	..	..	..
FEB										
05...	..	..	..	..	..	..	..	..	..	..
06...	..	..	..	..	..	..	..	..	..	..
15...	..	..	..	..	..	..	..	..	..	..
16...	..	..	..	..	..	..	..	..	..	..
25...	..	..	..	..	..	..	..	..	..	..
28...	.26	.05	.81	.86	.32	.54	1.1	5.0	.11	.02
MAR										
05...	..	..	..	..	..	..	..	..	..	..
07...	.08	.06	.55	.61	.52	.09	.69	3.1	.07	.05
10...	..	..	..	..	..	..	..	..	..	..
15...	..	..	..	..	..	..	..	..	..	..
23...	..	..	..	..	..	..	..	..	..	..
APR										
04...	.07	.00	.40	.40	.02	.38	.47	2.1	.02	.01
06...	..	..	..	..	..	..	..	..	..	..
15...	..	..	..	..	..	..	..	..	..	..
25...	..	..	..	..	..	..	..	..	..	..
MAY										
02...	.12	.09	.42	.51	.00	.51	.63	2.8	.03	.01
05...	..	..	..	..	..	..	..	..	..	..
15...	..	..	..	..	..	..	..	..	..	..
25...	..	..	..	..	..	..	..	..	..	..
JUN										
05...	..	..	..	..	..	..	..	..	..	..
14...	.27	.01	.58	.59	.04	.55	.86	3.8	.03	.01
15...	..	..	..	..	..	..	..	..	..	..
23...	..	..	..	..	..	..	..	..	..	..
JUL										
05...	..	..	..	..	..	..	..	..	..	..
15...	..	..	..	..	..	..	..	..	..	..
25...	..	..	..	..	..	..	..	..	..	..
28...	.26	.01	.92	.93	.40	.53	1.2	5.3	.01	.00
AUG										
02...	.13	.24	.49	.73	.14	.59	.86	3.8	.01	.00
05...	..	..	..	..	..	..	..	..	..	..
15...	..	..	..	..	..	..	..	..	..	..
25...	..	..	..	..	..	..	..	..	..	..
SEP										
05...	..	..	..	..	..	..	..	..	..	..
12...	.09	.21	.47	.68	.14	.54	.77	3.4	.20	.16
15...	..	..	..	..	..	..	..	..	..	..
25...	..	..	..	..	..	..	..	..	..	..

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE D TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE D RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE D RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHROMIUM, SUS- PENDE D RECOV- ERABLE (UG/L AS CR)	CHROMIUM, DIS- SOLVED (UG/L AS CR)
	AS AS	AS AS	AS AS	AS BA	AS BA	AS BA	AS CD	AS CD	AS CD	AS CR	AS CR	AS CR
OCT 05...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 02...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
16...	2	1	1	100	0	400	11	11	0	0	0	0
28...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 10...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 06...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
28...	3	2	1	100	0	200	3	1	2	20	20	0
MAR 07...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
APR 04...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 02...	1	0	1	200	0	300	3	2	1	0	0	0
JUN 14...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 26...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 02...	1	0	1	300	200	100	0	0	<1	0	0	0
SEP 12...	--	--	--	--	--	--	--	--	--	--	--	--
DATE	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE D RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE D RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE D RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE D RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
OCT 05...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 02...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
16...	0	0	0	9	7	2	270	--	30	67	63	4
28...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 12...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 10...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 06...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
28...	2	1	1	10	6	4	7500	--	120	39	38	1
MAR 07...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
APR 04...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 02...	0	0	1	4	1	3	390	--	40	15	6	9
JUN 14...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 26...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 02...	1	0	<1	6	5	3	100	40	<10	4	2	2
SEP 12...	--	--	--	--	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV, (UG/L AS MN)	MANGA- NESE, DTS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVFR, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)
OCT											
05...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
NOV											
02...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
16...	60	60	4	.0	.0	.0	0	0	0	0	0
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
12...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
JAN											
10...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
FEB											
06...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
28...	200	140	60	.0	.0	.0	0	0	0	1	1
MAR											
07...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	--	--	--	--	--	--	--	--	--	--	--
MAY											
02...	60	50	10	.0	.0	.0	0	0	0	0	0
JUN											
14...	--	--	--	--	--	--	--	--	--	--	--
JUL											
26...	--	--	--	--	--	--	--	--	--	--	--
AUG											
02...	140	70	70	.0	.0	.0	0	0	0	0	0
SEP											
12...	--	--	--	--	--	--	--	--	--	--	--
DATE	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE 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- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT CHARGE, SUS- PENDE (T/DAY)	SED. SUSP, SIEVE DIAM. % FINER THAN .062 MM
OCT											
05...	--	--	--	--	--	--	--	--	410	96	--
17...	--	--	--	--	--	--	--	--	20	2.9	--
19...	--	--	--	--	4.6	--	--	--	70	588	90
NOV											
02...	--	--	--	--	--	--	--	--	50	9.9	--
11...	--	--	--	--	--	--	--	--	40	30	--
16...	0	60	50	10	--	4.3	.1	--	17	55	98
28...	--	--	--	--	--	--	--	--	30	3.9	--
DEC											
12...	--	--	--	--	--	--	--	--	20	3.1	--
14...	--	--	--	--	4.1	--	--	--	25	36	92
27...	--	--	--	--	--	--	--	--	90	13	--
JAN											
10...	--	--	--	--	4.1	--	--	--	81	466	88
23...	--	--	--	--	--	--	--	--	50	12	--
FEB											
06...	--	--	--	--	--	--	--	--	70	15	--
16...	--	--	--	--	--	--	--	--	70	16	--
28...	0	50	20	30	--	6.2	1.7	--	162	200	94
MAR											
07...	--	--	--	--	3.4	--	--	600	72	128	67
10...	--	--	--	--	--	--	--	--	30	24	--
APR											
04...	--	--	--	--	5.1	--	--	--	20	165	82
MAY											
02...	0	20	10	10	--	4.6	.5	160	15	146	91
JUN											
14...	--	--	--	--	4.5	--	--	470	--	--	60
JUL											
26...	--	--	--	--	4.8	--	--	120000	80	901	77
AUG											
02...	0	20	10	8	--	4.6	.8	86000	1	10	10
SEP											
12...	--	--	--	--	5.3	--	--	53000	--	--	--

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1977 TO SEPTEMBER 1978

DATE TIME	MAR 7,78 1300	MAY 2,78 0830	JUN 14,78 1230	JUL 26,78 1200	AUG 2,78 1300	SEP 12,78 1000								
TOTAL CELLS/ML	600	160	470	120000	86000	53000								
DIVERSITY: DIVISION	0.8	1.3	0.8	0.0	0.1	0.0								
..CLASS	0.8	1.3	0.8	0.0	0.1	0.0								
...ORDER	1.8	1.7	1.0	0.1	0.1	0.2								
...FAMILY	2.8	1.7	2.3	0.1	0.2	0.3								
...GENUS	2.8	1.7	2.3	0.5	0.9	0.5								
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# 38	--	-	--	-	--	-			
...ODCYSTACEAE														
...KIRCHNERIELLA	--	-	16 10	--	-	--	-	--	-	--	-			
...ODCYSTIS	55 9	--	--	59 13	--	-	--	-	--	-	--	-		
...SCENEDESMACEAE														
...ACTINASTRUM	--	-	--	-	--	-	*	0	--	-	--	-		
...SCENEDESMUS	--	-	--	-	120# 25	*	0	--	-	--	-	--	-	
...VOLVOCALES														
...CHLAMYDOMONADACEAE														
...CHLAMYDOMONAS	110# 18	--	-	--	-	--	-	--	-	*	0			
...ZYGNEMATALES														
...DESMIDIACEAE														
...COSMARUM	--	-	--	-	--	-	--	-	--	-	*	0		
CHRYSDOPHYTA														
..BACILLARIOPHYCEAE														
...CENTRALES														
...COSCINODISCAEAE														
...CYCLOTELLA	150# 25	80# 50	--	-	--	-	--	-	--	-	*	0		
...MELOSIRA	--	-	--	-	44 9	--	-	--	-	*	0			
...STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-	*	0		
...PENNALES														
...ACHMANANTHACEAE														
...COCCONEIS	--	-	--	-	15 3	--	-	--	-	--	-	--	-	
...CYMBELLACEAE														
...CYMBELLA	14 2	--	-	--	-	--	-	--	-	--	-	--	-	
...DIATOMACEAE														
...DIATOMA	96# 16	--	-	--	-	--	-	--	-	--	-	--	-	
...FRAGILIARIACEAE														
...SYNEDRA	55 9	--	-	--	-	*	0	*	0	--	-	*	0	
...GOMPHONEMACEAE														
...GOMPHONEMA	41 7	--	-	--	-	--	-	--	-	--	-	--	-	
...NAVICULACEAE														
...NAVICULA	82 14	16 10	59 13	--	-	--	-	--	-	--	-	--	-	
...NITZSCHACEAE														
...NITZSCHIA	--	-	--	-	--	-	--	-	*	0	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)														
..CYANOPHYCEAE														
...HORMOGONALES														
...OSCILLATORIACEAE														
...PHORMIDIUM	--	-	--	-	12000 9	15000# 18	--	-	--	-	--	-	--	-
...CHROOCOCCALES														
...CHROOCOCCACEAE														
...AGMENELLUM	--	-	--	-	--	-	--	-	--	-	970 2			
...ANACYSTIS	--	-	48# 30	--	-	620 1	--	-	--	-	340 1			
...HORMOGONALES														
...NOSTOCACEAE														
...ANABAENA	--	-	--	-	--	-	1200 1	410 1						
...OSCILLATORIACEAE														
...LYNGBYA	--	-	--	-	110000# 90	68000# 80	2000 4							
...OSCILLATORIA	--	-	--	-	--	-	49000# 93							
...RIVULARIACEAE														
...RAPHIDIOPSIS	--	-	--	-	--	-	*	0	--	-	--	-	--	-

NOTE: # = DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* = OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

ARKANSAS RIVER BASIN

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07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	527	504	507	526	546	129	503	521	524	538	523	539
2	530	532	521	562	536	501	496	534	530	538	534	549
3	513	544	523	554	---	135	478	528	531	541	546	561
4	530	540	526	549	501	550	516	526	532	537	529	566
5	531	556	537	528	548	495	501	534	522	543	544	551
6	537	558	535	549	457	324	511	533	528	542	560	536
7	537	560	535	551	547	545	518	527	528	538	576	531
8	532	508	538	594	550	120	521	530	529	542	556	499
9	528	510	539	593	548	544	523	520	524	546	544	534
10	525	538	529	545	548	494	538	532	528	542	552	551
11	526	539	537	539	536	455	461	518	542	542	546	560
12	534	554	537	538	534	501	492	530	530	545	546	538
13	525	555	528	554	453	533	460	533	537	538	538	546
14	526	541	538	568	504	550	530	533	538	545	549	540
15	539	544	542	568	496	534	535	536	529	538	546	535
16	537	542	537	551	559	535	494	534	536	576	534	554
17	541	540	553	548	463	549	531	513	537	572	545	546
18	521	540	548	558	187	551	533	516	523	545	535	572
19	521	550	552	548	538	536	511	528	537	542	543	552
20	527	549	548	548	543	510	514	535	539	538	558	544
21	525	551	547	284	188	547	531	370	531	541	572	528
22	523	539	545	288	537	552	539	373	523	549	531	---
23	536	558	548	557	488	494	542	528	534	563	542	566
24	522	561	558	548	186	70	560	529	534	541	535	554
25	521	568	560	283	541	307	541	527	534	536	541	567
26	531	570	569	547	503	524	537	530	534	537	543	568
27	530	572	566	551	---	474	536	529	548	540	540	560
28	528	542	551	553	130	534	537	530	539	539	537	544
29	532	541	544	548	---	408	536	528	538	566	540	552
30	547	514	546	552	---	472	523	528	539	567	537	568
31	548	---	556	549	---	484	---	523	---	526	536	---

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	---	14.0	4.0	3.0	8.0	12.0	20.5	22.0	---	28.0	25.0
2	19.0	---	14.0	5.0	4.0	3.0	15.0	14.0	19.0	25.0	25.0	25.0
3	23.0	---	12.0	9.0	---	8.0	18.0	14.0	15.0	25.0	26.0	28.0
4	18.0	---	12.0	9.0	4.0	3.0	15.0	14.0	19.0	25.0	25.0	27.0
5	18.0	---	12.0	9.0	4.0	9.0	11.0	14.0	19.0	25.0	28.0	28.0
6	20.0	---	14.0	10.0	4.0	11.0	15.0	14.0	22.0	24.0	25.0	29.0
7	19.0	---	12.0	10.0	4.0	9.0	15.0	17.0	22.0	23.0	28.0	28.0
8	19.0	---	12.0	4.0	4.0	6.0	12.0	17.0	15.0	25.0	25.0	28.0
9	21.0	---	5.0	1.0	4.0	9.0	12.0	18.0	19.0	25.0	25.0	28.0
10	19.0	---	12.0	5.0	4.0	9.0	12.0	18.0	22.0	25.0	30.0	28.0
11	18.0	---	12.0	4.0	4.0	9.0	12.0	19.0	22.0	26.0	26.0	25.0
12	18.0	---	14.0	4.0	6.0	14.0	12.0	18.0	20.0	28.0	28.0	28.0
13	16.0	---	12.0	4.0	4.0	7.0	12.0	25.0	21.0	24.0	30.0	28.0
14	16.0	---	12.0	4.0	4.0	10.0	12.0	25.0	20.0	28.0	28.0	27.0
15	16.0	---	10.0	4.0	2.0	7.0	14.0	20.0	20.0	24.0	29.0	28.0
16	16.0	19.0	14.0	4.0	2.0	5.0	14.0	20.0	22.0	28.0	29.0	28.0
17	14.0	16.0	12.0	4.0	4.0	9.0	15.0	18.0	22.0	28.0	26.0	25.0
18	17.0	16.0	12.0	4.0	4.0	16.0	12.0	20.0	22.0	28.0	28.0	27.0
19	17.0	16.0	10.0	4.0	1.0	17.0	12.0	18.0	22.0	27.0	26.0	28.0
20	17.0	17.0	7.0	2.0	4.0	15.0	12.0	26.0	22.0	28.0	29.0	27.0
21	17.0	11.0	4.0	---	2.0	11.0	14.0	20.0	22.0	28.0	29.0	22.0
22	18.0	14.0	---	4.0	1.0	12.0	---	25.0	22.0	28.0	25.0	---
23	19.0	14.0	7.0	4.0	4.0	11.0	15.0	20.0	22.0	28.0	28.0	25.0
24	19.0	14.0	5.0	---	4.0	10.0	19.0	18.0	22.0	28.5	29.0	26.0
25	19.0	12.0	5.0	3.0	8.0	7.0	17.0	18.0	25.0	28.0	28.0	23.0
26	16.0	14.0	6.0	3.0	11.0	12.0	17.0	20.0	22.0	28.0	28.0	23.0
27	15.0	12.0	2.0	3.0	---	9.0	17.0	18.0	22.0	28.0	29.0	26.0
28	19.0	11.0	5.0	2.0	8.0	9.0	18.0	18.0	25.0	26.0	28.0	27.0
29	19.0	11.0	10.0	4.0	---	9.0	18.0	18.0	23.0	28.0	---	22.0
30	19.0	14.0	9.0	4.0	---	9.0	21.0	19.0	23.0	28.0	25.0	27.0
31	---	---	10.0	4.0	---	9.0	---	23.0	---	28.0	25.0	---

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, 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	531	491	505	522	544	172	510	517	524	541	515	540
2	525	537	520	567	571	---	500	535	531	528	520	556
3	510	544	522	542	533	79	456	593	531	531	545	565
4	533	542	529	552	498	---	533	520	533	536	527	571
5	532	559	531	530	549	---	504	532	522	528	549	550
6	556	560	530	552	466	---	564	531	531	545	564	534
7	539	557	536	551	548	559	586	524	530	537	577	528
8	531	500	539	595	553	116	528	528	529	535	558	495
9	535	511	540	572	551	552	576	516	525	526	548	---
10	524	569	531	544	549	486	573	528	528	541	555	---
11	527	590	538	535	544	---	483	512	541	533	549	---
12	535	596	535	541	488	---	498	525	529	536	547	---
13	529	600	524	---	---	---	461	528	537	536	546	---
14	518	598	536	---	492	504	530	534	528	534	551	---
15	539	570	543	---	502	492	535	521	529	547	547	---
16	559	554	537	---	432	527	492	529	537	579	533	---
17	551	540	554	---	---	566	530	522	537	557	545	---
18	515	545	548	---	682	542	528	514	518	546	546	---
19	515	553	549	---	---	---	504	544	544	535	548	---
20	528	543	546	---	---	---	516	536	539	532	562	---
21	524	545	546	---	---	521	528	374	526	534	564	---
22	522	539	550	---	---	596	541	362	464	560	537	---
23	536	559	544	---	499	498	546	477	533	559	546	---
24	507	566	551	---	212	40	534	532	528	526	534	---
25	521	570	560	286	554	316	540	529	528	525	541	---
26	530	572	591	546	---	492	538	530	528	534	544	---
27	524	570	561	549	---	496	536	529	536	529	538	562
28	529	524	552	556	122	562	538	537	535	531	535	533
29	537	544	547	583	---	468	539	529	544	570	540	547
30	548	515	550	548	---	669	523	529	538	565	537	559
31	543	---	560	547	---	531	---	523	---	500	533	---

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

ARKANSAS RIVER BASIN

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07245000 CANADIAN RIVER NEAR WHITEFIELD, 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	48	47	47	48	48	41	47	48	48	48	47	48
2	48	48	48	48	49	---	47	48	48	48	48	48
3	47	48	48	48	48	39	46	49	48	48	48	48
4	48	48	48	48	47	---	48	48	48	48	48	49
5	48	48	48	48	48	---	47	48	48	48	48	48
6	48	48	48	48	47	---	48	48	48	48	48	48
7	48	48	48	48	48	48	49	48	48	48	49	48
8	48	47	48	49	48	40	48	48	48	48	48	47
9	48	47	48	49	48	48	49	47	48	48	48	---
10	48	48	48	48	48	47	49	48	48	48	48	---
11	48	49	48	48	48	---	47	47	48	48	48	---
12	48	49	48	48	47	---	47	48	48	48	48	---
13	48	49	48	---	---	---	46	48	48	48	48	---
14	48	49	48	---	47	47	48	48	48	48	48	---
15	48	49	48	---	47	47	48	48	48	48	48	---
16	48	48	48	---	46	48	47	48	48	49	48	---
17	48	48	48	---	---	48	48	48	48	48	48	---
18	47	48	48	---	51	48	48	47	48	48	48	---
19	47	48	48	---	---	---	47	48	48	48	48	---
20	48	48	48	---	---	---	47	48	48	48	48	---
21	48	48	48	---	---	48	48	45	48	48	48	---
22	48	48	48	---	---	49	48	45	46	48	48	---
23	48	48	48	---	47	47	48	47	46	48	48	---
24	47	48	48	---	42	38	48	48	48	48	48	---
25	48	49	48	43	48	44	48	48	48	48	48	---
26	48	49	49	48	---	47	48	48	48	48	48	---
27	48	49	48	48	---	47	48	48	48	48	48	48
28	48	48	48	48	40	48	48	48	48	48	48	48
29	48	48	48	49	---	47	48	48	48	49	48	48
30	48	47	48	48	---	50	48	48	48	48	48	48
31	48	---	48	48	---	48	---	48	---	47	48	---

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	82.70	20.10	120.00	7.13	210.0	12.7	99.2	227.0	2020.0	457.0	529.0	120.0
2	11.70	9.72	77.90	5.57	205.0	---	16.9	468.0	1300.0	451.0	492.0	37.6
3	266.00	84.50	54.40	226.00	198.0	12.1	180.0	418.0	1190.0	515.0	467.0	17.4
4	83.70	15.90	9.98	121.00	106.0	---	395.0	644.0	1180.0	478.0	371.0	54.4
5	11.50	8.16	11.80	143.00	17.1	---	418.0	666.0	1010.0	491.0	100.0	368.0
6	9.20	7.26	60.40	99.40	298.0	---	412.0	701.0	1170.0	533.0	20.1	375.0
7	8.29	92.10	65.80	53.10	402.0	85.1	619.0	779.0	1580.0	518.0	16.3	355.0
8	8.29	343.00	64.70	9.26	404.0	26.6	385.0	851.0	1580.0	687.0	21.5	390.0
9	7.00	101.00	68.60	25.70	408.0	81.4	298.0	881.0	1570.0	759.0	292.0	---
10	60.10	183.00	30.70	276.00	320.0	51.4	445.0	928.0	1540.0	557.0	321.0	---
11	15.20	117.00	8.55	303.00	81.1	---	569.0	900.0	1520.0	524.0	254.0	---
12	7.65	74.20	43.00	214.00	30.7	---	645.0	921.0	1520.0	413.0	250.0	---
13	6.61	11.20	87.70	---	---	---	931.0	587.0	1190.0	455.0	238.0	---
14	100.00	45.50	69.50	---	19.5	104.0	943.0	205.0	1140.0	450.0	424.0	---
15	16.10	103.00	72.80	---	12.4	123.0	946.0	214.0	1150.0	118.0	459.0	---
16	8.04	154.00	90.80	---	10.8	90.3	926.0	295.0	1150.0	17.6	438.0	---
17	111.00	150.00	30.50	---	---	280.0	960.0	285.0	1180.0	250.0	297.0	---
18	282.00	127.00	8.16	---	87.2	103.0	982.0	270.0	1280.0	375.0	188.0	---
19	283.00	80.70	39.10	---	---	---	605.0	277.0	1230.0	329.0	66.1	---
20	242.00	11.10	224.00	---	---	---	514.0	87.0	1260.0	463.0	20.1	---
21	486.00	59.40	53.30	---	---	141.0	530.0	21.6	1010.0	356.0	125.0	---
22	47.40	148.00	178.00	---	---	115.0	140.0	31.5	641.0	79.7	308.0	---
23	12.40	206.00	131.00	---	15.9	107.0	14.4	552.0	712.0	15.2	310.0	---
24	293.00	17.60	18.30	---	19.6	234.0	338.0	1670.0	572.0	211.0	420.0	---
25	403.00	9.53	8.94	131.00	47.8	70.2	215.0	1790.0	700.0	500.0	416.0	---
26	112.00	7.54	7.94	305.00	---	140.0	163.0	1790.0	730.0	540.0	242.0	---
27	211.00	7.54	9.33	346.00	---	357.0	129.0	1780.0	719.0	552.0	187.0	24.0
28	46.00	176.00	58.70	386.00	49.5	360.0	197.0	806.0	559.0	548.0	447.0	27.2
29	58.70	78.10	129.00	184.00	---	368.0	46.3	1590.0	603.0	159.0	390.0	38.4
30	9.98	118.00	69.30	709.00	---	391.0	15.7	1780.0	613.0	17.0	356.0	30.7
31	99.50	---	8.29	451.00	---	363.0	---	2330.0	---	387.0	349.0	---

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, 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	75	70	72	74	77	31	73	73	74	76	73	76
2	74	76	74	80	80	---	71	76	75	75	74	78
3	73	77	74	76	75	19	66	83	75	75	77	79
4	75	76	75	78	71	---	75	74	75	76	75	80
5	75	79	75	75	77	---	72	75	74	75	77	77
6	78	79	75	78	67	---	79	75	75	77	79	75
7	76	78	76	78	77	79	82	74	75	76	81	75
8	75	71	76	83	78	24	75	75	75	76	78	71
9	76	73	76	80	78	78	81	73	74	75	77	---
10	74	80	75	77	77	70	80	75	75	76	78	---
11	75	82	76	76	77	---	69	73	76	75	77	---
12	76	83	76	76	70	---	71	74	75	76	77	---
13	75	84	74	---	---	---	66	75	76	76	77	---
14	74	83	76	---	70	72	75	75	75	75	78	---
15	76	80	77	---	72	70	76	74	75	77	77	---
16	79	78	76	---	63	75	70	75	76	81	75	---
17	78	76	78	---	---	79	75	74	76	78	77	---
18	73	77	77	---	94	76	75	73	74	76	77	---
19	73	78	77	---	---	---	72	77	77	76	77	---
20	75	77	77	---	---	---	73	76	76	75	79	---
21	74	77	77	---	---	74	75	56	75	75	79	---
22	74	76	77	---	---	83	76	54	67	79	76	---
23	76	79	77	---	71	71	77	68	75	79	77	---
24	72	79	78	---	36	14	75	75	75	75	75	---
25	74	80	79	45	78	49	76	75	75	74	76	---
26	75	80	83	77	---	70	76	75	75	75	77	---
27	74	80	79	77	---	71	76	75	75	75	76	79
28	75	74	78	78	25	79	76	76	76	75	76	75
29	76	77	77	82	---	67	76	75	77	80	76	77
30	77	73	77	77	---	92	74	75	76	79	76	79
31	77	---	79	77	---	75	---	74	---	71	75	---

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	129.0	29.9	184.0	11.00	337.0	9.03	154.0	345.0	3120.0	724.0	622.0	190.0
2	18.0	15.4	120.0	9.29	335.0	---	25.5	741.0	2030.0	705.0	759.0	61.1
3	414.0	136.0	83.9	357.00	310.0	5.90	258.0	708.0	1860.0	804.0	748.0	28.6
4	131.0	25.2	15.6	197.00	160.0	---	618.0	993.0	1850.0	757.0	579.0	88.8
5	18.0	13.4	18.4	223.00	27.4	---	640.0	1040.0	1560.0	767.0	161.0	590.0
6	15.0	11.9	94.4	162.00	425.0	---	678.0	1100.0	1830.0	854.0	33.1	585.0
7	13.1	150.0	104.0	86.30	644.0	140.00	1040.0	1200.0	2470.0	821.0	26.9	555.0
8	13.0	518.0	102.0	15.70	657.0	15.90	601.0	1330.0	2470.0	1090.0	35.0	589.0
9	11.1	157.0	109.0	41.90	663.0	132.00	492.0	1370.0	2420.0	1190.0	468.0	---
10	92.7	305.0	48.0	443.00	514.0	76.50	726.0	1450.0	2410.0	882.0	522.0	---
11	23.7	195.0	13.5	480.00	130.0	---	835.0	1400.0	2400.0	818.0	407.0	---
12	12.1	126.0	68.1	339.00	45.7	---	974.0	1420.0	2370.0	655.0	401.0	---
13	10.3	19.3	135.0	---	---	---	1340.0	917.0	1890.0	720.0	383.0	---
14	155.0	77.1	110.0	---	29.1	160.00	1470.0	320.0	1770.0	703.0	689.0	---
15	25.4	169.0	117.0	---	19.1	183.00	1500.0	330.0	1800.0	189.0	736.0	---
16	13.2	251.0	144.0	---	14.8	141.00	1380.0	462.0	1820.0	29.1	684.0	---
17	180.0	238.0	49.5	---	---	461.00	1500.0	440.0	1860.0	406.0	476.0	---
18	438.0	204.0	13.1	---	161.0	163.00	1530.0	420.0	1970.0	593.0	301.0	---
19	440.0	131.0	62.8	---	---	---	927.0	445.0	1980.0	521.0	106.0	---
20	379.0	17.9	360.0	---	---	---	798.0	138.0	1990.0	723.0	33.1	---
21	749.0	95.2	85.4	---	---	218.00	828.0	26.9	1580.0	557.0	205.0	---
22	73.1	234.0	285.0	---	---	196.00	222.0	37.8	933.0	131.0	488.0	---
23	19.7	339.0	210.0	---	24.0	162.00	23.1	799.0	1110.0	25.0	497.0	---
24	449.0	29.0	29.7	---	16.8	86.20	529.0	2610.0	893.0	330.0	656.0	---
25	621.0	15.6	14.7	137.00	77.7	78.20	341.0	2790.0	1090.0	771.0	659.0	---
26	176.0	12.3	13.4	489.00	---	208.00	259.0	2790.0	1140.0	844.0	389.0	---
27	326.0	12.3	15.4	555.00	---	539.00	204.0	2770.0	1140.0	863.0	295.0	39.5
28	71.9	272.0	95.4	628.00	30.9	593.00	312.0	1280.0	884.0	857.0	708.0	42.5
29	93.0	125.0	208.0	308.00	---	525.00	73.3	2490.0	967.0	259.0	618.0	61.5
30	16.0	183.0	111.0	1140.00	---	720.00	24.2	2770.0	971.0	27.9	564.0	50.6
31	188.0	---	13.7	723.00	---	567.00	---	3600.0	---	585.0	545.0	---

ARKANSAS RIVER BASIN

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07245000 CANADIAN RIVER NEAR WHITEFIELD, 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	293	275	282	289	299	129	284	287	290	298	286	298
2	291	296	288	310	312	---	279	295	293	292	288	305
3	284	299	289	299	294	86	259	322	293	293	300	309
4	294	299	293	303	278	---	294	288	294	296	292	312
5	294	306	293	293	302	---	281	294	289	292	302	302
6	305	307	293	303	264	---	309	293	293	300	309	295
7	297	305	296	303	301	306	319	290	293	296	315	292
8	293	279	297	323	304	103	292	292	293	295	306	277
9	295	284	298	312	303	303	314	287	291	291	301	---
10	290	311	293	299	302	273	313	292	292	298	304	---
11	292	321	297	295	299	---	271	285	298	294	302	---
12	295	323	295	298	274	---	278	291	293	296	301	---
13	293	325	290	---	---	---	261	292	296	296	300	---
14	287	324	296	---	276	281	293	295	292	295	303	---
15	297	311	299	---	280	276	295	289	293	301	301	---
16	306	304	296	---	248	292	276	293	296	315	294	---
17	303	298	304	---	---	310	293	289	296	305	300	---
18	286	300	301	---	363	299	292	286	287	296	300	---
19	286	304	302	---	---	---	281	299	299	295	301	---
20	292	299	300	---	---	---	287	296	297	294	308	---
21	290	300	300	---	---	289	292	221	291	295	309	---
22	289	297	302	---	---	323	298	216	263	307	296	---
23	296	306	299	---	279	278	300	269	294	306	300	---
24	282	310	303	---	147	68	295	294	292	291	295	---
25	289	311	307	181	304	195	298	293	292	291	298	---
26	293	312	321	300	---	276	297	293	292	295	299	---
27	290	311	307	302	---	277	296	293	296	293	297	308
28	293	290	303	305	106	308	297	296	295	293	295	294
29	296	299	301	317	---	265	297	293	299	311	298	301
30	301	286	302	301	---	357	290	293	297	309	296	306
31	299	---	307	301	---	293	---	290	---	279	294	---

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	505.0	117.0	720.0	42.9	1310.0	40.1	600.0	1360.0	12200.0	2840.0	3220.0	747.0
2	70.7	59.9	467.0	36.0	1310.0	---	100.0	2880.0	7910.0	2740.0	2950.0	239.0
3	1610.0	526.0	328.0	1400.0	1210.0	26.7	1010.0	2750.0	7250.0	3140.0	2920.0	112.0
4	513.0	99.3	60.9	766.0	626.0	---	2420.0	3860.0	7260.0	2950.0	2250.0	346.0
5	70.6	52.1	72.0	870.0	108.0	---	2500.0	4080.0	6080.0	2990.0	632.0	2320.0
6	58.5	46.4	369.0	627.0	1680.0	---	2650.0	4280.0	7150.0	3330.0	129.0	2300.0
7	51.3	586.0	404.0	335.0	2520.0	543.0	4030.0	4710.0	9650.0	3200.0	105.0	2160.0
8	50.6	2030.0	400.0	61.0	2560.0	68.4	2340.0	5180.0	9650.0	4220.0	137.0	2300.0
9	43.0	610.0	426.0	163.0	2580.0	514.0	1910.0	5380.0	9510.0	4600.0	1830.0	---
10	363.0	1180.0	187.0	1720.0	2010.0	299.0	2840.0	5640.0	9380.0	3460.0	2040.0	---
11	92.2	764.0	52.9	1860.0	505.0	---	3280.0	5460.0	9410.0	3210.0	1600.0	---
12	47.0	489.0	264.0	1330.0	179.0	---	3810.0	5590.0	9260.0	2550.0	1570.0	---
13	40.3	74.6	530.0	---	---	---	5290.0	3570.0	7350.0	2810.0	1490.0	---
14	600.0	301.0	428.0	---	115.0	624.0	5760.0	1260.0	6910.0	2760.0	2680.0	---
15	99.4	657.0	454.0	---	74.1	723.0	5810.0	1290.0	7020.0	740.0	2880.0	---
16	51.2	977.0	560.0	---	58.3	550.0	5440.0	1800.0	7070.0	113.0	2680.0	---
17	701.0	933.0	193.0	---	---	1810.0	5860.0	1720.0	7260.0	1590.0	1850.0	---
18	1710.0	795.0	51.2	---	620.0	642.0	5980.0	1640.0	7630.0	2310.0	1170.0	---
19	1720.0	511.0	246.0	---	---	---	3620.0	1730.0	7680.0	2020.0	414.0	---
20	1470.0	69.4	1400.0	---	---	---	3140.0	536.0	7780.0	2830.0	129.0	---
21	2940.0	371.0	333.0	---	---	851.0	3220.0	106.0	6140.0	2190.0	803.0	---
22	286.0	914.0	1120.0	---	---	761.0	869.0	151.0	3660.0	510.0	1900.0	---
23	76.7	1310.0	815.0	---	94.2	635.0	89.9	3160.0	4360.0	96.7	1940.0	---
24	1760.0	114.0	115.0	---	68.7	419.0	2080.0	10200.0	3480.0	1280.0	2580.0	---
25	2430.0	60.5	57.2	552.0	303.0	311.0	1340.0	10900.0	4260.0	3030.0	2580.0	---
26	686.0	48.0	52.0	1900.0	---	820.0	1010.0	10900.0	4440.0	3320.0	1510.0	---
27	1280.0	47.9	59.7	2180.0	---	2100.0	793.0	10800.0	4440.0	3370.0	1150.0	154.0
28	281.0	1060.0	371.0	2450.0	131.0	2310.0	1220.0	4970.0	3430.0	3350.0	2750.0	187.0
29	362.0	487.0	812.0	1190.0	---	2070.0	286.0	9730.0	3750.0	1010.0	2420.0	241.0
30	62.6	717.0	436.0	4450.0	---	2800.0	94.7	10800.0	3790.0	109.0	2200.0	196.0
31	620.0	---	53.0	2830.0	---	2220.0	---	14100.0	---	2300.0	2140.0	---

ARKANSAS RIVER BASIN

07246400 ROBERT S. KERR LOCK AND DAM (ARKANSAS RIVER) NEAR SALLISAW, OK

LOCATION.--Lat 35°20'57", long 94°46'43", in SW¼SW¼ sec.9, T.10 N., R.24 E., LeFlore County, Hydrologic Unit 11110104, from lock wall at dam, 0.5 mi (0.8 km) upstream from gage on bridge on U.S. Highway 59, 3.5 mi (5.6 km) downstream from Sans Bois Creek, 7.5 mi (12.1 km) south of Sallisaw, and at mile 395.4 (636.2 km).

DRAINAGE AREA.--147,756 mi² (382,688 km²) of which 22,241 mi² (57,604 km²) is probably noncontributing.

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

REVISED RECORDS.--OK-77-1: Drainage area.

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	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										
19...	1045	600	8.8	18.0	--	9.1	97	12	130	--
19...	1115	600	8.8	18.0	27	9.1	97	14	--	--
NOV										
27...	1345	460	7.8	8.5	--	10.9	94	--	130	33
27...	1346	460	7.8	8.5	26	10.9	94	12	--	--
DEC										
22...	1500	515	7.4	6.5	--	13.6	112	--	130	41
22...	1530	440	7.7	5.0	19	15.1	119	12	--	--
JAN										
31...	1330	720	7.8	1.0	--	13.5	95	16	150	48
31...	1331	720	7.8	1.0	7	13.5	95	9	--	--
FEB										
14...	1130	778	8.3	.0	--	14.4	99	26	160	64
14...	1131	778	8.3	.0	10	14.4	99	11	--	--
MAR										
23...	0945	577	8.6	10.5	--	14.1	128	22	140	38
APR										
12...	1400	500	7.4	16.0	--	8.9	92	37	140	34
12...	1405	500	7.4	16.0	29	8.9	92	14	--	--
MAY										
09...	1030	395	7.7	16.0	--	8.3	85	20	120	41
09...	1031	395	7.7	16.0	54	8.3	85	18	--	--
JUN										
08...	1145	900	7.8	24.0	--	7.3	88	--	160	58
08...	1146	890	7.6	24.0	3	9.6	116	15	--	--
JUL										
06...	1300	674	7.9	30.5	--	6.4	86	--	140	46
06...	1301	682	7.7	28.5	22	4.2	55	12	--	--
AUG										
02...	1345	813	8.4	30.0	--	6.6	87	--	160	52
02...	1346	945	8.3	30.0	14	6.3	83	14	160	--
SEP										
07...	0930	820	7.8	27.0	--	5.9	74	23	160	54
07...	0931	820	7.8	27.0	12	5.9	74	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible][illegible]

ARKANSAS RIVER BASIN

07246400 ROBERT S. KERR LOCK AND DAM (ARKANSAS RIVER) NEAR SALLISAW, 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, RESIDUE AT 105 DEG, C, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	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									
19...	--	.43	--	--	.50	2.0	2.5	11	.15
19...	370	--	--	--	--	--	--	--	--
NOV									
27...	--	.34	--	--	.70	1.5	2.2	10	.11
27...	--	--	27	--	--	--	--	--	--
DEC									
22...	--	.38	--	--	--	--	--	--	--
22...	--	--	27	--	.80	1.3	2.1	9.3	.20
JAN									
31...	--	.51	--	--	.50	1.2	1.7	7.5	.11
31...	--	--	11	--	--	--	--	--	--
FEB									
14...	--	.82	--	--	--	--	--	--	--
14...	--	--	28	.70	--	1.1	1.8	--	.10
MAR									
23...	--	.40	--	--	--	--	--	--	--
APR									
12...	--	.38	--	--	--	--	--	--	--
12...	--	--	47	--	.80	1.6	2.4	11	.14
MAY									
09...	--	.27	--	--	.60	1.4	2.0	8.9	--
09...	--	--	62	--	--	--	--	--	--
JUN									
08...	--	.64	--	--	--	--	--	--	--
08...	--	--	39	--	.50	.57	1.0	4.8	.12
JUL									
06...	--	.47	--	--	--	--	--	--	--
06...	--	--	29	--	.50	2.0	2.5	11	.13
AUG									
02...	--	.59	--	--	--	--	--	--	--
02...	--	--	21	--	.10	1.3	1.4	6.5	8.5
SEP									
07...	--	.62	--	--	--	--	--	--	--
07...	--	--	20	--	.30	1.7	2.0	9.2	.55

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHROMIUM, 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							
19...	1115	--	--	--	--	--	--
NOV							
27...	1346	--	--	--	--	980	--
DEC							
22...	1530	--	--	--	--	--	--
JAN							
31...	1331	1	<1	10	5	690	15
FEB							
14...	1131	--	--	--	--	--	--
APR							
12...	1405	--	--	--	--	--	--
MAY							
09...	1031	--	--	--	--	1120	--
JUN							
08...	1146	--	--	--	--	1800	--
JUL							
06...	1301	--	--	--	--	--	--
AUG							
02...	1346	2	2	6	3	680	32
SEP							
07...	0931	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07246400 ROBERT S. KERR LOCK AND DAM (ARKANSAS RIVER) NEAR SALLISAW, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL RECOVERABLE (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...	--	--	--	--	--	--	3.0
NOV 27...	70	--	--	--	--	--	--
DEC 22...	--	--	--	--	--	--	2.0
JAN 31...	30	<.5	13	<1	<2	215	2.0
FEB 14...	--	--	--	--	--	--	29
APR 12...	--	--	--	--	--	--	5.0
MAY 09...	90	--	--	--	--	--	8.0
JUN 08...	90	--	--	--	--	--	6.0
JUL 06...	--	--	--	--	--	--	7.0
AUG 02...	40	.6	5	<1	<2	21	<5.0
SEP 07...	--	--	--	--	--	--	3.0

ARKANSAS RIVER BASIN

07247350 POTEAU RIVER NEAR HEAVENER, OK

LOCATION.--Lat 34°51'29", long 94°37'42", in NE¼SE¼ sec.35, T.5 N., R.25 E., LeFlore County, Hydrologic Unit 11110105, at bridge on U.S. Highway 59 and 270, 0.6 mi (1.0 km) downstream from Black Fork, and 2.5 mi (4.0 km) southwest of intersection of Highways 59 and 128 in Heavener, and at mile 78.5 (126.3 km).

DRAINAGE AREA.--555 mi² (1,437 km²).

PERIOD OF RECORD.--September 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 (MICROMMOS)	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...	1315	135	7.2	20.0	8	7.7	84	14	45	8.7
NOV 01...	1020	90	7.8	19.0	10	6.4	70	14	--	--
DEC 06...	1145	66	7.9	6.0	13	10.8	86	25	29	4.5
JAN 04...	0915	50	8.2	4.0	17	13.5	107	9	--	--
FEB 07...	1315	90	7.7	.0	25	15.2	105	8	22	3.4
MAR 06...	1800	50	6.8	6.0	20	12.0	98	10	--	--
APR 05...	0800	71	6.7	18.5	11	8.3	89	13	21	3.1
MAY 02...	1815	58	6.5	19.0	6	8.0	87	10	--	--
JUN 19...	1545	900	7.4	29.0	9	7.1	92	9	18	4.0
JUL 18...	1800	56	7.7	34.5	8	7.4	104	14	--	--
AUG 08...	0930	117	7.6	27.0	2	7.6	95	17	39	7.0

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, NITRATE TOTAL (MG/L AS N)
OCT 04...	21	4.9	10	3.0	11	6.0	.2	101	--	--	--
NOV 01...	--	--	--	--	12	14	--	80	--	--	--
DEC 06...	11	3.3	9.0	2.6	8.0	7.0	.1	--	24	--	--
JAN 04...	--	--	--	--	11	4.0	.0	--	8	--	--
FEB 07...	8	2.6	10	1.1	43	8.0	.1	--	8	--	--
MAR 06...	--	--	--	--	9.0	5.0	<6.0	--	13	--	--
APR 05...	7	2.6	<10	.9	6.0	4.0	.2	--	14	--	--
MAY 02...	--	--	--	--	6.0	4.0	9.0	--	10	--	--
JUN 19...	10	2.0	<10	1.1	3.0	1.0	<6.0	--	3	--	--
JUL 18...	--	--	--	--	23	5.0	<6.0	--	11	--	--
AUG 08...	18	5.0	13	2.0	11	4.0	.1	--	4	.10	--

ARKANSAS RIVER BASIN

07247350 POTEAU RIVER NEAR HEAVENER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO ₂ +NO ₃ 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 NO ₃)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 04...	<.10	1.1	1.1	--	.15	--	--	--	--
NOV 01...	<.10	1.9	1.9	--	.07	--	--	--	--
DEC 06...	<.10	1.7	1.7	--	.14	--	--	--	--
JAN 04...	.10	1.4	1.5	6.7	.07	--	--	--	--
FEB 07...	.20	1.0	1.2	5.4	7.7	1	1	20	<2
MAR 06...	.30	1.4	1.7	7.9	7.8	--	--	--	--
APR 05...	.10	1.9	2.0	8.9	7.5	--	--	--	--
MAY 02...	.20	1.3	1.5	6.9	3.5	--	--	--	--
JUN 19...	<.10	2.7	2.7	--	6.0	--	--	--	--
JUL 18...	<.10	1.2	1.2	--	4.5	--	--	--	--
AUG 08...	--	2.9	3.0	--	6.0	1	<1	14	5
DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 04...	1500	--	180	--	--	--	--	--	5.0
NOV 01...	--	--	--	--	--	--	--	--	2.0
DEC 06...	2000	--	120	--	--	--	--	--	10
JAN 04...	--	--	--	--	--	--	--	--	1.0
FEB 07...	1730	39	<20	<.5	13	<1	<2	48	48
MAR 06...	--	--	--	--	--	--	--	--	2.0
APR 05...	1680	--	60	--	--	--	--	--	3.0
MAY 02...	--	--	--	--	--	--	--	--	1.0
JUN 19...	720	--	110	--	--	--	--	--	7.0
JUL 18...	--	--	--	--	--	--	--	--	8.0
AUG 08...	500	<1	210	<.5	<5	<1	<2	22	--

ARKANSAS RIVER BASIN

07247500 FOURCHE MALINE NEAR RED OAK, OK

LOCATION.--Lat 34°54'44", long 95°09'20", in NW¼NW¼ sec.13, T.5 N., R.20 E., Latimer County, Hydrologic Unit 11110105, on downstream side of left abutment of county road bridge, 0.1 mi (0.2 km) downstream from Little Fourche Maline, 5.0 mi (8.0 km) southwest of Red Oak, and at mile 41.2 (66.3 km).

DRAINAGE AREA.--122 mi² (316 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1631: 1940.

GAGE.--Water-stage recorder. Datum of gage is 540.80 ft (164.836 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 25, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good. Some regulation by several flood retarding structures.

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

AVERAGE DISCHARGE.--40 years, 127 ft³/s (3,597 m³/s), 14.14 in/yr (359 mm/yr), 92,010 acre-ft/yr (113 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,500 ft³/s (1,175 m³/s) May 19, 1960, gage height, 24.79 ft (7.556 m), from floodmarks, from rating curve extended above 25,000 ft³/s (709 m³/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1935 reached a stage of 25.4 ft (7.742 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,880 ft³/s (81.6 m³/s) Mar. 24, gage height, 15.19 ft (4.630 m), no peaks above base of 3,000 ft³/s (85.0 m³/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	1.5	87	38	2.9	26	283	79	9.7	11	4.6	.07	.00
2	1.2	302	46	2.9	26	190	68	11	120	3.7	.05	.00
3	1.1	106	38	2.7	24	157	62	105	354	3.2	.00	.00
4	.93	63	29	2.4	22	112	105	130	195	2.8	.00	.00
5	.72	54	23	2.2	21	87	148	85	126	2.3	.00	.00
6	.55	48	18	2.2	20	76	110	92	225	2.0	.00	.00
7	.55	26	15	2.2	19	247	108	93	248	1.1	.00	.00
8	1.0	18	13	2.1	19	408	86	392	438	1.1	.00	.00
9	.99	56	10	1.7	19	259	72	298	381	1.3	.00	.00
10	.89	56	8.4	1.6	18	166	174	110	180	1.0	.00	.00
11	.67	35	7.2	1.8	18	120	403	72	105	.93	.00	.00
12	.46	25	6.7	2.1	129	93	228	56	70	.78	.00	.00
13	.39	19	6.3	1.8	929	80	141	46	52	.71	.00	.00
14	.39	15	5.5	2.1	621	79	101	38	41	.64	.00	.00
15	.30	13	5.3	2.6	368	66	79	32	36	.64	.00	.00
16	.27	11	5.1	7.0	169	60	68	27	31	.57	.00	.00
17	.30	9.2	5.2	33	115	53	63	22	26	.50	.00	.00
18	.27	7.7	4.8	27	91	47	57	19	24	.42	.00	.00
19	.23	6.3	4.2	25	78	42	48	18	30	.25	.00	.00
20	.22	5.0	4.1	23	76	38	42	15	28	.17	.00	.00
21	.20	6.0	3.8	18	69	49	36	14	23	.16	.00	20
22	.18	13	3.9	16	63	99	31	17	21	.11	.00	4.0
23	.17	12	3.8	15	97	133	26	35	19	.27	.00	1.0
24	.14	10	3.7	21	119	2370	22	30	17	.24	.00	.69
25	.14	8.3	3.4	30	140	1450	18	21	15	.25	.00	1.6
26	.11	7.0	3.3	50	120	925	15	15	12	.23	.00	1.3
27	.09	5.6	3.0	50	93	745	13	13	9.7	.16	.00	1.0
28	.07	4.9	2.8	40	252	506	11	12	8.0	.10	.00	.91
29	.05	4.6	2.9	34	---	375	9.6	15	6.4	.06	.00	.63
30	14	6.3	2.9	31	---	229	9.3	15	5.5	.05	.00	.46
31	40	---	2.9	28	---	98	---	12	---	.05	.00	---
TOTAL	68.08	1039.9	329.2	481.3	3761	9604	2432.9	1869.7	2897.6	30.39	.12	31.59
MEAN	2.20	34.7	10.6	15.5	134	310	81.1	60.3	95.3	.98	.004	1.05
MAX	40	302	46	50	929	2370	403	392	438	4.6	.07	20
MIN	.05	4.6	2.8	1.6	18	38	9.3	9.7	5.5	.05	.00	.00
CF8M	.02	.28	.09	.13	1.10	2.54	.67	.49	.78	.008	.000	.009
IN.	.02	.32	.10	.15	1.15	2.93	.74	.57	.87	.01	.00	.01
AC-FT	135	2060	653	955	7460	19050	4830	3710	5670	60	.2	63

CAL YR 1977 TOTAL 22457.19 MEAN 61.5 MAX 2980 MIN .05 CF8M .50 IN 6.85 AC-FT 44540
WTR YR 1978 TOTAL 22505.78 MEAN 61.7 MAX 2370 MIN .00 CF8M .51 IN 6.86 AC-FT 44640

ARKANSAS RIVER BASIN

459

07247500 FOURCHE MALINE NEAR RED OAK, OK

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1954, 1956-60, 1963, October 1977 to September 1978.

REMARKS.--Samples were collected in open-mouthed samplers at a singel 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 04...	0930	1.0	230	7.8	16.0	--	7.2	73	--	--
NOV 01...	1200	45	340	7.9	16.5	--	6.2	64	--	--
DEC 06...	0945	18	200	7.5	5.0	--	10.9	84	--	--
JAN 04...	1115	2.5	152	--	4.0	--	12.3	94	--	--
FEB 07...	0930	19	190	7.2	1.5	17	12.4	90	12	44
MAR 07...	1530	392	100	7.0	7.5	81	10.7	91	38	--
APR 05...	1015	152	110	7.0	18.5	37	7.8	85	22	32
MAY 03...	0915	91	98	5.9	13.0	57	7.1	68	23	--
JUN 20...	1630	27	93	6.7	27.5	28	5.6	72	19	37
JUL 18...	1530	.42	190	7.2	31.0	10	4.7	64	29	--
SEP 28...	1030	.93	195	6.5	20.0	15	1.1	12	25	--

DATE	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CaCO3)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)
OCT 04...	--	--	--	--	--	--	--	--	--
NOV 01...	--	--	--	--	--	--	--	--	--
DEC 06...	--	--	--	--	--	--	--	--	--
JAN 04...	--	--	--	--	--	--	--	--	--
FEB 07...	8.8	22	4.6	30	1.6	58	14	.1	13
MAR 07...	--	--	--	--	--	23	8.0	.1	240
APR 05...	4.3	10	3.3	<10	1.9	10	4.0	.1	78
MAY 03...	--	--	--	--	--	20	10	6.0	124
JUN 20...	7.0	17	4.0	11	1.5	11	2.0	7.0	58
JUL 18...	--	--	--	--	--	23	10	.1	17
SEP 28...	--	--	--	--	--	15	<1.0	.1	49

07247500 FOURCHE MALINE NEAR RED OAK, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 04...	--	--	--	--	--	--	--	--	--
NOV 01...	--	--	--	--	--	--	--	--	--
DEC 06...	--	--	--	--	--	--	--	--	--
JAN 04...	--	--	--	--	--	--	--	--	--
FEB 07...	.30	1.1	1.4	6.5	.14	6	3	15	<2
MAR 07...	.60	2.0	2.6	12	.26	--	--	--	--
APR 05...	.10	1.9	2.0	8.9	.11	--	--	--	--
MAY 03...	.20	1.9	2.1	9.6	.14	--	--	--	--
JUN 20...	.10	2.6	2.7	12	.12	--	--	--	--
JUL 18...	<.10	1.8	1.8	--	7.5	--	--	--	--
SEP 28...	.10	2.2	2.3	10	.14	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

461

07248000 WISTER LAKE NEAR WISTER, OK

LOCATION.--Lat 34°56'10", long 94°43'10", in SE¼NE¼ sec.1, T.5 N., R.24 E., LeFlore County, Hydro-logic Unit 11110105, in control tower near right end of Wister Dam on Poteau River, 2.0 mi (3.2 km) south of Wister, 2.7 mi (4.3 km) upstream from Caston Creek, and at mile 60.9 (98.0 km).

DRAINAGE AREA.--993 mi² (2,572 km²).

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1970 published as Wister Reservoir near Wister.

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

REMARKS.--Reservoir is formed by an earth dam with outlets of a uncontrolled concrete chute-type spillway and six 7.0 ft (2.13 m) x 12.0 ft (3.66 m) vertical liftgates. Regulated storage began Oct. 4, 1949, conservation pool was first filled Dec. 19, 1949. Capacity, 429,600 acre-ft (530 hm³) at elevation 502.5 ft (153.16 m) crest of spillway and 29,950 acre-ft (36.9 hm³) at elevation 471.6 ft (143.74 m) conservation pool. Figures given herein represent total contents. Reservoir is used for flood control and recreation. Revised capacity table used since Oct. 1, 1953.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 507,400 acre-ft (626 hm³) May 27, 1957, elevation, 505.73 ft (154.147 m); minimum since conservation pool was first filled, 4,020 acre-ft (5.0 hm³) Oct. 16, 1961, elevation, 456.97 ft (139.284 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 108,300 acre-ft (134 hm³) March 27, elevation, 483.18 (147.273 m); minimum, 24,990 acre-ft (30.8 hm³) May 15, elevation, 471.07 ft (143.582 m).

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

471	24,720	479	69,990
473	33,080	482	96,480
476	49,020	484	117,000

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	29790	31360	39520	27020	28120	32120	66100	28570	31220	45040	41440	38030
2	29700	32850	39110	26940	27790	32980	57530	28900	31310	44930	41270	37930
3	29660	33820	38440	26900	27870	33630	49200	30260	31800	44810	41220	37870
4	29580	34430	37770	27020	27990	33350	41330	31530	33540	44930	41170	37720
5	29580	34820	36970	26860	28030	32160	35350	32250	34860	44930	41060	37670
6	29530	35150	36770	26900	27870	30610	31440	31980	36080	44810	41010	37520
7	29530	35350	36220	26860	27990	33310	30260	33170	37620	44700	40900	37370
8	30220	35980	35440	26820	27910	40530	29490	38330	39420	44590	40790	37270
9	30260	36420	34430	26860	28080	42200	28490	40900	41810	44360	40630	37170
10	30390	36620	33630	26740	27950	40210	28940	39680	43240	44250	40530	37220
11	30260	36920	32620	26980	27870	36870	31180	36670	43970	44080	40370	37220
12	30170	37120	31710	27060	29920	32800	33680	33490	44360	43910	40310	37070
13	30130	37270	30910	27060	38950	29110	34430	29920	44760	43740	40150	37070
14	30090	37420	29960	27100	45550	28160	33770	26350	44930	43520	40420	36920
15	30090	37620	29150	27140	47710	28650	32850	25220	44980	43240	40310	36820
16	30050	37720	28450	27710	46940	28650	31620	25450	45100	43130	40150	36720
17	29960	37870	28120	28080	45610	28360	30480	25880	45100	42910	40000	36570
18	29960	37930	27830	28690	43850	28120	29190	26150	45320	42740	39630	36420
19	29870	37980	27550	29320	41710	27380	28080	26350	45500	42580	39470	36220
20	29830	38180	27470	29750	39840	27260	27950	26740	45500	42410	39320	36180
21	29790	38180	27140	30090	37520	28030	28160	27630	45840	42200	39210	36220
22	29790	38330	27550	30430	35490	28820	28400	28740	45900	42090	39110	36270
23	29750	38440	27300	30870	33730	31050	28570	29490	45840	42140	39000	36370
24	29750	38540	27340	31530	32480	69990	28650	29960	45780	42200	38900	36370
25	29750	38540	27220	33080	31270	92720	28690	30300	45730	42030	38800	36320
26	29660	38440	27140	33730	29670	104600	28740	30430	45550	41870	38690	36270
27	29620	38440	27100	33260	28610	105800	28650	30520	45440	41710	38490	36180
28	29620	38490	27060	32430	30130	99500	28690	30760	45380	41600	38490	36030
29	29530	38540	27140	31440	---	92060	28780	30780	45210	41440	38440	36030
30	29530	39210	27060	30350	---	83780	28610	30780	45150	41270	38280	35930
31	29660	---	27100	29240	---	75100	---	30830	---	41380	38180	---
MAX	30390	39210	39520	33730	47710	105600	66100	40900	45900	45040	41440	38030
MIN	29530	31360	27060	26740	27790	27260	27950	25220	31220	41270	38180	35930
†	472.23	474.25	471.61	472.13	472.34	479.63	471.98	472.50	475.34	474.66	474.05	473.60
‡	-260	+9,550	-12,110	+2,140	+890	+44,970	-46,490	+2,220	+14,320	-3,770	-3,200	-2,250

CAL YR 1977 MAX 208700 MIN 24350 † -80
WTR YR 1978 MAX 105800 MIN 25220 ‡ +6,010

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

07248500 POTEAU RIVER NEAR WISTER, OK

LOCATION.--Lat 34°56'15", long 94°42'54", in NW¼NW¼ sec.6, T.5 N., R.25 E., LeFlore County, Hydrologic Unit 11110105, on left bank of outflow channel 700 ft (213.4 m) downstream from Wister Dam, 2.2 mi (3.5 km) southeast of Wister, 2.6 mi (4.2 km) upstream from Caston Creek, and at mile 60.8 (97.8 km).

DRAINAGE AREA.--993 mi² (2,572 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1938 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to May 21, 1951, records below about 500 ft³/s (14.2 m³/s) include flow from Caston Creek, drainage area, 70 mi² (181 km²).

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1241: 1939, 1943(M), 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 445.43 ft (135.767 m) National Geodetic Vertical Datum of 1929. See WSP 1921 for history of changes prior to June 28, 1953.

REMARKS.--Records good. Flow completely regulated by Wister Lake since October 1949 (station 07248000).

COOPERATION.--Gage-height and 13 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(prior to regulation by Wister Dam) 11 years (water years 1939-49), 1,325 ft³/s (37.52 m³/s), 960,000 acre-ft/yr (1.18 km³/yr), (since regulation by Wister Dam) 29 years (water years 1950-78), 1,033 ft³/s (29.25 m³/s), 748,400 acre-ft/yr (923 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,600 ft³/s (2,230 m³/s) May 16, 1945, gage height, 37.16 ft (11.326 m), site and datum then in use; no flow at times in 1938-39, 1943, 1947, 1953-54, 1961, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1935 reached a stage of 43.0 ft (13.11 m) at site and datum used in 1938, estimated as 38.5 ft (11.73 m) at site and datum used during 1939-47, on basis of fall determined for flood in 1943.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,300 ft³/s (150 m³/s) Mar. 28, gage height, 6.97 ft (2.124 m); minimum daily, 5.5 ft³/s (0.16 m³/s) 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	6.2	6.7	5.9	55	943	1750	4890	111	17	14	16	12
2	6.2	5.6	356	55	503	1760	4770	111	17	14	16	12
3	6.2	5.5	607	55	234	1770	4650	110	17	14	15	12
4	6.2	5.5	605	54	234	1770	4510	370	17	14	15	12
5	6.2	5.5	602	30	234	1760	4010	934	17	14	15	13
6	6.2	5.5	600	16	233	1740	2610	1140	17	14	16	13
7	6.2	5.5	599	16	230	1740	1360	1130	18	15	15	13
8	6.7	5.8	597	16	231	1790	1050	1150	18	15	15	13
9	5.9	5.9	594	16	230	2620	1040	1170	18	15	15	13
10	5.9	5.9	590	16	230	3280	674	1880	18	16	15	13
11	5.9	5.9	592	16	228	3240	355	2340	18	16	15	14
12	5.9	5.9	588	16	229	3190	359	2290	18	16	16	14
13	5.9	5.8	585	16	236	3120	656	2250	18	16	15	13
14	5.9	5.9	582	16	283	1660	1110	2200	17	16	16	13
15	5.9	5.9	578	16	1140	801	1100	990	14	16	15	13
16	5.9	5.9	376	16	1910	797	1100	96	14	16	13	13
17	5.8	5.9	230	15	1900	793	1090	94	15	16	13	13
18	5.9	5.8	228	14	1890	786	1090	93	14	16	14	13
19	5.9	5.8	227	13	1870	778	819	93	14	16	14	13
20	5.7	5.9	125	13	1850	538	314	93	14	16	13	12
21	5.8	5.9	60	13	1830	397	108	93	14	16	13	12
22	5.9	5.9	59	13	1810	391	116	93	15	16	13	12
23	5.8	5.9	58	13	1790	395	116	94	15	16	14	11
24	5.6	5.9	58	13	1780	144	116	95	15	16	14	11
25	5.5	5.9	58	12	1770	19	118	95	15	16	13	12
26	5.9	5.9	58	571	1750	19	115	95	14	16	13	12
27	5.9	5.9	58	976	1730	2810	114	95	14	16	14	11
28	5.9	5.9	57	971	1730	5220	111	95	14	16	14	12
29	5.9	5.9	55	966	---	5170	109	95	14	16	14	12
30	5.9	6.3	55	957	---	5080	109	95	14	16	13	12
31	5.5	---	55	949	---	4990	---	88	---	16	12	---
TOTAL	184.2	175.5	9897.9	5934	29028	60318	38689	19638	474	481	444	374
MEAN	5.94	5.85	319	191	1037	1946	1290	633	15.8	15.5	14.3	12.5
MAX	6.7	6.7	607	976	1910	5220	4890	2340	18	16	16	14
MIN	5.5	5.5	5.9	12	228	19	108	48	14	14	12	11
AC=FT	365	348	19630	11770	57580	119600	76740	38950	940	954	881	742
CAL YR 1977	TOTAL	227268.5	MEAN 623	MAX 6020	MIN 5.1	AC=FT	450800					
WTR YR 1978	TOTAL	165637.6	MEAN 454	MAX 5220	MIN 5.5	AC=FT	328500					

ARKANSAS RIVER BASIN

07248500 POTEAU RIVER NEAR WISTER, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1952, 1955-59, 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, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MMHS)	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 (LU- LEVEL) (MG/L)	MAR- NESS (MG/L AS CACO3)	
OCT 04...	1220	8.4	98	7.3	21.5	45	8.5	96	11	34	
NOV 01...	1050	5.9	75	7.9	17.0	57	8.9	90	13	--	
DEC 06...	1045	599	62	7.9	7.0	27	12.5	102	11	26	
JAN 04...	1000	53	78	8.2	4.5	18	13.5	104	13	--	
FEB 07...	1200	230	100	7.6	2.5	20	15.1	111	6	25	
MAR 06...	1900	1730	75	7.0	5.5	40	12.1	98	14	--	
APR 05...	0900	4380	53	6.8	16.5	45	9.7	100	23	22	
MAY 02...	1900	111	62	6.6	17.5	39	8.4	84	16	--	
JUN 19...	1445	14	1150	7.4	25.0	35	7.1	86	14	21	
JUL 18...	1700	16	101	7.1	28.0	34	6.3	81	15	--	
AUG 08...	1030	15	100	7.6	27.5	8	7.0	86	12	35	
SEP 28...	1230	12	99	7.0	25.0	28	9.6	116	14	--	
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 04...		6.4	16	3.2	12	1.6	11	4.0	.3	98	--
NOV 01...		--	--	--	--	--	12	16	--	102	--
DEC 06...		4.1	10	2.8	10	2.6	8.0	7.0	.1	--	25
JAN 04...		--	--	--	--	--	11	6.0	--	--	13
FEB 07...		4.2	10	2.7	7.0	1.5	45	9.0	.1	--	15
MAR 06...		--	--	--	--	--	12	6.0	6.0	--	25
APR 05...		3.6	9	2.0	<10	1.9	6.0	4.0	.1	2	32
MAY 02...		--	--	--	--	--	15	5.0	.1	--	42
JUN 19...		5.0	12	3.0	13	1.3	3.0	1.0	.6	--	32
JUL 18...		--	--	--	--	--	26	7.0	7.0	--	39
AUG 08...		6.3	16	3.5	12	1.1	11	5.0	8.0	--	1
SEP 28...		--	--	--	--	--	8.0	<1.0	.1	--	18

07248500 POTEAU RIVER NEAR WISTER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO ₂ +NO ₃ 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 NO ₃)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 04...	.30	1.1	1.3	6.3	.23	--	--	--	--
NOV 01...	.40	2.5	2.9	13	.12	--	--	--	--
DEC 06...	.20	1.3	1.5	7.0	.14	--	--	--	--
JAN 04...	.10	1.2	1.3	6.1	.04	--	--	--	--
FEB 07...	.10	.73	.83	3.7	6.3	1	2	20	<2
MAR 06...	.40	.6	2.0	8.9	.13	--	--	--	--
APR 05...	.10	2.2	2.3	10	9.0	--	--	--	--
MAY 02...	.10	1.8	1.9	8.5	7.0	--	--	--	--
JUN 19...	<.10	1.9	1.9	--	.16	--	--	--	--
JUL 18...	<.10	1.8	1.8	--	5.5	--	--	--	--
AUG 08...	.10	2.5	2.6	12	5.0	2	<1	14	10
SEP 28...	.30	1.1	1.4	6.2	.33	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

465

07249400 JAMES FORK NEAR HACKETT, AR

LOCATION.--Lat 35°09'45", long 94°24'25", in NW¼NW¼ sec.34, T.6 N., R.32 W., Sebastian County,
Hydrologic Unit 11110105, near left bank on downstream side of bridge on State Highway 45, 1.7 mi (2.7 km)
south of Hackett, 2.0 mi (3.2 km) downstream from Elder Branch, 2.0 mi (3.2 km) upstream from small
tributary, and 3.6 mi (5.8 km) upstream from Arkansas-Oklahoma State line.

DRAINAGE AREA.--147 mi² (381 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1958 to current year.

REVISED RECORDS.--WRD Ark. 1970: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 459.71 ft (140.120 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

AVERAGE DISCHARGE.--20 years, 126 ft³/s (3.57 m³/s), 11.64 in/yr (296 mm/yr) 91,290 acre-ft/yr (113 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s (850 m³/s) May 14, 1968, gage height,
23.00 ft (7.010 m), from rating curve extended above 20,000 ft³/s (566 m³/s); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,570 ft³/s (129 m³/s) Mar. 24 at 1300 hours, gage height, 18.88 ft
(5.755 m), no other peak above base of 3,000 ft³/s (85.0 m³/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	1.7	39	69	4.4	47	226	119	28	34	6.8	.09	.00
2	.82	78	55	2.6	53	247	104	29	54	7.8	.02	.00
3	.74	49	38	3.3	50	243	93	162	43	9.5	.01	.00
4	.75	32	31	2.9	50	146	97	326	50	9.9	.01	.00
5	1.5	24	129	2.2	61	116	93	170	133	18	.14	.00
6	2.3	22	51	2.2	56	104	112	135	60	17	.39	.00
7	3.1	21	32	1.7	47	456	102	333	108	13	.48	.00
8	4.3	24	25	1.3	40	711	81	1230	57	11	.57	.00
9	11	29	19	1.3	39	321	75	277	44	9.8	1.3	.56
10	14	31	13	1.1	38	239	112	170	37	8.9	2.8	.88
11	10	26	9.7	.81	42	195	166	129	30	8.9	4.3	1.2
12	16	23	13	1.2	75	159	114	115	21	13	3.3	1.1
13	17	21	15	1.6	640	146	91	127	29	13	.07	.77
14	18	21	16	1.7	208	148	77	97	30	14	.01	.55
15	17	20	16	1.4	132	124	64	63	29	12	.00	.47
16	15	21	16	8.8	117	106	62	71	20	10	.00	.48
17	15	23	12	139	127	95	56	61	15	11	.06	.46
18	14	22	11	204	129	86	55	57	16	10	.41	.44
19	14	18	11	202	120	75	47	51	7.7	9.3	.30	.64
20	13	17	11	136	121	68	43	48	18	10	.22	.72
21	14	17	9.6	39	100	72	37	231	20	15	.24	.68
22	14	19	8.8	33	90	71	37	293	17	11	.14	.78
23	14	23	6.4	32	221	111	36	161	13	8.6	.09	.51
24	16	24	3.9	118	249	2890	35	84	11	6.6	.01	.31
25	17	22	2.5	226	167	700	32	61	5.9	5.1	.02	.21
26	18	21	2.8	136	129	386	32	51	4.7	4.1	.00	.19
27	20	19	3.4	82	108	288	31	44	3.6	2.8	.00	.19
28	20	19	3.3	60	322	227	27	49	4.3	1.5	.00	.21
29	19	19	2.8	48	---	186	27	50	5.1	.89	.00	.21
30	22	23	4.3	46	---	156	22	42	5.8	.50	.00	.18
31	27	---	5.4	46	---	133	---	35	---	.23	.00	---
TOTAL	390.21	767	645.9	1585.51	3578	9231	2079	4800	926.1	279.22	14.98	11.74
MEAN	12.6	25.6	20.8	51.1	128	298	69.3	155	30.9	9.01	.48	.39
MAX	27	78	129	226	640	2890	166	1230	133	18	4.3	1.2
MIN	.74	17	2.5	.81	38	68	22	28	3.6	.23	.00	.00
AC=FT	774	1520	1280	3140	7100	18310	4120	9520	1840	554	30	23

CAL YR 1977 TOTAL 29186.71 MEAN 80.0 MAX 5450 MIN .23 AC=FT 57900
WTR YR 1978 TOTAL 24308.66 MEAN 66.6 MAX 2890 MIN .00 AC=FT 48220

ARKANSAS RIVER BASIN

07249400 JAMES FORK NEAR HACKETT, AR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960, 1961, 1969 to current year.

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 COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)
OCT											
04...	0950	1028	--	.83	--	--	17.5	--	--	--	--
04...	1045	1028	--	.80	600	7.2	18.0	--	--	5.4	57
11...	1340	9827	9827	--	730	--	20.0	0	--	7.5	82
31...	1710	1028	--	26	520	7.2	20.0	--	--	4.3	48
NOV											
01...	1320	9827	9827	--	710	--	21.0	--	--	3.9	43
03...	0820	1028	--	50	--	--	14.5	--	--	--	--
29...	1320	9827	9827	--	789	--	12.0	10	--	7.1	66
DEC											
06...	0920	1028	--	52	430	6.0	6.0	--	--	12.2	99
13...	0900	1028	--	14	--	--	5.5	--	--	--	--
JAN											
04...	1420	9827	9827	--	524	7.7	13.0	5	--	12.4	117
27...	1250	1028	--	79	163	7.3	2.0	--	--	11.9	85
31...	1410	9827	9827	--	294	--	7.0	90	--	13.1	107
FEB											
06...	1330	1028	--	56	266	7.7	3.0	--	--	12.4	92
21...	1115	1028	--	107	--	--	.5	--	--	--	--
28...	1230	9827	9827	--	141	6.8	8.0	--	--	11.4	96
MAR											
06...	1400	1028	--	100	236	7.1	5.5	--	--	11.6	94
28...	1415	9827	9827	--	238	6.8	15.0	60	--	9.8	96
APR											
04...	1030	1028	--	192	300	7.4	17.0	--	--	8.4	86
05...	0815	1028	--	95	--	--	17.5	--	--	--	--
17...	1340	9827	9827	--	379	7.1	21.0	10	--	8.1	90
MAY											
02...	0900	1028	--	29	515	7.6	17.0	--	3.4	7.8	81
17...	0845	1028	--	62	--	--	19.0	--	--	--	--
23...	1320	9827	9827	--	211	7.1	25.0	90	--	7.1	85
JUN											
19...	1515	1028	80020	6.6	630	7.6	26.0	--	--	6.7	83
20...	1320	9827	9827	--	616	7.5	27.0	10	--	6.6	81
26...	1105	1028	--	5.3	--	--	28.0	--	--	--	--
JUL											
19...	0900	1028	80020	9.1	600	7.4	28.5	--	2.5	4.8	62
25...	1340	9827	9827	--	594	7.9	32.0	20	--	5.4	73
AUG											
08...	1030	1028	80020	.59	700	7.6	26.0	--	2.3	5.2	64
09...	1100	1028	--	1.2	--	--	25.0	--	--	--	--
22...	1330	9827	9827	--	646	7.9	30.0	15	--	5.3	70
SEP											
03...	1215	1028	80020	--	601	7.5	26.0	--	1.5	7.5	86
18...	1310	9827	9827	--	632	7.7	29.0	15	--	5.6	72
19...	0910	1028	--	.62	--	--	26.5	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07249400 JAMES FORK NEAR HACKETT, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

07249400 JAMES FORK NEAR HACKETT, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

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WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07249400 JAMES FORK NEAR HACKETT, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT										
04...	0	--	--	10	--	--	1	--	--	20
11...	--	--	<5	--	--	70	--	--	380	--
31...	0	--	--	4	--	--	1	--	--	40
NOV										
01...	--	--	--	--	--	70	--	--	410	--
29...	--	--	--	--	--	110	--	--	730	--
DEC										
06...	3	--	--	0	--	--	0	--	--	60
JAN										
04...	--	--	<5	--	--	<20	--	--	460	--
27...	0	--	--	0	--	--	2	--	--	310
31...	--	--	--	--	--	170	--	--	2600	--
FEB										
06...	0	--	--	10	--	--	7	--	--	50
28...	--	--	--	--	--	<20	--	--	3500	--
MAR										
06...	1	--	--	10	--	--	3	--	--	590
28...	--	--	--	--	--	20	--	--	2600	--
APR										
04...	1	--	--	0	--	--	0	--	--	40
17...	--	--	30	--	--	<20	--	--	1200	--
MAY										
02...	1	0	0	0	20	8	0	8	430	30
23...	--	--	--	--	--	70	--	--	2800	--
JUN										
19...	1	--	--	0	--	--	4	--	--	70
20...	--	--	--	--	--	50	--	--	730	--
JUL										
19...	0	--	--	0	--	--	0	--	--	20
25...	--	--	<5	--	--	<20	--	--	340	--
AUG										
08...	<1	--	0	0	--	5	0	--	110	<10
22...	--	--	--	--	--	<20	--	--	800	--
SEP										
03...	1	--	--	0	--	--	2	--	--	20
18...	--	--	--	--	--	<20	--	--	390	--

ARKANSAS RIVER BASIN

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07249400 JAMES FORK NEAR HACKETT, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	IRON, RECOV, FM BOT= TOM MA= TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV= ERABLE (UG/L AS PB)	LEAD, DIS= SOLVED (UG/L AS PB)	LEAD, RECOV, FM BOT= TOM MA= TERIAL (UG/G 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)	MOLYB= DENUM, TOTAL RECOV= ERABLE (UG/L AS MO)	MOLYB= DENUM, DIS= SOLVED (UG/L AS MO)
OCT										
04...	--	--	0	--	--	310	--	.0	--	0
11...	--	10	--	--	220	--	--	--	--	--
31...	--	--	5	--	--	420	--	.0	--	1
NOV										
01...	--	--	--	--	620	--	--	--	--	--
29...	--	--	--	--	230	--	--	--	--	--
DEC										
06...	--	--	12	--	--	110	--	.0	--	0
JAN										
04...	--	<10	--	--	110	--	--	--	--	--
27...	--	--	2	--	--	130	--	.0	--	1
31...	--	--	--	--	140	--	--	--	--	--
FEB										
06...	--	--	2	--	--	80	--	.0	--	1
28...	--	--	--	--	220	--	--	--	--	--
MAR										
06...	--	--	0	--	--	610	--	.0	--	0
28...	--	--	--	--	340	--	--	--	--	--
APR										
04...	--	--	4	--	--	310	--	.0	--	0
17...	--	20	--	--	250	--	--	--	--	--
MAY										
02...	10000	14	5	10	--	24	.0	.0	0	0
23...	--	--	--	--	300	--	--	--	--	--
JUN										
19...	--	--	4	--	--	440	--	.0	--	0
20...	--	--	--	--	520	--	--	--	--	--
JUL										
19...	--	--	2	--	--	90	--	.0	--	0
25...	--	10	--	--	2500	--	<1.0	--	--	--
AUG										
08...	--	2	4	--	540	350	.0	.0	3	0
22...	--	--	--	--	750	--	--	--	--	--
SEP										
03...	--	--	1	--	--	300	--	.0	--	0
18...	--	--	--	--	620	--	--	--	--	--

ARKANSAS RIVER BASIN

07249400 JAMES FORK NEAR HACKETT, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MOLYB- DENUM, RECOV. FM BOT- TERIAL (UG/G)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	NICKEL, FM BOT- TOM MA- TERIAL (UG/G AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	ALDRIN, TOTAL (UG/L)	DDE, TOTAL (UG/L)
OCT										
04...	--	--	4	--	--	0	--	--	--	--
11...	--	--	--	--	80	--	--	--	--	--
31...	--	--	3	--	--	20	--	--	--	--
NOV										
01...	--	--	--	--	100	--	--	--	--	--
29...	--	--	--	--	190	--	--	--	.00	.00
DEC										
06...	--	--	5	--	--	10	--	--	--	--
JAN										
04...	--	--	--	--	40	--	--	--	--	--
27...	--	--	4	--	--	10	--	--	--	--
31...	--	--	--	--	200	--	--	--	--	--
FEB										
06...	--	--	5	--	--	10	--	--	--	--
28...	--	--	--	--	40	--	--	--	--	--
MAR										
06...	--	--	15	--	--	40	--	--	--	--
28...	--	--	--	--	50	--	--	--	--	--
APR										
04...	--	--	11	--	--	10	--	--	--	--
17...	--	--	--	--	60	--	--	--	--	--
MAY										
02...	0	10	5	40	40	10	72	4.1	--	--
23...	--	--	--	--	120	--	--	--	--	--
JUN										
19...	--	--	7	--	--	10	--	--	--	--
20...	--	--	--	--	160	--	--	--	--	--
JUL										
19...	--	--	2	--	--	10	--	3.6	--	--
25...	--	--	--	--	20	--	--	--	--	--
AUG										
08...	--	4	3	--	--	<3	--	5.8	--	--
22...	--	--	--	--	10	--	--	--	--	--
SEP										
03...	--	--	2	--	--	10	--	4.6	--	--
18...	--	--	--	--	30	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

ARKANSAS RIVER BASIN

07249410 JAMES FORK NEAR WILLIAMS, OK

LOCATION.--Lat 35°09'30", long 96°36'01", NE¼NW¼ sec.21, T.8 N., R.26 E., LeFlore County, Hydrologic Unit 11110105, near county road 1.1 miles (1.8 km) southwest of Williams.

DRAINAGE AREA.--198 mi² (512 km²).

PERIOD OF RECORD.--Water years 1976 to current year.

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)	COLOR (PLAT- INUM- CORALY UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CaCO3)
OCT 04...	0900	--	398	7.2	17.5	12	30	5.6	58	150
31...	1530	--	321	7.2	20.0	13	7.6	1.6	18	120
DEC 06...	1040	--	570	8.0	5.5	8	27	10.8	85	230
JAN 27...	0950	160	150	7.5	2.0	90	70	12.4	88	49
FEB 06...	1545	92	234	7.7	3.0	55	32	13.1	97	79
MAR 06...	1530	147	192	7.5	5.5	80	45	12.6	102	49
APR 04...	1200	134	238	7.5	19.0	17	29	8.6	92	83
MAY 02...	1330	33	440	7.6	18.0	--	5.4	8.0	85	150
JUN 19...	1800	12	585	7.8	26.0	--	8.1	6.3	78	210
JUL 19...	1330	.95	615	7.4	30.0	--	4.9	4.8	63	220
AUG 07...	1600	.23	650	7.6	27.0	--	3.0	6.0	75	200
SEP 03...	0915	.65	568	7.3	26.0	--	1.0	3.9	45	200

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CaCO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS 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)
OCT 04...	110	.1	5.0	28	19	16	19	.6	3.4	51
31...	63	.0	.0	23	16	16	21	.6	4.4	74
DEC 06...	190	.1	5.0	44	29	25	19	.7	3.3	44
JAN 27...	34	.1	5.0	9.2	6.4	10	30	.6	1.8	19
FEB 06...	58	.0	.0	15	10	13	26	.6	2.8	25
MAR 06...	34	.1	5.0	9.0	6.5	12	34	.7	1.7	19
APR 04...	55	.3	15	15	11	14	26	.7	2.0	34
MAY 02...	89	.1	5.0	27	19	21	24	.8	2.3	69
JUN 19...	140	.1	5.0	40	26	24	20	.7	2.6	76
JUL 19...	130	.0	.0	41	29	32	24	.9	3.1	110
AUG 07...	72	.1	5.0	37	27	44	32	1.3	3.3	160
SEP 03...	48	.1	5.0	37	25	49	35	1.5	3.3	180

ARKANSAS RIVER BASIN

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07249410 JAMES FORK NEAR WILLIAMS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CAR- BUNATE (MG/L AS C03)	ALKA- LITY (MG/L AS CAC03)	CARRON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLN- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTIT- UTENTS, DIS- SOLVED (MG/L)
OCT									
04...	0	42	5.1	130	4.6	.2	7.1	243	235
31...	0	61	7.5	82	12	.1	6.2	202	208
DEC									
06...	0	36	.7	210	6.4	.0	8.0	367	348
JAN									
27...	0	16	1.0	43	6.9	.1	7.4	113	97
FEB									
06...	0	21	.8	68	7.9	.1	8.4	149	140
MAR									
06...	0	16	1.0	46	7.5	.1	7.5	95	103
APR									
04...	0	28	1.7	70	6.3	.1	8.1	142	149
MAY									
02...	0	57	2.8	120	7.3	.1	6.0	230	241
JUN									
19...	0	62	1.9	190	6.5	.2	8.9	344	337
JUL									
19...	0	90	7.0	180	7.7	.2	8.4	370	356
AUG									
07...	0	130	6.4	160	11	.2	8.2	367	370
SEP									
03...	0	150	14	130	11	.3	8.2	363	353
DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N03)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N02)	NITRO- GEN, N02+N03 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS P04)
OCT									
04...	.33	--	.12	.53	.00	.00	.12	--	--
31...	.27	--	.06	.27	.00	.00	.06	--	--
DEC									
06...	.50	--	.01	.04	.00	.00	.01	--	--
JAN									
27...	.15	48.8	.52	2.3	.01	.03	.53	--	--
FEB									
06...	.20	37.0	.50	2.2	.01	.03	.51	--	--
MAR									
06...	.13	37.7	.52	2.3	.02	.07	.54	.01	.03
APR									
04...	.19	51.4	1.1	4.7	.03	.10	1.1	.01	.03
MAY									
02...	.31	20.5	.99	4.4	.00	.00	.99	--	--
JUN									
19...	.47	11.1	.28	1.2	.01	.03	.29	--	--
JUL									
19...	.50	.95	.02	.09	.00	.00	.02	--	--
AUG									
07...	.50	.23	.03	.13	.00	.00	.03	--	--
SEP									
03...	.49	.64	.08	.35	.01	.03	.09	--	--

ARKANSAS RIVER BASIN

07249410 JAMES FORK NEAR WILLIAMS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ALUM- INUM, RECOV, FM BOT- TOM MA- TERIAL (UG/G)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G 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)	
OCT												
04...	0900	--	30	--	--	1	--	--	50	--	0	
31...	1530	180	20	--	1	1	--	80	70	0	0	
DEC												
06...	1040	480	0	--	1	0	--	90	50	2	5	
JAN												
27...	0950	--	80	--	--	1	--	--	30	--	0	
FEB												
06...	1545	140	40	--	1	1	--	50	20	0	0	
MAR												
06...	1530	--	100	--	--	0	--	--	30	--	1	
APR												
04...	1200	800	30	--	2	2	--	60	30	1	1	
MAY												
02...	1330	240	0	2000	0	0	27	70	50	0	1	
JUN												
19...	1600	380	0	--	1	1	--	120	60	1	1	
JUL												
19...	1330	--	0	--	--	2	--	--	50	--	1	
AUG												
07...	1600	210	0	--	1	1	--	110	80	0	<1	
SEP												
03...	0915	--	0	--	--	1	--	--	60	--	3	
DATE		CADMIUM RECOV, FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECOV, FM BOT- TOM MA- TERIAL (UG/G)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV, FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV, FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)
OCT												
04...	--	--	0	--	--	3	--	--	70	--	--	--
31...	--	0	0	--	2	0	--	500	140	--	7	7
DEC												
06...	--	0	0	--	8	2	--	1400	50	--	26	26
JAN												
27...	--	--	10	--	--	2	--	--	280	--	--	--
FEB												
06...	--	10	10	--	5	2	--	2700	60	--	6	6
MAR												
06...	--	--	10	--	--	4	--	--	490	--	--	--
APR												
04...	--	0	0	--	3	0	--	1700	70	--	7	7
MAY												
02...	0	10	0	19	4	0	5	590	30	12000	8	8
JUN												
19...	--	0	0	--	6	0	--	1100	30	--	11	11
JUL												
19...	--	--	0	--	--	2	--	--	20	--	--	--
AUG												
07...	--	0	0	--	5	2	--	270	<10	--	4	4
SEP												
03...	--	--	0	--	--	2	--	--	20	--	--	--

ARKANSAS RIVER BASIN

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07249410 JAMES FORK NEAR WILLIAMS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	MOLYB- DENUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)
OCT											
04...	13	--	--	320	--	--	.0	--	--	0	--
31...	1	--	12000	11000	--	.0	.0	--	2	0	--
DEC											
06...	26	--	230	200	--	.1	.0	--	2	0	--
JAN											
27...	3	--	--	20	--	--	.0	--	--	0	--
FEB											
06...	0	--	110	60	--	.0	.0	--	0	0	--
MAR											
06...	2	--	--	190	--	--	.0	--	--	0	--
APR											
04...	6	--	210	160	--	.0	.0	--	3	0	--
MAY											
02...	33	40	140	80	2500	.0	.0	.03	0	0	0
JUN											
19...	4	--	280	200	--	.1	.0	--	3	1	--
JUL											
19...	3	--	--	360	--	--	.0	--	--	0	--
AUG											
07...	5	--	480	290	--	.0	.0	--	5	1	--
SEP											
03...	1	--	--	260	--	--	.0	--	--	0	--

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	NICKEL, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
04...	--	2	--	--	20	--	--	119	--	99
31...	7	0	--	20	10	--	--	24	--	93
DEC										
06...	13	5	--	30	20	--	--	24	--	99
JAN										
27...	--	4	--	--	10	--	--	39	17	96
FEB										
06...	10	3	--	20	10	--	--	22	5.5	91
MAR										
06...	--	10	--	--	10	--	--	21	8.3	93
APR										
04...	8	6	--	20	0	--	--	39	14	95
MAY										
02...	5	5	36	20	10	65	3.4	24	2.1	96
JUN										
19...	6	4	--	30	0	--	3.4	31	1.0	95
JUL										
19...	--	2	--	--	10	--	6.9	16	.04	88
AUG										
07...	4	0	--	10	5	--	6.0	7	.00	85
SEP										
03...	--	2	--	--	20	--	6.1	8	.01	97

ARKANSAS RIVER BASIN

07249415 COAL CREEK TRIBUTARY NEAR BOKOSHE, OK

LOCATION.--Lat 35°11'30", long 94°43'19", SW¼SE¼ sec.1, T.8 N., R.24 E., LeFlore County, Hydrologic Unit 11110105, on county road bridge 3.5 mi (5.6 km) northwest of Panama, and at mile 7.1 (11.4 km).

DRAINAGE AREA.--1.26 mi² (3.26 km²).

PERIOD OF RECORD.--Water years 1976 to current year.

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)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACU3)
DEC 05...	1515	3.1	126	8.0	7.5	160	100	11.8	100	29
JAN 27...	1200	3.0	150	7.3	2.5	65	40	11.6	84	35
FEB 07...	0900	1.3	170	7.7	.0	30	28	13.4	92	41
MAR 07...	0925	23	118	7.0	7.5	320	550	11.0	93	25
APR 03...	1430	--	110	7.3	23.0	60	30	9.3	107	34
MAY 02...	1800	--	155	7.5	14.0	--	70	9.4	92	33

DATE	HARD- NESS, MUNCI- PATE (MG/L AS CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION PERCENT	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	
DEC 05...	13	.2	10	5.7	3.7	9.9	38	.8	3.9	20
JAN 27...	22	.1	5.0	6.7	4.5	13	40	1.0	6.1	16
FEB 07...	27	.1	5.0	8.0	5.2	16	45	1.1	.8	18
MAR 07...	16	.2	10	5.2	3.0	9.5	42	.8	2.7	11
APR 03...	6	.0	.0	7.0	3.9	9.6	36	.7	2.8	34
MAY 02...	4	.1	5.0	6.6	3.9	9.2	35	.7	3.5	35

DATE	CAR- BONATE (MG/L AS CO3)	ALKA- LITY (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 SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
DEC 05...	0	16	.3	15	9.7	.1	6.3	73	75
JAN 27...	0	13	1.3	23	13	.1	7.7	105	95
FEB 07...	0	15	.6	26	16	.1	6.4	115	101
MAR 07...	0	9	1.8	15	10	.1	4.8	96	68
APR 03...	0	28	2.7	12	8.3	.1	3.7	77	66
MAY 02...	0	29	1.8	17	6.2	.1	6.1	83	119

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
DEC 05...	.10	.61	1.7	7.5	.01	.03	1.7	--	--
JAN 27...	.14	.85	2.8	12	.01	.03	2.8	--	--
FEB 07...	.16	.40	3.0	13	.01	.03	3.0	--	--
MAR 07...	.13	5.96	2.7	12	.03	.10	2.7	.02	.06
APR 03...	.10	--	.42	1.9	.01	.03	.43	.20	.61
MAY 02...	.11	--	11	49	.02	.07	11	--	--

ARKANSAS RIVER BASIN

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07249415 COAL CREEK TRIBUTARY NEAR BOKOSHE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ALUM- INUM, RECov. FM BOT- TOM MA- TERIAL (UG/G)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	ARSENIC TOTAL IN ROT- TOM MA- TERIAL (UG/G AS AS)	BORON, TOTAL RECOV- ERABLE (UG/L AS R)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
DEC 05...	1515	1800	50	--	1	1	--	70	40	3	3
JAN 27...	1200	--	130	--	--	1	--	--	20	--	0
FEB 07...	0900	0	90	--	1	1	--	50	20	0	1
MAR 07...	0925	--	130	--	--	1	--	--	60	--	1
APR 03...	1430	720	30	--	2	2	--	90	100	2	0
MAY 02...	1800	840	30	3500	1	0	45	70	90	0	0

DATE	CADMIUM RECov. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECov. FM BOT- TOM MA- TERIAL (UG/G)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECov. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECov. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PR)
DEC 05...	--	0	0	--	9	2	--	2800	130	--	31
JAN 27...	--	--	0	--	--	1	--	--	250	--	--
FEB 07...	--	0	0	--	2	9	--	1100	210	--	5
MAR 07...	--	--	0	--	--	5	--	--	190	--	--
APR 03...	--	0	0	--	2	0	--	1300	220	--	4
MAY 02...	0	0	10	15	4	2	4	2300	230	11000	5

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECov. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECov. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY RECov. FM BOT- TOM MA- TERIAL (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	MOLYB- DENUM, RECov. FM BOT- TOM MA- TERIAL (UG/G)
DEC 05...	5	--	80	40	--	.3	.0	--	2	0	--
JAN 27...	6	--	--	60	--	--	.0	--	--	0	--
FEB 07...	0	--	80	50	--	.0	.0	--	0	0	--
MAR 07...	1	--	--	60	--	--	.0	--	--	0	--
APR 03...	5	--	70	40	--	.0	.0	--	3	0	--
MAY 02...	5	40	100	40	2300	.0	.0	.03	0	0	0

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	NICKEL, RECov. FM BOT- TOM MA- TERIAL (UG/G AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECov. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CARBON, ORGANIC 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
DEC 05...	18	3	--	40	20	--	--	29	.24	99
JAN 27...	--	2	--	--	10	--	--	28	.23	88
FEB 07...	6	5	--	10	50	--	--	22	.08	89
MAR 07...	--	3	--	--	20	--	--	482	30	97
APR 03...	7	2	--	10	0	--	--	19	--	96
MAY 02...	4	4	20	10	10	32	14	53	--	97

ARKANSAS RIVER BASIN

07249419 COAL CREEK NEAR PANAMA, OK.

LOCATION.--Lat 35°11'08", long 94°40'23", NW¼NE¼ sec.9, T.8 N., R.25 E., LeFlore County, Hydrologic Unit 11110105, on U.S. Highway 59, 1.0 mi (1.6 km) north of Panama, and at mile 2.9 (4.6 km).

DRAINAGE AREA.--6.67 mi² (17.37 km²).

PERIOD OF RECORD.--Water years 1976 to current year.

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)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
UCT 03...	1500	.08	89	6.8	21.0	200	100	2.9	32	29	8
DEC 06...	1200	1.2	102	7.8	4.5	110	50	10.5	80	28	6
JAN 27...	1105	--	93	7.3	3.0	130	60	10.9	80	27	13
FEB 06...	1720	1.7	119	7.3	2.0	90	45	13.2	95	31	14
MAR 06...	1700	2.5	114	7.3	6.0	100	40	12.2	98	29	12
APR 03...	1540	.93	120	6.9	21.0	47	35	9.0	100	33	6
MAY 01...	1800	4.7	140	7.0	18.0	--	220	7.2	77	41	17

DATE	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SURP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CU3)	
OCT 03...	.1	5.0	6.9	2.8	4.2	20	.3	5.3	25	0
DEC 06...	.1	5.0	5.7	3.4	7.5	33	.6	4.4	27	0
JAN 27...	.1	5.0	5.9	2.9	8.8	39	.7	2.7	17	0
FEB 06...	.0	.0	6.8	3.5	11	41	.9	2.7	21	0
MAR 06...	.1	5.0	6.4	3.1	9.6	40	.8	2.3	21	0
APR 03...	.1	5.0	7.4	3.5	11	40	.8	2.2	33	0
MAY 01...	.1	5.0	9.7	4.0	11	34	.8	3.8	29	0

DATE	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CU2)	SULFATE DIS- SOLVED (MG/L AS SU4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
UCT 03...	21	6.3	7.0	6.7	.1	6.5	76	54	.10	.02
DEC 06...	22	.7	13	6.7	.1	7.0	73	64	.10	.24
JAN 27...	14	1.4	16	8.3	.1	7.9	101	68	.14	--
FEB 06...	17	1.7	18	9.8	.1	7.1	103	77	.14	.47
MAR 06...	17	1.7	16	8.2	.1	5.9	79	69	.11	.53
APR 03...	27	6.6	17	8.3	.1	5.5	69	74	.09	.17
MAY 01...	24	4.6	19	10	.1	4.1	87	102	.12	1.10

ARKANSAS RIVER BASIN

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07249419 COAL CREEK NEAR PANAMA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHU, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHU, DIS- SOLVED (MG/L AS PU4)
OCT 03...	--	.30	1.3	--	.04	.13	.34	--	--	--
DEC 06...	--	.50	2.2	--	.01	.03	.51	--	--	--
JAN 27...	--	1.4	6.1	--	.02	.07	1.4	--	--	--
FEB 06...	--	1.6	7.0	--	.00	.03	1.6	--	--	--
MAR 06...	--	1.5	6.6	--	.02	.07	1.5	--	--	--
APR 03...	--	.43	1.9	--	.01	.03	.44	--	.01	.03
MAY 01...	6.6	6.6	29	.05	.04	.16	--	6.6	--	--

DATE	TIME	ALUM- INUM, TOTAL RECUV- 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 RECUV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM TOTAL RECUV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECUV- ERABLE (UG/L AS CR)
OCT 03...	1500	--	40	--	1	--	50	--	0	--
DEC 13...	1500	--	--	--	--	--	--	--	--	--
JAN 06...	1200	1200	70	1	0	70	30	6	9	0
FEB 27...	1105	--	150	--	1	--	40	--	0	--
MAR 06...	1720	0	130	1	1	50	30	0	0	10
APR 06...	1700	--	120	--	0	--	40	--	3	--
MAY 03...	1540	1000	30	3	2	60	30	2	0	0
MAY 01...	1800	3500	50	1	0	70	80	1	0	10

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECUV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECUV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECUV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECUV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECUV- ERABLE (UG/L AS HG)
OCT 03...	10	--	3	--	270	--	1	--	460	--
DEC 13...	--	--	--	--	--	--	--	--	--	--
JAN 06...	0	7	2	2300	420	31	31	70	40	.1
FEB 27...	10	--	5	--	370	--	3	--	40	--
MAR 06...	10	6	2	1700	360	7	2	70	40	.0
APR 06...	10	--	3	--	350	--	3	--	70	--
MAY 03...	0	3	0	1700	120	6	2	180	110	.0
MAY 01...	10	9	2	6100	190	16	5	400	120	.0

ARKANSAS RIVER BASIN

07249419 COAL CREEK NEAR PANAMA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
03...	.0	--	0	--	2	--	10	101	.02	46
13...	--	--	--	--	--	--	--	101	--	46
DEC										
06...	.0	1	0	9	1	30	20	7	.02	97
JAN										
27...	.0	--	0	--	2	--	10	21	--	96
FEB										
06...	.0	2	0	5	5	10	20	18	.08	95
MAR										
06...	.0	--	0	--	4	--	10	14	.09	94
APR										
03...	.0	3	0	3	0	10	0	38	.10	92
MAY										
01...	.0	2	0	10	4	30	20	174	2.2	99

ARKANSAS RIVER BASIN

485

07249440 POTEAU RIVER NEAR FORT SMITH, AR

LOCATION.--Lat 35°20'43", long 94°27'09", in SE¼SW¼ sec.9, T.10 N., R.27 E., LeFlore County, Hydrologic Unit 11110105, at bridge on State Highway 9, 1.2 mi (1.9 km) west of State line, and 2.0 mi (3.2 km) southwest of Fort Smith.

DRAINAGE AREA.--254 mi² (658 km²) at State line.

PERIOD OF RECORD.--Water years 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. Additional chemical analyses are published by Arkansas District.

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, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVFL) (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS Ca)
OCT 19...	0930	125	7.0	17.0	73	5.1	53	20	36	4.1
NOV 27...	0800	225	6.5	9.0	41	5.8	51	18	--	--
DEC 22...	0930	165	8.0	5.0	41	10.4	82	16	34	6.1
JAN 31...	1200	119	7.4	2.0	32	13.6	97	11	--	--
FEB 14...	0750	101	7.6	2.5	210	11.9	87	41	37	6.2
MAR 23...	0820	106	7.0	14.0	--	9.0	87	--	--	--
APR 12...	1515	113	6.8	18.5	47	6.7	72	26	32	2.7
MAY 09...	0900	101	6.9	18.0	70	7.3	78	23	--	--
JUN 08...	0845	158	6.2	25.0	3	3.0	36	14	56	10
JUL 06...	0815	189	6.9	28.5	32	3.6	47	18	--	--
AUG 02...	0845	258	7.2	30.0	27	1.8	24	16	4	18
SEP 07...	0745	39	7.3	27.0	16	2.5	31	19	--	--

DATE	CALCIUM DIS-SOLVED (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 DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)
OCT 19...	10	4.5	5.0	2.5	19	7.0	.3	124	--
NOV 27...	--	--	--	--	54	8.0	--	--	41
DEC 22...	15	4.0	20	2.0	30	10	.1	--	18
JAN 31...	--	--	--	--	44	10	.1	--	38
FEB 14...	23	47	15	8.1	61	9.0	6.0	--	543
MAR 23...	--	--	--	--	--	--	--	--	--
APR 12...	6	4.6	<10	2.2	24	5.0	8.0	--	45
MAY 09...	--	--	--	--	27	9.0	.1	--	141
JUN 08...	25	6.5	<5.0	1.5	35	7.0	9.0	--	26
JUL 06...	--	--	--	--	33	10	.1	--	--
AUG 02...	45	7.4	14	2.0	20	14	.1	--	38
SEP 07...	--	--	--	--	34	52	.1	--	33

07249440 POTEAU RIVER NEAR FORT SMITH, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO- GEN, NO ₂ +NO ₃ 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 NO ₃)	PHOS- PHORUS, TOTAL (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 19...	.40	3.4	3.8	17	.20	--	--	--	--
NOV 27...	.20	1.6	1.8	8.4	.09	--	--	--	--
DEC 22...	.20	1.4	1.6	7.3	.18	--	--	--	--
JAN 31...	.40	1.3	1.7	7.7	8.5	--	--	--	--
FEB 14...	.30	2.4	2.7	12	.16	6	1	38	13
MAR 23...	--	--	--	--	--	--	--	--	--
APR 12...	.30	4.5	4.8	21	.13	--	--	--	--
MAY 09...	.20	1.5	1.7	7.8	.18	--	--	--	--
JUN 08...	.20	1.2	1.4	6.6	8.0	--	--	--	--
JUL 08...	.10	1.6	1.7	7.8	5.5	--	--	--	--
AUG 02...	<.10	1.5	1.5	--	8.0	2	<1	11	--
SEP 07...	.30	1.7	2.0	9.2	4.5	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

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07249900 LITTLE LEE CREEK NEAR SHORT, OK

LOCATION.--Lat 35°34'32", long 94°33'20", in SW¼NW¼ sec.28, T.13 N., R.26 E., Sequoyah County, Hydrologic Unit 11110104, at bridge on State Highway 101, 2 mi (3.2 km) northwest of Short, and at mile 2.9 (4.7 km).

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...	1330	160	9.4	13.5	--	9.0	86	--	--	--	--	--
NOV 27...	1045	185	7.2	7.0	--	11.2	94	--	--	--	--	--
DEC 22...	1130	165	8.8	4.5	--	16.4	127	--	--	--	--	--
JAN 31...	1045	99	7.8	2.0	10	14.5	104	2	--	--	--	--
FEB 14...	1000	89	7.7	2.5	25	13.4	98	7	46	12	33	1.2
MAR 22...	1445	111	7.7	13.5	--	11.6	113	--	--	--	--	--
APR 12...	1215	55	7.3	15.0	22	9.7	97	4	37	9.5	23	2.6
MAY 08...	1635	88	7.5	17.5	17	9.2	98	2	--	--	--	--
JUN 08...	1030	124	7.4	21.0	9	8.3	94	5	57	19	48	1.6
JUL 06...	1030	145	7.5	29.5	3	6.0	79	2	--	--	--	--
AUG 02...	1115	170	7.9	27.5	2	5.5	72	4	134	46	115	4.4
SEP 06...	1700	115	7.7	27.5	2	6.9	87	5	--	--	--	--

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 27...	--	--	--	--	--	--	--	--	--	--	--	--
DEC 22...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 31...	--	--	32	10	.1	8	.20	.90	1.1	4.9	3.5	--
FEB 14...	10	.8	63	4.0	6.0	21	.30	.85	1.1	5.1	5.5	1
MAR 22...	--	--	--	--	--	--	--	--	--	--	--	--
APR 12...	<10	.8	12	2.0	<6.0	7	.10	1.3	1.4	6.4	3.3	--
MAY 08...	--	--	13	6.0	9.0	16	.10	.71	.81	3.6	6.5	--
JUN 08...	<5.0	<1.0	16	9.0	.1	7	.10	11	11	51	4.0	--
JUL 06...	--	--	22	4.0	<6.0	<1	.10	1.6	1.7	7.6	1.0	--
AUG 02...	<1.0	.9	15	6.0	<6.0	<1	<.10	1.2	1.2	--	2.5	<1
SEP 06...	--	--	7.0	8.0	6.0	4	<.10	1.4	1.4	--	2.5	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

[illegible]

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)	Dis-charge (cfs)
Arkansas River Basin							
07150870	Salt Fork Arkansas River tributary near Eddy, Okla.	Lat 36°41'42", long 97°25'30", in SW 1/4 SW 1/4 sec.28, T.26 N., R.2 W., Kay County, at culvert on U.S. Highway 60, 3.0 mi (4.8 km) southeast of Eddy.	2.35	1964-78	05-27-78	11.32	60
07154650	Tesequite Creek near Kenton, Okla.	Lat 36°53'52", long 102°54'04", in NE 1/4 SE 1/4 sec.13, T.5 N., R.1 E., Cimarron County, at county road bridge, 3.9 mi (6.3 km) east of Kenton	25.4	1964-78	05-27-78	15.65	1,750
07155100	Cold Springs Creek near Wheelless, Okla.	Lat 36°46'20", long 102°48'16", in SE 1/4 NE 1/4 sec.35, T.4 N., R.2 E., Cimarron County, at county road multi-barrel culvert, 6.0 mi (9.7 km) northeast of Wheelless.	11.0	1964-78	07-22-78	10.62	26
07157550	West Fork Creek near Knowles, Okla.	Lat 36°52'30", long 100°07'20", in SE 1/4 SE 1/4 sec.22, T.5 N., R.27 E., Beaver County, at county road culvert, 4.2 mi (6.8 km) east of Knowles.	4.22	1964-78		<10.50	<3
07158500	Preacher Creek near Dover, Okla.	Lat 36°02'37", long 98°00'48", in NW 1/4 NW 1/4 sec.13, T.18 N., R.8 W., Kingfisher County, at county road bridge, 7.1 mi (11.4 km) northwest of Dover.	14.5	1952-57+ 1964-78	05-03-78	2.51	30
07158550	Turkey Creek tributary near Goltry, Okla.	Lat 36°28'40", long 98°08'05", in SE 1/4 SW 1/4 sec.11, T.23 N., R.9 W., Alfalfa County, at multi-barrel culvert on State Highway 45, 4.1 mi (6.6 km) south of Goltry.	5.08	1964-78	05-27-78	5.30	106
07159200	Kingfisher Creek near Kingfisher, Okla.	Lat 35°50'03", long 98°03'57", in NW 1/4 SW 1/4 sec.28, T.16 N., R.8 W., Kingfisher County, at county road bridge, 7.6 mi (12.2 km) west of Kingfisher.	157	1967-70+ 1971-78		<10.00	<195
07159450	Bluff Creek at Oklahoma City, Okla.	Lat 35°32'26", long 97°35'56", in SW 1/4 sec.2, T.12 N., R.4 W., Oklahoma County at 68 St. and Northwest Highway in Oklahoma City.	1.64	1973-78	05-27-78	9.15	638
07160550	West Beaver Creek near Orlando, Okla.	Lat 36°08'45", long 97°28'05", in NW 1/4 NE 1/4 sec.12, T.19 N., R.3 W., Logan County, at county road bridge, 5.0 mi (8.0 km) west of Orlando.	13.9	1964-78	05-27-78	5.06	753
07174720	Hogshooter Creek tributary near Bartlesville, Okla.	Lat 36°43'40", long 95°50'52", in SE 1/4 SE 1/4 sec.18, T.26 N., R.14 E., Washington County, at multi-barrel culvert on U.S. Highway 60, 4.9 mi (7.9 km) east of junction with U.S. Highway 75 southeast of Bartlesville.	.94	1965-78	11-09-77	7.43	220
07188140	Flint Branch near Peoria, Okla.	Lat 36°52'25", long 94°41'35", in SW 1/4 SW 1/4 sec.26, T.28 N., R.24 E., Ottawa County, at upstream side of dam, 3.2 mi (5.1 km) southwest of Peoria.	4.90	1964-78	04-09-78	14.62	1,020
07189700	Horse Creek at Afton, Okla.	Lat 36°41'50", long 94°57'20", in NE 1/4 NW 1/4 sec.33, T.26 N., R.22 E., Ottawa County, on downstream side of bridge on U.S. Highway 60 at east edge of Afton.	21.9	1966-78	04-09-78	11.59	1,740
07194515	Mill Creek near Park Hill, Okla.	Lat 35°48'37", long 95°04'07", in NE 1/4 NW 1/4 sec.3, T.15 N., R.21 E., Cherokee County, at multi-barrel culvert on U.S. Highway 62, 6.3 mi (10.1 km) southwest of junction with State Highway 82 near Park Hill.	2.57	1965-78	04-09-78	4.70	49
07228290	Rough Creek near Thomas, Okla.	Lat 35°48'08", long 98°47'15", in NW 1/4 SW 1/4 sec.3, T.15 N., R.15 W., Custer County, at county road bridge, 4.7 mi (7.6 km) northwest of Thomas	10.4	1964-78	05-03-78	13.16	2,580
07229420	Julian Creek tributary near Asher, Okla.	Lat 34°59'09", long 96°58'48", in SW 1/4 SW 1/4 sec.15, T.6 N., R.3 E., Pottawatomie County, at multi-barrel culvert on State Highway 39, 3.4 mi (5.5 km) west of Asher.	2.28	1964-78	05-27-78	12.84	298
07231320	Leader Creek tributary near Atwood, Okla.	Lat 34°57'10", long 96°20'21", in NW 1/4 NW 1/4 sec.34, T.6 N., R.9 E., Hughes County, at multi-barrel culvert on State Highway 12, 0.7 mi (1.1 km) southwest of Atwood.	.72	1964-78	04-10-78	10.75	359

DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS

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)	Dis-charge (cfs)
Arkansas River Basin--Continued							
07231950	Pine Creek near Higgins, Okla.	Lat 34°47'40", long 95°20'50", in NW 1/4 NE 1/4 sec.30, T.4 N., R.19 E., Latimer County, at bridge on State Highway 63, 5.4 mi (8.7 km) east of Higgins.	9.99	1964-78	11-24-73 04-19-76 03-27-77 03-23-78	14.54 14.34 20.18 18.30	*6,760 *6,460 *18,000 13,400
07232550	South Fork tributary near Guymon, Okla.	Lat 36°40'06", long 101°29'54", in SW 1/4 NE 1/4 sec.1, T.2 N., R.14 E., Texas County, at multiple culvert on Chicago, Rock Island, and Pacific Railroad, 1.8 mi (2.9 km) southwest of junction of U.S. Highways 54 and 64 at Guymon.	.26	1964-78		<6.00	<4
07234050	North Fork Clear Creek tributary near Balko, Okla.	Lat 36°37'01", long 100°39'50", in SW 1/4 SW 1/4 sec.23, T.2 N., R.22 E., Beaver County, at multi-barrel culvert on State Highway 3, 1.5 mi (2.4 km) southeast of Balko.	4.22	1964-78	05-24-78	11.35	71
07234290	Clear Creek tributary near Catesby, Okla.	Lat 36°29'30", long 99°57'20", in SE 1/4 SW 1/4 sec.2, T.23 N., R.26 W., Ellis County, on downstream side of county road bridge, 0.1 mi (0.2 km) east of Catesby.	8.51	1966-78		<3.00	<77
07237750	Cottonwood Creek near Vici, Okla.	Lat 36°08'45", long 99°12'00", in SE 1/4 SW 1/4 sec.2, T.19 N., R.19 W., Dewey County, at bridge on U.S. Highway 60, 5.4 mi (8.7 km) east of Cici.	11.8	1964-78	05-27-78	6.04	166
07237800	Bent Creek near Seiling, Okla.	Lat 36°11'26", long 99°00'36", in NW 1/4 SE 1/4 sec.21, T.20 N., R.17 W., Woodward County, at bridge on U.S. Highway 183 and 270, 6 mi (10 km) northwest of Seiling.	139	1964-70† 1971-78			
07241880	Sand Creek near Cromwell, Okla.	Lat 35°20'56", long 96°29'40", in SE 1/4 SE 1/4 sec.7, T.10 N., R.8 E., Seminole County, at bridge on State Highway 99A, 2.2 mi (3.5 km) west of Cromwell.	9.48	1964-78	05-27-78	12.86	1,540
07242160	Alabama Creek near Weleetka, Okla.	Lat 35°21'40", long 96°08'55", in NW 1/4 NE 1/4 sec.9, T.10 N., R.11 E., Okfuskee County, at county road multi-barrel culvert, 2.0 miles north of Weleetka.	16.5	1965-74 1976-78	05-27-78	11.08	1,850
07242200	Deep Fork Portland Ave. at Oklahoma City, Okla.	Lat 35°30'06", long 97°34'58", in NW 1/4 sec.24, T.12 N., R.4 E., Oklahoma County at N.W. 31 St. and Portland in Oklahoma City	2.98	1973-78	05-27-78	8.5	1,250
07242220	Deep Fork Eastern Ave. at Okla. City, Okla.	Lat 35°32'05", long 97°28'35", on west line NW 1/4 sec.12, T.12 W., R.3 W., Oklahoma County, at bridge on Eastern Ave., 0.2 mi (.3 km) south of N.E. 63rd Street in Oklahoma City.	28.2	1975-78	11-02-74 07-15-76 05-20-77 05-27-78	32.2** 17.22 27.26 20.87	*15,000 *3,000 *9,630 4,820
07243550	Adams Creek near Beggs, Okla.	Lat 35°44'55", long 96°02'15", in NE 1/4 SE 1/4 sec.28, T.15 N., R.12 E., Okmulgee County, at county road bridge, 2.0 mi (3.2 km) northeast of Beggs.	5.90	1965-78	05-27-78	8.74	782
07246630	Big Black Fox Creek near Long, Okla.	Lat 35°31'15", long 94°37'10", in NE 1/4 NE 1/4 sec.14, T.12 N., R.25 E., Sequoyah County, at county road bridge, 2.3 mi (3.7 km) northwest of Long.	5.32	1964-78	08-02-76 03-23-78	9.58 7.64	*1,310 482

† operated as a continuous-record station

* revised

** not previously published

GROUND-WATER LEVELS

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ALFALFA COUNTY

365342096175301, LOCAL NUMBER, 28N-11N-27 DAD 1,
 LOCATION,--LAT 36 53'42", LONG 098 17'53", HYDROLOGIC UNIT 11060004, OWNER: BENNY WAGONER,
 AQUIFER,--TERRACE DEPOSITS,
 WELL CHARACTERISTICS,--DRILLED UNUSED STOCK WELL, DIAMETER 6 IN (0.15M), DEPTH 36 FT (11.0M),
 DATUM,--MEASURING POINT: TOP OF CASING 4.00 FT (1.22M) ABOVE LAND-SURFACE DATUM,
 REMARKS,--
 PERIOD OF RECORD,--1967 TO CURRENT YEAR,
 EXTREMES FOR PERIOD OF RECORD,--HIGHEST WATER LEVEL, 4.80 FT (1.463M) BELOW LAND-SURFACE
 DATUM, MARCH 20, 1975; LOWEST, 16.95 FT (5.166M) BELOW LAND-SURFACE DATUM, JUNE 10, 1972,

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

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1977	6.62	NOV 25, 1977	6.99	MAR 20, 1978	6.75	MAY 31, 1978	7.20
10	6.67	JAN 05, 1978	7.23	25	6.79	JUN 05	6.94
15	6.75	10	7.31	31	6.71	10	6.85
20	6.75	15	7.26	APR 05	6.66	JUL 05	7.04
25	6.85	20	7.28	MAY 05	7.01	10	7.11
31	6.88	25	7.27	10	7.05	15	7.28
NOV 05	6.93	31	7.34	15	7.12	AUG 05	7.47
10	6.97	FEB 05	7.37	20	7.26	10	7.54
20	7.04	MAR 15	6.79	25	7.32	SEP 30	7.91

WTR YEAR 1978 MAX 6.62 OCT 5, 1977 MIN 7.91 SEPT 30, 1978

BEAVER COUNTY

363853100311001, LOCAL NUMBER, 02N-24E-07 CCD 1.
 LOCATION,--LAT 36 38'53", LONG 100 31'10", HYDROLOGIC UNIT 11100201, OWNER: JAMES W. PARKER,
 AQUIFER,--OGALLALA FORMATION,
 WELL CHARACTERISTICS,--DRILLED STOCK WELL, DIAMETER 6 IN (0.15M), DEPTH 94 FT (28.7M),
 DATUM,--MEASURING POINT: HIGHEST POINT ON NORTH SIDE OF CASING 0.50 FT (0.15M) ABOVE LAND-SURFACE
 DATUM,
 REMARKS,--
 PERIOD OF RECORD,--1946, 1967 TO CURRENT YEAR,
 EXTREMES FOR PERIOD OF RECORD,--HIGHEST WATER LEVEL, 71.96 (21.933M) BELOW LAND-SURFACE
 DATUM, JAN. 12, 1971; LOWEST, 81.35 FT (24.79M) BELOW LAND-SURFACE DATUM, MARCH 1, 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 13, 1977	76.89	MAR 01, 1978	81.35	APR 18, 1978	79.70	JUL 20, 1978	76.55

WTR YEAR 1978 MAX 76.55 JULY 20, 1978 MIN 81.35 MAR 1, 1978

CIMARRON COUNTY

364450102190001, LOCAL NUMBER, 03N-07E-09 BBB 1.
 LOCATION,--LAT 36 44'50", LONG 102 19'00", HYDROLOGIC UNIT 11100101, OWNER: ELMER J. BEHRENDT,
 AQUIFER,--OGALLALA FORMATION,
 WELL CHARACTERISTICS,--DRILLED UNUSED STOCK WELL, DIAMETER 6 IN (0.15M), DEPTH 61 FT (18.6M),
 DATUM,--MEASURING POINT: TOP OF CASING ON SOUTH SIDE 3.50 FT (1.07M) ABOVE LAND-SURFACE DATUM,
 REMARKS,--
 PERIOD OF RECORD,--1938 TO CURRENT YEAR,
 EXTREMES FOR PERIOD OF RECORD,--HIGHEST WATER LEVEL, 28.50 FT (8.687M) BELOW LAND-SURFACE
 DATUM, JAN. 12, 1977; LOWEST, 32.41 FT (9.879M) BELOW LAND-SURFACE DATUM, FEB. 13 1969.

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 13, 1977	28.61	JAN 19, 1978	30.08	JUN 13, 1978	30.75	AUG 16, 1978	30.45

WTR YEAR 1978 MAX 28.61 OCT 13, 1977 MIN 30.75 JUNE 13, 1978

GROUND-WATER LEVELS
CLEVELAND COUNTY

350136097203001, LOCAL NUMBER, 06N-01W-06 DAD 1.
LOCATION,--LAT 35 01'36", LONG 097 20'30", HYDROLOGIC UNIT 11090202, OWNER: U.S. GEOLOGICAL SURVEY.
AQUIFER,--ALLUVIUM.
WELL CHARACTERISTICS,--DRILLED WELL DIAMETER 1-1/4 IN (0.03M), DEPTH 23 FT (7.01M).
DATUM,--MEASURING POINT: TOP OF CASING 1.40 FT (0.43M) ABOVE LAND-SURFACE DATUM.
REMARKS,--
PERIOD OF RECORD,--1947 TO CURRENT YEAR.
EXTREMES FOR PERIOD OF RECORD,--HIGHEST WATER LEVEL, 1.77 FT (0.539M) BELOW LAND-SURFACE
DATUM, JAN. 25 1960; LOWEST, 16.21 FT (4.94M) BELOW LAND-SURFACE DATUM, SEPT. 5, 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 06, 1977	14.74	MAY 04, 1978	14.75	AUG 02, 1978	15.27	SEP 05, 1978	16.21
WTR YEAR 1978 MAX 14.74 OCT 6, 1977 MIN 16.21 SEPT 5, 1978							

350616097233101, LOCAL NUMBER, 08N-02W-27 ACD 1.
LOCATION,--LAT 35 08'16", LONG 097 23'31", HYDROLOGIC UNIT 11090202, OWNER: TOWN OF NOBLE.
AQUIFER,--GARBER SANDSTONE.
WELL CHARACTERISTICS,--DRILLED UNUSED WELL, DIAMETER 12 IN (0.30M) REDUCED TO 8 IN (0.20M), DEPTH 461 FT (141M).
DATUM,--MEASURING POINT: TOP OF 1-IN (0.03M) PIPE CEMENTED OVER CASING 1.40 FT (0.43M) ABOVE LAND-SURFACE DATUM.
REMARKS,--PERFORATIONS 235-245 FT (71.6M-74.7M) AND 415-455 FT (126M-139M).
PERIOD OF RECORD,--1943 TO CURRENT YEAR.
EXTREMES FOR PERIOD OF RECORD,--HIGHEST WATERWATER LEVEL, 165.43 FT (50.423M) BELOW LAND-SURFACE
DATUM, JULY 7, 1943; LOWEST, 221.74 FT (67.586M) BELOW LAND-SURFACE DATUM BELOW LAND-SURFACE
DATUM, DEC. 23, 1948.

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
MAY 05, 1978	195.39	AUG 02, 1978	200.75	SEP 05, 1978	201.23		
WTR YEAR 1978 MAX 195.39 MAY 5, 1978 MIN 201.23 SEPT 5, 1978							

351222097245901, LOCAL NUMBER, 06N-02W-09 BBA 1.
LOCATION,--LAT 35 12'35", LONG 097 24'59", HYDROLOGIC UNIT, OWNER: U.S. NAVY.
AQUIFER,--GARBER SANDSTONE.
WELL CHARACTERISTICS,--DRILLED UNUSED WELL, DIAMETER 13 IN (0.33M) REDUCED TO 11 IN (0.28M), DEPTH 545 FT (166M).
DATUM,--MEASURING POINT: TOP OF CASING 0.40 FT (0.12M) ABOVE LAND-SURFACE DATUM.
REMARKS,--
PERIOD OF RECORD,--1951-52, 1955 TO CURRENT YEAR.
EXTREMES FOR PERIOD OF RECORD,--HIGHEST WATER LEVEL, 166.04 FT (50.609M) BELOW LAND-SURFACE
DATUM, MARCH 25, 1952; LOWEST 194.09 FT (59.139M) BELOW LAND-SURFACE DATUM SEPT. 5, 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 06, 1977	184.22	MAY 03, 1978	180.70	SEP 05, 1978	194.09		
FEB 02, 1978	183.62	AUG 02	192.96				
WTR YEAR 1978 MAX 180.70 MAY 3, 1978 MIN 194.09 SEPT 5, 1978							

GROUND-WATER LEVELS

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CLEVELAND COUNTY--Continued

351357097241901, LOCAL NUMBER, 09N-02W-27 B88 1,
 LOCATION,--LAT 35 13'57", LONG 097 24'19", HYDROLOGIC UNIT 11090203, OWNER: CITY OF NURMAN,
 AQUIFER,--GARBER WELLINGTON FORMATION,
 WELL CHARACTERISTICS,--DRILLED UNUSED PUBLIC SUPPLY WELL, DIAMETER 6 IN (0.51M),
 DEPTH 602 FT (183.49M),
 DATUM,--MEASURING POINT: TOP OF HOLE IN PLYWOOD SHELF, 3.00 FT (0.91M) ABOVE LAND-SURFACE DATUM.
 REMARKS,--
 PERIOD OF RECORD,--1977 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD,--HIGHEST WATER LEVEL, 229.66 FT (70.000M) BELOW LAND-SURFACE
 DATUM, JUNE 5, 1977; LOWEST 254.99 FT (77.721M) 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	244.90	MAR 15, 1978	230.92	JUN 10, 1978	233.81	AUG 05, 1978	250.00
10	244.99	20	230.35	15	233.76	SEP 05	247.81
DEC 31	238.64	25	230.60	20	234.30	10	248.35
JAN 05, 1978	237.31	31	236.80	25	235.40	15	247.37
10	236.47	MAY 10	237.39	30	235.97	20	248.29
15	237.64	15	236.40	JUL 10	240.70	25	248.26
20	235.52	20	235.27	15	246.90	30	246.96
25	235.08	25	234.91	20	251.40		
MAR 05	230.11	31	234.54	25	254.99		
10	230.98	JUN 05	233.70	31	253.67		

WTR YEAR 1978 MAX 230.11 MAR 5, 1978 MIN 254.99 JULY 25, 1978

CREEK COUNTY

355510096293501, LOCAL NUMBER, 17N-08E-30 C88 1.
 LOCATION,--LAT 35 55'10", LONG 096 29'35", HYDROLOGIC UNIT 11100303, OWNER: EVERETT MATHERLY.
 AQUIFER,--VANDUSA FORMATION.
 WELL CHARACTERISTICS,--DRILLED UNUSED STOCK WELL, DIAMETER 6 IN (0.15M), DEPTH 58 FT (17.7M).
 DATUM,--MEASURING POINT: BASE OF RECORDER SHELTER 1.00 FT (0.30M) ABOVE LAND-SURFACE DATUM.
 REMARKS,--RECORDER SITE.
 PERIOD OF RECORD,--1969 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD,--HIGHEST WATER LEVEL, 34.30 FT (10.455M) BELOW LAND-SURFACE
 DATUM, JUNE 5, 1975; LOWEST, 42.77 FT (13.036M) BELOW LAND-SURFACE DATUM, MAY 12, 1970.

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	39.47	JAN 05, 1978	39.56	MAR 31, 1978	39.46	JUL 05, 1978	37.98
10	39.50	10	40.09	APR 05	39.37	10	38.03
15	39.62	15	39.67	10	39.41	15	37.94
20	39.29	20	39.85	15	39.40	20	38.05
25	39.41	25	39.70	20	39.49	25	38.10
31	39.13	31	39.97	25	39.59	31	38.14
NOV 05	39.50	FEB 01	40.13	30	39.06	AUG 05	38.35
10	39.79	05	40.13	MAY 05	39.06	15	38.18
15	39.19	10	39.78	10	38.91	15	38.27
20	39.76	15	39.86	15	38.70	20	38.58
25	39.69	20	39.85	20	38.90	25	38.46
30	39.48	25	39.85	25	38.73	31	38.66
DEC 05	39.93	28	39.68	31	38.56	SEP 05	38.55
10	40.08	MAR 05	39.76	JUN 10	38.33	10	38.64
15	39.33	10	39.39	15	38.20	15	38.75
20	39.84	15	39.90	20	38.17	20	38.98
25	39.91	20	39.50	25	37.90	25	39.00
31	39.82	25	39.74	30	38.02	30	39.04

WTR YEAR 1978 MAX 37.90 JUNE 25, 1978 MIN 40.13 FEB 1, 5, 1978

GROUND-WATER LEVELS

CUSTER COUNTY

354112098430601. LOCAL NUMBER, 14N-14W-17 CBD 1.
 LOCATION.--LAT 35 41'12", LONG 098 43'06", HYDROLOGIC UNIT 11090201, OWNER: MELT HERRONG.
 AQUIFER.--RUSH SPRINGS FORMATION.
 WELL CHARACTERISTICS.--DRILLED UNUSED IRRIGATION WELL, DIAMETER 16 IN (0.41M), DEPTH 320 FT (97.5M).
 DATUM.--MEASURING POINT: TOP OF WOOD RECORDER BASE 0.40 FT (0.12M) ABOVE LAND-SURFACE.
 DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1971 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 24.59 FT (7.495M) BELOW LAND-SURFACE
 DATUM, JULY 5, 1975; LOWEST, 30.08 FT (9.168M) BELOW LAND-SURFACE DATUM SEPT. 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	27.32	DEC 20, 1977	27.45	MAR 20, 1978	27.55	MAY 31, 1978	27.64
10	27.42	25	27.45	25	27.61	JUN 05	27.53
15	27.48	31	27.46	31	27.58	10	27.45
20	27.45	JAN 05, 1978	27.43	APR 05	27.63	15	27.40
25	27.48	31	27.46	10	27.62	JUL 10	27.87
31	27.42	FEB 05	27.49	15	27.61	15	28.56
NOV 05	27.43	10	27.45	20	27.64	20	28.58
10	27.46	15	27.46	25	27.67	25	28.82
15	27.36	20	27.49	30	27.63	31	29.01
20	27.44	25	27.51	MAY 05	27.67	AUG 05	28.60
25	27.42	28	27.51	10	27.71	SEP 15	28.55
30	27.38	MAR 05	27.47	15	27.72	20	28.58
DEC 10	27.45	10	27.50	20	27.79	25	28.58
15	27.37	15	27.56	25	27.81	30	28.57

WTR YEAR 1978 MAX 27.32 OCT 5, 1977

MIN 29.01 JULY 31, 1978

ELLIS COUNTY

361536099464601. LOCAL NUMBER, 21N-24W-33 BBD 1.
 LOCATION.--LAT 36 15'36", LONG 099 46'46", HYDROLOGIC UNIT 11100203, OWNER:
 AQUIFER.--RUSH SPRINGS FORMATION.
 WELL CHARACTERISTICS.--DRILLED STOCK WELL, DIAMETER 5 IN (0.13M), DEPTH 205 FT (62.5M).
 DATUM.--MEASURING POINT: TOP OF WOODEN RECORDER BASE 3.10 FT (0.94M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--APR. 1977 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 82.15 FT (25.039M) BELOW LAND-SURFACE
 DATUM, JUNE 15, 1978; LOWEST, 84.40 FT (25.725M) BELOW LAND-SURFACE DATUM, APR. 15, 1977.

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	82.97	FEB 10, 1978	82.28	APR 30, 1978	82.75	JUL 25, 1978	82.95
10	82.88	15	82.30	MAY 05	82.45	31	82.99
15	82.90	20	82.35	10	82.54	AUG 05	82.94
20	82.70	25	82.30	15	82.20	10	83.02
25	82.74	28	82.19	20	82.53	15	83.07
31	83.00	MAR 05	82.22	25	82.41	20	83.11
NOV 05	82.98	10	82.17	31	82.29	25	83.29
10	82.87	15	82.29	JUN 05	82.32	31	83.12
15	82.56	20	82.19	10	82.16	SEP 05	82.76
20	82.63	25	82.27	15	82.15	10	82.63
25	82.64	31	82.20	20	82.31	15	82.61
30	82.60	APR 05	82.18	30	82.39	20	82.68
DEC 05	82.62	10	82.27	JUL 05	82.40	25	82.74
10	82.66	15	82.33	10	82.69	30	82.46
JAN 31, 1978	82.46	20	82.49	15	82.63		
FEB 05	82.51	25	82.66	20	82.74		

WTR YEAR 1978 MAX 82.15 JUNE 15, 1978

MIN 83.29 AUG 25, 1978

GROUND-WATER LEVELS

495

ELLIS COUNTY -- CONTINUED

363235099592801, LOCAL NUMBER, 24N-26W-21 CAA 1.
 LOCATION.--LAT 36 32'35", LONG 099 59'28", HYDROLOGIC UNIT 11100201, OWNER: MINER.
 AQUIFER.--OGALLALA FORMATION.
 WELL CHARACTERISTICS.--DRILLED UNUSED WELL, DIAMETER 5 IN (0.13M), DEPTH 120 FT (36.6M).
 DATUM.--MEASURING POINT: TOP EDGE OF PLYWOOD SHELTER BASE 1.50 FT (0.46M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1972 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 30.11 FT (9.17M) BELOW LAND-SURFACE
 DATUM, MAY 10, 1974; LOWEST, 33.25 FT (10.135M) BELOW LAND-SURFACE DATUM, OCT. 25, 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	31.43	JAN 31, 1978	31.56	APR 25, 1978	31.61	JUL 25, 1978	31.33
10	31.48	FEB 05	31.57	30	31.58	31	31.41
15	31.49	10	31.55	MAY 05	31.61	AUG 05	31.50
NOV 15	31.49	15	31.52	10	31.61	10	31.54
20	31.56	20	31.53	15	31.62	15	31.59
25	31.53	25	31.53	20	31.67	20	31.64
30	31.50	28	31.53	25	31.68	25	31.70
DEC 05	31.55	MAR 05	31.51	31	31.58	31	31.78
10	31.55	10	31.53	JUN 05	31.46	SEP 05	31.84
15	31.49	15	31.57	10	31.27	10	31.91
20	31.55	20	31.55	15	31.12	15	31.96
25	31.54	25	31.57	20	31.07	20	32.03
31	31.55	31	31.55	25	31.02	25	32.05
JAN 05, 1978	31.51	APR 05	31.55	30	31.04	30	32.10
10	31.54	10	31.59	JUL 05	31.08		
20	31.56	15	31.58	10	31.18		
25	31.54	20	31.60	20	31.28		

WTR YEAR 1978 MAX 31.02 JUNE 25, 1978 MIN 32.10 SEPT 30, 1978

KAY COUNTY

364210097025401, LOCAL NUMBER, 26N-02E-26 RDD 1.
 LOCATION.--LAT 36 42'10", LONG 097 02'54", HYDROLOGIC UNIT 11060001, OWNER: CITY OF PONCA CITY.
 AQUIFER.--ALLUVIUM.
 WELL CHARACTERISTICS.--DUG PUBLIC SUPPLY WELL, NUMBER 5, DIAMETER 30 IN (0.76M), DEPTH 38 FT (11.6M).
 DATUM.--MEASURING POINT: BOTTOM OF NUMBER AT PUMP BASE OPENING 6.70 FT (2.04M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1948 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, +3.30 FT (+1.006M) ABOVE LAND-SURFACE
 DATUM, AUG. 11, 1976; LOWEST, 29.13 FT (8.879M) BELOW LAND-SURFACE DATUM, FEB. 24, 1955.

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	13.10	FEB 01, 1978	8.62	APR 26, 1978	8.05	JUL 19, 1978	8.30
12	13.05	08	8.10	MAY 03	7.95	26	8.80
19	13.00	15	8.05	10	7.80	AUG 02	8.80
NOV 01	12.95	22	8.05	17	8.20	09	9.40
09	12.10	MAR 01	8.05	24	8.20	16	9.75
16	12.05	08	8.05	31	7.70	23	10.10
23	12.05	15	8.10	JUN 07	7.70	30	10.20
30	12.10	22	7.95	14	7.60	SEP 06	12.80
JAN 04, 1978	14.05	29	7.95	21	7.65	13	12.80
11	13.80	APR 05	7.95	28	7.65	20	12.70
18	12.98	12	8.05	JUL 05	7.70	27	12.75
25	12.98	19	8.05	12	8.10		

WTR YEAR 1978 MAX 7.60 JUNE 14, 1978 MIN 14.05 JAN 4, 1978

GROUND-WATER LEVELS

LE FLORE COUNTY

350934094332101, LOCAL NUMBER, 08N-26E-22 BRB 2.
 LOCATION.--LAT 35 09'34", LONG 094 33'21", HYDROLOGIC UNIT 11110104, OWNER: FLOYD SPICER.
 AQUIFER.--
 WELL CHARACTERISTICS.--DRILLED UNUSED WELL, DIAMETER 6 IN (0.15M), DEPTH 74 FT (22.6M).
 DATUM.--MEASURING POINT: TOP OF CASING 1.10 FT (0.34M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1977 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 3.80 FT (1.158M) BELOW LAND-SURFACE
 DATUM, MARCH 31, 1977; LOWEST 16.81 FT (5.124M) BELOW LAND-SURFACE DATUM, JAN 10, 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	15.69	DEC 20, 1977	16.60	MAR 05, 1978	11.55	MAY 20, 1978	9.58
10	15.65	25	16.67	10	9.97	25	10.81
15	15.86	31	16.48	15	9.95	31	11.28
20	15.68	JAN 05, 1978	16.51	20	10.43	JUN 05	10.64
25	15.86	10	16.81	25	9.36	10	10.61
31	16.10	15	16.71	31	8.51	15	11.27
NOV 05	16.31	20	16.65	APR 05	9.39	20	11.71
10	16.50	25	16.37	10	8.57	30	12.44
15	16.24	31	16.16	15	8.55	JUL 31	14.62
20	16.38	FEB 05	16.07	20	10.11	AUG 05	14.77
25	16.47	10	15.80	25	10.90	15	14.90
30	16.40	15	15.47	30	10.95	31	15.83
DEC 05	16.50	20	14.48	MAY 05	10.55	SEP 20	16.45
10	16.75	25	13.80	10	9.00	25	16.51
15	16.34	28	13.51	15	8.90	30	16.44

WTR YEAR 1978 MAX 8.51 MAR 31, 1978 MIN 16.81 JAN 10, 1978

351119094432101, LOCAL NUMBER, 08N-24E-12 ARA 1.
 LOCATION.--LAT 35 11'19", LONG 094 43'21", HYDROLOGIC UNIT 11110105, OWNER: CLIFF TACKETT.
 AQUIFER.--
 WELL CHARACTERISTICS.--DRILLED UNUSED WELL, DIAMETER 6 IN (0.15M), DEPTH 331 FT (100.9M).
 DATUM.--MEASURING POINT: TOP OF CASING 0.80 FT (0.24M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1977 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 7.86 FT (2.395M) BELOW LAND-SURFACE
 DATUM, MARCH 31, 1978; LOWEST, 13.77 FT (4.197M) BELOW LAND-SURFACE DATUM JUNE 5, 1977.

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	11.85	DEC 15, 1977	10.80	FEB 25, 1978	9.35	MAY 31, 1978	9.01
10	11.58	20	10.89	28	10.28	JUN 30	9.40
15	11.84	25	11.21	MAR 05	9.20	JUL 05	9.87
20	11.69	31	11.39	10	8.89	10	11.71
25	12.01	JAN 05, 1978	11.48	15	8.90	31	13.15
31	12.19	10	11.64	20	8.70	AUG 05	11.82
NOV 05	11.95	15	11.61	31	7.86	10	13.37
10	11.73	20	11.32	APR 05	8.23	15	12.77
15	11.28	25	10.62	10	8.14	31	13.60
20	11.34	31	10.52	15	7.98	SEP 05	13.61
25	11.51	FEB 05	10.60	20	8.23	10	13.50
30	11.52	10	10.34	25	9.04	15	13.59
DEC 05	11.10	15	9.81	30	8.84	30	13.73
10	11.20	20	9.60	MAY 25	8.82		

WTR YEAR 1978 MAX 7.86 MAR 31, 1978 MIN 13.73 SEPT 30, 1978

GROUND-WATER LEVELS

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LINCOLN COUNTY

354442096400801, LOCAL NUMBER, 15N-06E-29 AAA 1.
 LOCATION.--LAT 35 44'42", LONG 096 40'08", HYDROLOGIC UNIT 11100303, OWNER: CITY OF STROUD.
 AQUIFER.--VAMOOSA FORMATION.
 WELL CHARACTERISTICS.--DRILLED UNUSED PUBLIC SUPPLY WELL, DIAMETER 6 IN (0.15M), DEPTH 339 FT (103.3M).
 DATUM.--MEASURING POINT: TOP OF CASING 1.00 FT (0.30M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1977 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 171.58 FT (52.280M) BELOW LAND-SURFACE DATUM, APRIL 20, 1977, SEPT. 30, 1978; LOWEST 184.01 FT (56.068M) BELOW LAND-SURFACE DATUM, NOV. 10, 1977

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	181.60	DEC 31, 1977	181.99	MAR 31, 1978	179.76	JUL 15, 1978	173.53
10	181.65	JAN 05, 1978	181.25	APR 05	178.62	20	170.66
15	181.65	10	182.22	15	177.63	25	173.85
20	181.48	15	181.74	MAY 10	175.19	31	173.38
25	182.16	20	182.25	15	174.71	AUG 05	174.10
31	182.05	25	182.15	20	174.83	10	173.08
NOV 10	184.01	31	181.70	25	174.37	15	172.87
15	182.50	FER 05	181.50	31	173.88	20	173.28
20	182.92	10	181.89	JUN 05	173.67	25	173.47
25	182.33	15	182.18	10	174.13	31	172.65
30	182.60	20	181.87	15	174.05	SEP 05	173.41
DEC 05	181.67	25	181.01	20	173.91	10	172.28
10	182.83	28	180.32	25	173.68	15	171.86
15	182.00	MAR 15	180.53	30	173.32	20	171.71
20	181.85	20	180.45	JUL 05	172.99	25	171.78
25	181.55	25	180.13	10	173.40	30	171.58

WTR YEAR 1978 MAX 171.58 SEPT 30, 1978 MIN 184.01 NOV 10, 1977

MAJOR COUNTY

361442098092801, LOCAL NUMBER, 20N-09W-04 AAA 1.
 LOCATION.--LAT 36 14'42", LONG 098 09'28", HYDROLOGIC UNIT 11050002, OWNER: RUSS M. STURGEON.
 AQUIFER.--TERRACE DEPOSITS.
 WELL CHARACTERISTICS.--DRILLED UNUSED WELL, DIAMETER 6 IN (0.15M), DEPTH 60 FT (18.3M).
 DATUM.--MEASURING POINT: 2.00 FT (0.61M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1965 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 6.54 FT (1.993M) BELOW LAND-SURFACE DATUM, JUNE 20, 1975; LOWEST, 25.97 FT (7.916M) BELOW LAND-SURFACE DATUM, SEPT. 15, 1971.

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	14.98	JAN 31, 1978	15.26	MAY 25, 1978	15.73	JUL 25, 1978	17.33
10	14.99	FEB 05	15.54	31	15.65	31	16.68
15	15.05	MAR 10	15.54	JUN 05	15.58	AUG 05	17.43
20	14.91	15	15.74	10	15.48	10	17.18
25	15.48	20	15.61	15	15.46	15	16.73
31	15.46	25	15.73	20	15.53	31	17.38
NOV 10	15.23	31	15.65	25	15.37	SEP 05	17.01
15	15.98	APR 05	15.68	30	16.19	10	18.04
JAN 10, 1978	15.02	MAY 05	15.79	JUL 05	16.65	20	17.73
15	15.00	10	15.76	10	16.74	25	17.29
20	15.05	15	15.61	15	17.06	30	17.18
25	15.13	20	15.73	20	17.38		

WTR YEAR 1978 MAX 14.91 OCT 20, 1977 MIN 18.04 SEPT 10, 1978

MUSKOGEE COUNTY

354613095161001, LOCAL NUMBER, 15N-19E-15 DDD 1.
 LOCATION.--LAT 35 46'13", LONG 095 16'10", HYDROLOGIC UNIT 11110102, OWNER: U.S. GEOLOGICAL SURVEY.
 AQUIFER.--ALLUVIUM.
 WELL CHARACTERISTICS.--DRILLED UNUSED WELL, DIAMETER 1 1/4 IN (0.03M), DEPTH 29 FT (8.84M).
 DATUM.--MEASURING POINT: TOP OF PIPE 2.55 FT (0.78M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1958, 1974 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 6.24 FT (1.902M) BELOW LAND-SURFACE DATUM, MAY 26, 1975; LOWEST, 10.98 FT (3.347M) BELOW LAND-SURFACE DATUM, AUG. 21, 1974.

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
NOV 29, 1977	13.44	MAY 25, 1978	11.17	SEP 27, 1978	14.09		
FEB 28, 1978	13.17	AUG 29	12.90				

WTR YEAR 1978 MAX 11.17 MAY 25, 1978 MIN 14.09 SEPT 27, 1978

GROUND-WATER LEVELS

OKLAHOMA COUNTY

352355097340201. LOCAL NUMBER, 11N-04W-25 ACD 1.
 LOCATION.--LAT 35 23'55", LONG 097 34'02", HYDROLOGIC UNIT 11100302, OWNER: CITY OF OKLAHOMA CITY.
 AQUIFER.--GARBER SANDSTONE.
 WELL CHARACTERISTICS.--DRILLED UNUSED PUBLIC SUPPLY WELL, DIAMETER 8 IN (0.20M), DEPTH 500 FT (152.4M).
 DATUM.--MEASURING POINT: TOP OF CASING 0.40 FT (0.24M) ABOVE LAND-SURFACE DATUM.
 PERIOD OF RECORD.--1977 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 196.46 FT (59.911M) BELOW LAND-SURFACE DATUM, JUNE 10, 1977; LOWEST, 310.65 FT (94.655M) BELOW LAND-SURFACE DATUM, AUG. 2, 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 10, 1977	297.99	NOV 30, 1977	300.90	DEC 25, 1977	299.91	JUL 05, 1978	307.20
NOV 10	302.82	DEC 05	300.59	31	299.60	AUG 02	310.65
15	301.96	10	300.55	APR 10, 1978	299.85		
20	301.55	15	299.99	MAY 03	300.58		
25	301.14	20	299.99	JUN 05	301.90		

WTR YEAR 1978 MAX 297.99 OCT 10, 1977 MIN 310.65 AUG 2, 1978

352448097263201. LOCAL NUMBER, 11N-02W-19 DDA 1.
 LOCATION.--LAT 35 24'48", LONG 097 26'32", HYDROLOGIC UNIT 11100302, OWNER: CITY OF OKLAHOMA CITY.
 AQUIFER.--GARBER SANDSTONE.
 WELL CHARACTERISTICS.--DRILLED UNUSED WELL, DIAMETER 8 IN (0.20M), DEPTH 304 FT (92.7M).
 DATUM.--MEASURING POINT: 1.0 FT (0.30M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1976 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 138.00 FT (42.06M) BELOW LAND-SURFACE DATUM, FEB. 29, 1976; LOWEST, 143.26 FT (43.65M) BELOW LAND-SURFACE DATUM, AUG. 31, 1976, OCT. 15, 1977.

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	142.34	DEC 31, 1977	141.95	MAR 20, 1978	140.01	JUN 15, 1978	140.82
15	143.26	JAN 05, 1978	141.20	25	140.12	20	140.49
20	142.51	10	141.18	31	140.51	25	140.24
25	142.20	15	140.84	APR 05	140.22	30	140.79
31	141.43	20	140.78	10	139.84	JUL 05	140.30
NOV 05	141.42	25	140.62	15	139.95	10	140.55
10	141.32	31	140.81	20	140.08	15	141.00
15	141.53	FEB 05	141.10	25	140.19	20	141.30
20	142.10	10	140.58	30	140.40	25	141.45
25	142.15	15	140.58	MAY 05	140.42	31	141.50
30	142.45	20	140.39	10	139.93	AUG 05	141.40
DEC 05	142.00	25	140.50	15	139.80	10	141.85
10	142.35	28	140.29	20	140.29	15	141.78
15	142.25	MAR 05	139.58	25	140.41	20	142.72
20	142.38	10	139.68	31	140.15	25	142.05
25	142.45	15	139.98	JUN 10	140.57	31	142.01

WTR YEAR 1978 MAX 139.58 MAR 5, 1978 MIN 143.26 OCT 15, 1977

352449097293201. LOCAL NUMBER, 11N-03W-23 BCD 1.
 LOCATION.--LAT 35 24'49", LONG 097 29'32", HYDROLOGIC UNIT 11100302, OWNER: CITY OF OKLAHOMA CITY.
 AQUIFER.--GARBER SANDSTONE.
 WELL CHARACTERISTICS.--DRILLED UNUSED WELL, DIAMETER 8 IN (0.20M), DEPTH 26 FT (7.92M).
 DATUM.--MEASURING POINT: TOP OF CASING 0.5 FT (0.15M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1976 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 111.46 FT (33.973M) BELOW LAND-SURFACE DATUM, FEB. 20, 1976; LOWEST, 114.20 FT (34.808M) BELOW LAND-SURFACE DATUM, DEC. 5, 10, 1976.

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	112.90	DEC 25, 1977	112.85	MAR 10, 1978	111.78	MAY 31, 1978	111.90
15	113.00	31	112.90	20	111.98	JUL 05	111.60
20	112.59	JAN 05, 1978	111.53	25	112.38	10	111.53
25	112.72	10	112.18	31	112.28	15	111.56
31	112.39	15	111.82	APR 05	112.21	20	111.64
NOV 05	112.79	20	112.08	10	112.22	25	111.70
10	113.07	25	111.89	15	112.16	31	111.68
15	112.44	31	112.29	20	112.31	AUG 05	111.91
20	112.92	FEB 05	112.49	25	112.47	10	111.76
25	112.83	10	112.05	30	111.89	15	111.66
30	112.69	15	112.05	MAY 05	111.89	25	111.76
DEC 05	112.85	20	112.22	10	112.31	31	111.86
10	113.14	25	112.13	15	111.81		
15	112.85	28	111.92	20	112.19		
20	112.82	MAR 05	111.98	25	112.09		

WTR YEAR 1978 MAX 111.53 JAN 5, JULY 10, 1978 MIN 113.14 DEC 10, 1977

GROUND-WATER LEVELS

499

OKLAHOMA COUNTY -- CONTINUED

352705097281201. LOCAL NUMBER, 11N-03W-01 CDD 1.
 LOCATION.--LAT 35 27'05", LONG 097 28'12", HYDROLOGIC UNIT 11100302, OWNER: OKLAHOMA CITY.
 AQUIFER.--GARBER SANDSTONE.
 WELL CHARACTERISTICS.--DRILLED UNUSED WELL, DIAMETER 8 IN (0.20M), DEPTH 354 FT (108M).
 DATUM.--MEASURING POINT: TOP OF CASING 1.3 FT (0.40M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1976 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.-- HIGHEST WATER LEVEL, 208.82 FT (63.65M) BELOW LAND-SURFACE
 DATUM, JUNE 15, 1976; LOWEST, 216.28 FT (65.92M) BELOW LAND-SURFACE DATUM, AUG. 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
OCT 10, 1977	212.71	DEC 10, 1977	212.75	APR 05, 1978	212.01	JUL 10, 1978	211.50
15	212.89	15	212.95	10	211.77	15	212.92
20	212.42	FEB 05, 1978	212.72	15	211.69	AUG 05	214.62
25	212.40	10	212.13	20	211.72	10	214.30
31	211.92	15	211.81	25	211.70	15	214.15
NOV 05	212.15	25	211.31	30	211.00	20	214.75
10	212.48	28	211.00	MAY 05	211.00	25	215.29
15	212.09	MAR 05	211.05	10	211.28	31	216.28
20	212.72	10	210.60	15	210.95	SEP 10	215.90
25	212.76	20	212.65	20	211.20	15	216.12
30	212.61	25	212.55	25	211.00		
DEC 05	213.20	31	212.24	31	210.81		

WTR YEAR 1978 MAX 210.60 MAR 10, 1978 MIN 216.28 AUG 31, 1978

352725097224701. LOCAL NUMBER, 11N-02W-02 BDD 1.
 LOCATION.--LAT 35 27'25", LONG 097 22'47", HYDROLOGIC UNIT 11100302, OWNER: MIDWEST CITY, WELL NO. 49.
 AQUIFER.--GARBER SANDSTONE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 11 IN (3.35M), DEPTH 274 FT (83.5M).
 DATUM.--MEASURING POINT: TOP OF CONCRETE SLAB 1.5 FT (0.46M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--MEASURE WITH AIRLINE GAGE; AIRLINE IS SET AT 562 FT (171M) BELOW LAND-SURFACE DATUM.
 PERIOD OF RECORD.--1976 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.-- HIGHEST WATER LEVEL, 190.00 FT (57.91M) BELOW LAND-SURFACE
 DATUM, JUNE 9, 1977; LOWEST, 257.00 FT (78.33M) BELOW LAND-SURFACE DATUM, JULY 16, 1976.

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 06, 1977	206.00	APR 04, 1978	209.00	JUN 06, 1978	202.00		
MAR 06, 1978	229.00	MAY 03	206.00				

WTR YEAR 1978 MAX 202.00 JUNE 6, 1978 MIN 229.00 MAR 6, 1978

352750097223001. LOCAL NUMBER, 11N-02W-02 ABA 1.
 LOCATION.--LAT 35 27'50", LONG 097 22'30", HYDROLOGIC UNIT 11100302, OWNER: MIDWEST CITY, WELL NO. 50.
 AQUIFER.--GARBER SANDSTONE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 11 IN (3.35M), DEPTH 751 FT (229M).
 DATUM.--MEASURING POINT: TOP CONCRETE SLAB 1.5 FT (0.46M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--MEASURE WITH AIRLINE GAGE, AIRLINE IS SET AT 580 FT (177M) BELOW LAND-SURFACE DATUM.
 PERIOD OF RECORD.--1976 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.-- HIGHEST WATER LEVEL, 210.00 FT (64.010M) BELOW LAND-SURFACE
 DATUM, JUNE 9, 1977; LOWEST, 326.00 FT (99.36M) BELOW LAND-SURFACE DATUM, JAN. 4, 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 06, 1977	275.00	FEB 02, 1978	314.00	APR 04, 1978	227.00	JUN 06, 1978	217.00
JAN 04, 1978	326.00	MAR 06	277.00	MAY 03	229.00	AUG 02	296.00

WTR YEAR 1978 MAX 217.00 JUNE 6, 1978 MIN 326.00 JAN 4, 1978

GROUND-WATER LEVELS

OKLAHOMA COUNTY -- CONTINUED

352910097232001, LOCAL NUMBER, 12N-02W-26 C88 1.
 LOCATION.--LAT 35 29'10", LONG 097 23'20", HYDROLOGIC UNIT 11100302, OWNER: MIDWEST CITY, WELL NO. 51.
 AQUIFER.--GARBER SANDSTONE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 11 IN (3.35M), DEPTH 748 FT (228M).
 DATUM.--MEASURING POINT: TOP OF CONCRETE SLAB 1.5 FT (0.46M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--MEASURE WITH AIRLINE GAGE, AIRLINE IS SET AT 578 FT (176M) BELOW LAND-SURFACE DATUM.
 PERIOD OF RECORD.--1976 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 201.00 FT (61.26M) BELOW LAND-SURFACE DATUM, FEB. 19, 1976, JUNE 6, 1978; LOWEST, 381.00 FT (116.13M) BELOW LAND-SURFACE DATUM, FEB 2, 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 06, 1977	261.00	JAN 04, 1978	277.00	APR 04, 1978	215.00	JUL 05, 1978	298.00
NOV 03	228.00	FEB 02	381.00	MAY 03	212.00	AUG 02	240.00
DEC 02	265.00	MAR 06	210.00	JUN 06	201.00	SEP 06	249.00

WTR YEAR 1978 MAX 201.00 JUNE 6, 1978 MIN 381.00 FEB 2, 1978

353100097400001, LOCAL NUMBER, 12N-04W-07 CDC 1.
 LOCATION.--LAT 35 31'00", LONG 097 40'00", HYDROLOGIC UNIT 11100301, OWNER: CITY OF BETHANY.
 AQUIFER.--TERRACE DEPOSITS.
 WELL CHARACTERISTICS.--DRILLED MUNICIPAL WELL, DIAMETER 12 IN (0.30M), DEPTH 66 FT (20.1M).
 DATUM.--MEASURING POINT: 1.90 FT (0.58M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1973 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 26.41 FT (8.050M) BELOW LAND-SURFACE DATUM, JAN, 15, 1976; LOWEST, 36.91 FT (11.250M) BELOW LAND-SURFACE DATUM, JULY 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	30.26	MAY 15, 1978	28.29	JUN 30, 1978	28.21	AUG 20, 1978	30.99
10	30.35	20	28.30	JUL 10	28.50	25	31.33
DEC 10	29.77	25	28.29	15	28.85	31	31.85
15	29.67	31	28.26	20	29.20	SEP 05	32.26
20	29.56	JUN 05	28.21	25	29.62	10	30.73
25	29.45	10	28.17	31	29.95	15	30.45
31	29.34	15	28.15	AUG 05	30.14	20	30.22
JAN 05, 1978	29.25	20	28.16	10	30.35	25	29.89
MAY 10	28.30	25	28.17	15	30.64	30	31.57

WTR YEAR 1978 MAX 28.15 JUNE 15, 1978 MIN 32.26 SEPT 5, 1978

353530097172001, LOCAL NUMBER, 13N-01E-22 ADD 1.
 LOCATION.--LAT 35 35'30", LONG 097 17'20", HYDROLOGIC UNIT 11100303, OWNER: T.E. RUNNER.
 AQUIFER.--GARBER-WELLINGTON FORMATION.
 WELL CHARACTERISTICS.--UNUSED ARTESIAN WELL, DIAMETER 6 IN (0.15M), DEPTH 153 FT (46.6M).
 DATUM.--MEASURING POINT: CHESLED ARROW AT NORTHEAST SIDE OF CASING 0.10 FT (0.03M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--RECORDER INSTALLED 12-18-74.
 PERIOD OF RECORD.--1976 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 109.35 FT (33.330M) BELOW LAND-SURFACE DATUM, MAR. 10, 1977; LOWEST, 113.19 FT (34.489M) BELOW LAND-SURFACE DATUM, SEPT. 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	112.48	FEB 25, 1978	112.67	JUN 10, 1978	112.63	AUG 15, 1978	112.62
10	112.15	28	112.53	15	112.67	20	112.91
20	112.10	MAR 05	112.53	JUL 10	112.74	25	112.72
25	112.20	10	112.34	15	112.64	31	112.82
31	111.83	15	112.75	20	112.72	SEP 10	112.83
NOV 05	112.26	20	112.35	25	112.76	15	112.85
10	112.55	MAY 10	112.81	31	112.73	20	113.09
15	112.00	15	112.55	AUG 05	112.91	25	113.19
20	112.40	20	112.88	10	112.70	30	113.14

WTR YEAR 1978 MAX 111.83 OCT 31, 1977 MIN 113.19 SEPT 25, 1978

GROUND-WATER LEVELS

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OSAGE COUNTY

362935096291501. LOCAL NUMBER, 23N-09W-10 AAD 1.
 LOCATION.--LAT 36 29'35", LONG 096 29'15", HYDROLOGIC UNIT 11070107, OWNER: LESLIE DRUMMOND.
 AQUIFER.--VAMOOSA FORMATION.
 WELL CHARACTERISTICS.--DRILLED UNUSED WELL, DIAMETER 13 IN (0.33M), DEPTH 55 FT (16.8M).
 DATUM.--MEASURING POINT: TOP OF CASING 2.40 FT (0.73M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1971 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 5.37 FT (1.637M) BELOW LAND-SURFACE
 DATUM, JUNE 10, 1975; LOWEST, 9.26 FT (2.822M) BELOW LAND-SURFACE DATUM, AUG. 20, 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	8.04	DEC 15, 1977	7.82	FEB 25, 1978	7.78	AUG 20, 1978	8.06
10	8.18	20	8.21	MAR 10	7.24	25	8.07
15	8.30	25	8.26	15	7.62	31	8.23
20	8.10	JAN 10, 1978	8.38	20	7.12	SEP 05	8.25
25	8.15	15	8.10	25	7.04	10	8.24
31	7.94	20	8.25	JUL 15	7.01	15	8.38
NOV 15	7.63	25	8.19	20	7.22	20	8.49
20	8.07	31	8.30	25	7.30	25	8.44
25	8.00	FEB 05	8.38	31	7.52	30	8.51
30	7.84	10	8.12	AUG 05	7.56		
DEC 05	8.27	15	7.86	10	7.60		
10	8.28	20	7.88	15	7.87		

WTR YEAR 1978 MAX 7.01 JULY 15, 1978 MIN 8.51 SEPT 30, 1978

PAYNE COUNTY

360245096562001. LOCAL NUMBER, 18N-03E-12 CDC 1.
 LOCATION.--LAT 36 02'45", LONG 096 56'20", HYDROLOGIC UNIT 11050003, OWNER: J. WOLF.
 AQUIFER.--ROCKS OF EARLY PERMIAN AGE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 6 IN (0.15M), DEPTH 39 FT (11.9M).
 DATUM.--MEASURING POINT: TOP OF NORTH EDGE OF CASING 0.40 FT (0.12M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1951 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 7.40 FT (2.256M) BELOW LAND-SURFACE
 DATUM, APR. 1, 1975; LOWEST, 30.70 FT (9.357M) BELOW LAND-SURFACE DATUM, JULY 2, 1977.

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
DEC 29, 1977	18.80	MAR 30, 1978	19.70	JUL 09, 1978	17.80	SEP 27, 1978	18.50

WTR YEAR 1978 MAX 17.80 JULY 9, 1978 MIN 19.70 MAR 30, 1978

360515096564501. LOCAL NUMBER, 19N-03E-35 AAB 1.
 LOCATION.--LAT 36 05'15", LONG 096 56'45", HYDROLOGIC UNIT 11050003, OWNER: LOVELL ARNS.
 AQUIFER.--ROCKS OF EARLY PERMIAN AGE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 6 IN (0.15M), DEPTH 49 FT (14.9M).
 DATUM.--MEASURING POINT: TOP OF CASING 2.47 FT (0.75M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1934 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 11.33 FT (3.453M) BELOW LAND-SURFACE
 DATUM, APR. 1, 1975; LOWEST, 39.73 FT (12.110M) BELOW LAND-SURFACE DATUM, MAY 24, 1939.

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
DEC 29, 1977	25.83	MAR 30, 1978	25.73	JUL 09, 1978	22.53	SEP 27, 1978	24.43

WTR YEAR 1978 MAX 22.53 JULY 9, 1978 MIN 25.83 DEC 29, 1977

GROUND-WATER LEVELS

PAYNE COUNTY -- CONTINUED

360615097100501. LOCAL NUMBER, 19N-01E-23 CDC 1.
 LOCATION.--LAT 36 06'15", LONG 097 10'05", HYDROLOGIC UNIT 11050003, OWNER: E.T. POOL.
 AQUIFER.--ROCKS OF PERMIAN AGE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 7 IN (0.18M), DEPTH 47 FT (14.3M).
 DATUM.--MEASURING POINT: TOP OF CASING 1.20 FT (0.37M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1934 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 18.10 FT (5.517M) BELOW LAND-SURFACE
 DATUM, DEC. 24, 1962; LOWEST, 28.70 FT (8.748M) BELOW LAND-SURFACE DATUM, MAR. 25, 1974.

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
DEC 28, 1977	24.90	MAR 30, 1978	25.20	JUL 07, 1978	25.10	SEP 27, 1978	23.30
WTR YEAR 1978 MAX 23.30		SEPT 27, 1978		MIN 25.20		MAR 30, 1978	

360725096521501. LOCAL NUMBER, 19N-04E-15 CBB 1.
 LOCATION.--LAT 36 07'25", LONG 096 52'15", HYDROLOGIC UNIT 11050003, OWNER: V.G. PHELPS.
 AQUIFER.--ROCKS OF EARLY PERMIAN AGE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 6 IN (0.15M), DEPTH 49 FT (14.9M).
 DATUM.--MEASURING POINT: TOP OF CASING 2.20 FT (0.67M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1934 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 1.00 FT (0.305M) BELOW LAND-SURFACE
 DATUM, APR. 1, 1975; LOWEST, 7.92 FT (2.414M) BELOW LAND-SURFACE DATUM, OCT. 26, 1956.

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
DEC 29, 1977	6.20	MAR 30, 1978	4.90	JUL 09, 1978	4.90	SEP 27, 1978	6.70
WTR YEAR 1978 MAX 4.90		MAR 30, 1978		MIN 6.70		SEPT 27, 1978	

360930096573001. LOCAL NUMBER, 19N-03E-02 BBA 1.
 LOCATION.--LAT 36 09'30", LONG 096 57'30", HYDROLOGIC UNIT 11050003, OWNER: W.U. SNYDER.
 AQUIFER.--ROCKS OF PERMIAN AGE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 6 IN (0.15M), DEPTH 34 FT (10.4M).
 DATUM.--MEASURING POINT: TOP OF CASING 0.90 FT (0.27M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1934 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL 6.73 FT (2.051M) BELOW LAND-SURFACE
 DATUM, APR. 27, 1942; LOWEST, 25.08 FT (7.644M) BELOW LAND-SURFACE DATUM, OCT. 26, 1956.

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
DEC 28, 1977	22.90	MAR 30, 1978	23.00	JUL 09, 1978	23.00	SEP 27, 1978	23.30
WTR YEAR 1978 MAX 22.90		DEC 28, 1977		MIN 23.30		SEPT 27, 1978	

361120097055001. LOCAL NUMBER, 20N-02E-21 CCD 1.
 LOCATION.--LAT 36 11'20", LONG 097 05'50", HYDROLOGIC UNIT 11050003, OWNER: A.L. SIMON.
 AQUIFER.--ROCKS OF PERMIAN AGE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 6 IN (0.15M) DEPTH 41 FT (12.5M).
 DATUM.--MEASURING POINT: TOP OF CASING 1.30 FT (0.40M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1934 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 10.95 FT (3.338M) BELOW LAND-SURFACE
 DATUM, APR. 29, 1942; LOWEST, 36.29 FT (11.061M) BELOW LAND-SURFACE DATUM, APR. 5, 1937.

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
DEC 28, 1977	22.50	MAR 30, 1978	23.70	JUL 09, 1978	23.50	SEP 27, 1978	23.70
WTR YEAR 1978 MAX 22.50		DEC 28, 1977		MIN 23.70		MAR 30, SEPT 27, 1978	

GROUND-WATER LEVELS

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PAYNE COUNTY -- CONTINUED

361205096572501, LOCAL NUMBER, 20N-03E-23 BAB 1.
 LOCATION.--LAT 36 12'05", LONG 096 57'25", HYDROLOGIC UNIT 11050003, OWNER: V.D. HESSER.
 AQUIFER.--RNCKS OF EARLY PERMIAN AGE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 6 IN (0.15M) DEPTH 27 FT (8.23M).
 DATUM.--MEASURING POINT: TOP OF CASING 0.77 FT (0.23M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD, 1934 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 1.20 FT (0.366M) BELOW LAND-SURFACE
 DATUM, MAY 27, 1943; LOWEST, 14.41 FT (4.392M) BELOW LAND-SURFACE DATUM, MARCH 1, 1957.

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
DEC 28, 1977	11.93	MAR 30, 1978	10.93	JUL 09, 1978	7.63	SEP 27, 1978	10.33
WTR YEAR 1978 MAX 7.63 JULY 9, 1978 MIN 11.93 DEC 28, 1977							

PITTSBURG COUNTY

350422095341901, LOCAL NUMBER, 07N-16E-24 BAB 1.
 LOCATION.--LAT 35 04'22", LONG 095 34'19", HYDROLOGIC UNIT 11090204, OWNER: SAM SHIDWICH.
 AQUIFER.--BOGGY FORMATION.
 WELL CHARACTERISTICS.--DRILLED UNUSED STOCK WELL, DIAMETER 6 IN (0.15M), DEPTH 63 FT (19.2M).
 DATUM.--MEASURING POINT: TOP OF CASING 1.20 FT (0.37M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1977 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 29.17 (8.888M) BELOW LAND-SURFACE
 DATUM, JUNE 30, 1978; LOWEST, 33.52 FT (10.214M) BELOW LAND-SURFACE DATUM, JAN. 31, FEB 5,
 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	32.56	DEC 15, 1977	32.70	MAY 05, 1978	30.42	JUL 31, 1978	29.34
10	32.44	20	33.02	10	30.69	AUG 05	30.77
15	32.64	JAN 15, 1978	33.35	15	30.47	10	30.70
20	32.44	31	33.52	20	30.58	15	30.92
25	32.45	FEB 05	33.52	JUN 05	29.86	20	31.28
31	32.28	10	33.30	10	29.87	25	31.40
NOV 05	32.50	20	31.88	15	30.05	31	31.59
10	32.75	28	30.72	20	30.08	SEP 10	31.53
15	32.51	MAR 10	29.98	25	30.08	15	31.58
20	32.63	APR 05	31.62	30	29.17	20	31.65
25	32.76	10	31.45	JUL 10	29.71	25	31.84
30	32.62	15	31.46	15	29.86	30	31.89
DEC 05	32.79	20	31.42	20	30.17		
10	33.14	25	31.58	25	30.41		
WTR YEAR 1978 MAX 29.17 JUNE 30, 1978 MIN 33.52 JAN 31, FEB 5, 1978							

SEQUOYAH COUNTY

352419094270401, LOCAL NUMBER, 11N-27E-21 CDD 1.
 LOCATION.--LAT 35 24'19", LONG 094 27'04", HYDROLOGIC UNIT 11110104, OWNER: U.S. GEOLOGICAL SURVEY.
 AQUIFER.--ALLUVIUM.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 8 IN (0.20M), DEPTH 48 FT (14.6M).
 DATUM.--MEASURING POINT: TOP OF RECORDER PLATFORM 2.60 FT (0.79M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1960 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL 3.18 FT (0.969M) BELOW LAND-SURFACE
 DATUM, JUNE 20, 1973; LOWEST, 18.72 FT (5.706M) BELOW LAND-SURFACE DATUM, OCT. 10, 1967.

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	11.90	DEC 31, 1977	12.63	APR 25, 1978	10.69	JUL 20, 1978	10.66
10	11.94	JAN 05, 1978	12.60	30	10.52	25	10.80
15	12.09	10	12.80	MAY 05	10.42	31	11.05
20	12.12	15	12.77	10	9.48	AUG 05	11.43
25	12.17	20	12.79	15	9.49	10	11.71
31	12.21	25	12.57	20	9.85	15	12.05
NOV 05	12.23	FEB 05	12.72	25	9.77	20	12.31
10	12.36	10	12.67	31	9.90	25	12.45
15	12.18	15	12.37	JUN 05	9.88	31	12.61
20	12.48	20	12.26	10	9.69	SEP 05	12.78
25	12.51	25	12.13	15	9.82	10	12.92
30	12.38	28	11.96	20	9.91	15	13.03
DEC 05	12.56	MAR 31	10.09	25	9.65	20	13.10
10	12.60	APR 05	10.35	30	9.95	25	13.12
15	12.28	10	10.40	JUL 05	10.14	30	13.21
20	12.53	15	10.35	10	10.33		
25	12.66	20	10.52	15	10.47		
WTR YEAR 1978 MAX 9.48 MAY 10, 1978 MIN 13.21 SEPT 30, 1978							

GROUND-WATER LEVELS

TEXAS COUNTY

363033101440701, LOCAL NUMBER, 01N-12E-35 BDD 1.
 LOCATION.--LAT 36 30'33", LONG 101 44'07", HYDROLOGIC UNIT 11101033, OWNER: UTTI A. HARLAND.
 AQUIFER.--OGALLALA FORMATION.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 7 IN (0.18M), DEPTH 386 FT (118M).
 DATUM.--MEASURING POINT: TOP OF FLOAT LINE HOLE ON NORTH SIDE 3.15 FT (0.96M) ABOVE LAND-SURFACE
 DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1956 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 191.87 FT (58.482M) BELOW LAND-SURFACE
 DATUM, JAN. 10, 1971; LOWEST, 201.37 FT (61.357M) BELOW LAND-SURFACE DATUM, SEPT. 20, 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	200.01	FEB 05, 1978	199.91	APR 15, 1978	200.32	JUL 20, 1978	200.43
10	199.96	10	199.69	20	200.48	25	200.46
15	199.96	15	199.77	25	200.62	AUG 20	201.25
20	199.65	20	199.79	30	200.27	25	200.95
25	200.01	25	199.74	MAY 05	200.11	31	201.17
31	200.16	28	199.69	10	200.27	SEP 05	201.19
DEC 15	199.67	MAR 05	199.61	JUN 20	200.06	10	201.17
25	199.84	10	199.57	25	200.07	15	201.28
31	199.81	25	199.71	30	200.45	20	201.37
JAN 05, 1978	199.63	31	199.68	JUL 05	200.53	25	201.04
10	199.80	APR 05	200.05	10	200.59	30	201.16
16	199.74	10	200.32	15	200.51		

WTR YEAR 1978 MAX 199.57 MAR 5, 1978 MIN 201.37 SEPT 20, 1978

WOODS COUNTY

365143098404201, LOCAL NUMBER, 28N-14W-35 BCC 1.
 LOCATION.--LAT 36 51'43", LONG 098 40'42", HYDROLOGIC UNIT 11060002, OWNER: WILCOX.
 AQUIFER.--CEDAR HILLS SANDSTONE.
 WELL CHARACTERISTICS.--DRILLED UNUSED MUNICIPAL WELL, DIAMETER 13 IN (0.33M), DEPTH 54 FT (16.5M).
 DATUM.--MEASURING POINT: EDGE OF LARGE HOLE IN STEEL PLATE 2.60 FT (0.79M) ABOVE LAND-SURFACE.
 DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1972 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 18.77 FT (5.721M) BELOW LAND-SURFACE
 DATUM, JUNE 15, 1973; LOWEST, 24.05 FT (7.33M) BELOW LAND-SURFACE DATUM, DEC. 5, 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	22.80	JAN 05, 1978	23.03	APR 10, 1978	23.45	JUL 15, 1978	23.28
10	22.91	10	23.12	15	23.42	20	23.31
15	22.89	15	23.04	20	23.47	25	23.34
20	22.76	20	23.12	25	23.51	31	23.43
25	22.80	25	23.16	30	23.46	AUG 05	23.48
31	22.78	31	23.21	MAY 05	23.47	10	23.46
NOV 05	22.78	FEB 05	23.26	10	23.48	15	23.53
10	22.82	15	23.23	15	23.45	20	23.58
15	22.75	20	23.31	20	23.55	25	23.61
20	22.89	25	23.31	25	23.56	31	23.65
25	22.87	28	23.31	31	23.48	SEP 05	23.67
30	22.81	MAR 05	23.20	JUN 10	23.31	10	23.67
DEC 05	22.97	10	23.27	15	23.26	15	23.72
10	22.87	15	23.39	20	23.29	20	23.79
15	22.80	20	23.36	25	23.21	25	23.73
20	22.96	25	23.40	30	23.26	30	23.78
25	23.01	31	23.32	JUL 05	23.26		
31	23.08	APR 05	23.42	10	23.27		

WTR YEAR 1978 MAX 22.75 NOV 15, 1977 MIN 23.79 SEPT 20, 1978

GROUND-WATER LEVELS

505

WOODWARD COUNTY

361256099102101. LOCAL NUMBER, 20N-19W-13 ABB 1.
 LOCATION.--LAT 36 12'56", LONG 099 10'21", HYDROLOGIC UNIT 11100301, OWNER: M. JAZEN.
 AQUIFER.--RUSH SPRINGS FORMATION.
 WELL CHARACTERISTICS.--DRILLED STOCK WELL, DIAMETER 6 IN (0.15M), DEPTH 40 FT (12.2M).
 DATUM.--MEASURING POINT: EDGE OF PLYWOOD SHELTER BASE 1.10 FT (0.34M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1972 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL 11.41 FT (3.478M) BELOW LAND-SURFACE
 DATUM, APR. 20, 1976; LOWEST, 17.44 FT (5.316M) BELOW LAND-SURFACE DATUM, JULY 5, 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	11.66	JAN 10, 1978	11.98	APR 10, 1978	12.03	JUL 15, 1978	12.20
10	11.73	15	11.72	15	11.91	20	12.21
15	11.76	20	11.91	20	12.01	25	12.20
20	11.42	25	11.95	25	12.13	31	12.25
25	11.54	31	12.06	30	11.82	AUG 05	12.31
31	11.47	FEB 05	12.18	MAY 05	11.93	10	12.20
NOV 10	11.75	10	11.97	10	12.08	15	12.25
15	11.45	15	12.05	15	11.97	20	12.16
20	11.85	20	12.05	20	12.29	25	12.17
25	11.71	25	12.20	25	12.23	31	12.26
30	11.56	28	12.14	31	12.19	SEP 05	12.24
DEC 05	11.93	MAR 05	11.96	JUN 05	12.16	10	12.24
10	11.84	10	11.94	10	12.07	15	12.31
15	11.54	15	12.30	15	12.05	20	12.47
20	11.92	20	12.08	20	12.18	25	12.29
25	11.92	25	12.16	25	12.01	30	12.31
31	12.00	31	11.95	30	12.15		
JAN 05, 1978	11.80	APR 05	11.89	JUL 05	12.17		

WTR YEAR 1978 MAX 11.42 OCT 20, 1977 MIN 12.47 SEPT 20, 1978

361714099315101. LOCAL NUMBER, 21N-22W-23 B88 1.
 LOCATION.--LAT 36 17'14", LONG 099 31'51", HYDROLOGIC UNIT 11100203, OWNER: U.S. GEOLOGICAL SURVEY.
 AQUIFER.--OGALLALA FORMATION.
 WELL CHARACTERISTICS.--DRILLED TEST HOLE, DIAMETER 6 IN (0.15M), DEPTH 322 FT (98.1M).
 DATUM.--MEASURING POINT: TOP OF PLYWOOD SHELF 2.00 FT (0.61M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1957 TO 1963, 1965 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 27.32 FT (8.327M) BELOW LAND-SURFACE
 DATUM, SEPT. 5, 1961; LOWEST, 32.64 FT (9.949M) BELOW LAND-SURFACE DATUM, MAY 19, 1971.

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	29.77	JAN 31, 1978	29.74	APR 15, 1978	30.11	JUL 15, 1978	28.97
15	29.77	FEB 05	29.79	20	30.37	20	28.98
20	29.66	10	29.72	25	30.47	25	29.00
25	29.69	15	29.77	30	30.22	31	29.00
31	29.69	20	29.80	MAY 05	30.40	AUG 10	29.06
NOV 05	29.71	25	29.81	15	30.65	15	29.08
10	29.82	28	29.77	20	30.79	20	29.06
DEC 20	29.80	MAR 05	29.78	25	30.49	25	29.02
25	29.70	10	29.85	JUN 10	29.61	31	29.00
31	29.68	15	29.94	15	29.41	SEP 10	28.87
JAN 05, 1978	29.63	20	29.73	20	29.28	15	28.86
10	29.71	25	29.87	25	29.16	20	28.89
15	29.63	31	29.90	30	29.10	25	28.84
20	29.70	APR 05	29.89	JUL 05	29.02	30	28.84
25	29.65	10	30.00	10	28.99		

WTR YEAR 1978 MAX 28.84 SEPT 25, 30, 1978 MIN 30.79 MAY 20, 1978

362707099174201. LOCAL NUMBER, 23N-20W-19 CBB 2.
 LOCATION.--LAT 36 27'07", LONG 099 17'42", HYDROLOGIC UNIT 11100301, OWNER: U.S. GEOLOGICAL SURVEY.
 AQUIFER.--ALLUVIUM.
 WELL CHARACTERISTICS.--DRILLED IRRIGATION WELL, DIAMETER 4 IN (0.10M), DEPTH 27 FT (8.23M).
 DATUM.--MEASURING POINT: TOP EDGE OF CASING ON NORTH SIDE 2.00 FT (0.16M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1945 TO 1963, 1965 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 1.02 FT (0.311M) BELOW LAND-SURFACE
 DATUM, JULY 1, 1957; LOWEST, 6.94 FT (2.115M) BELOW LAND-SURFACE DATUM, OCT. 9, 1956.

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 14, 1977	4.73	FEB 06, 1978	4.72	JUN 05, 1978	4.49	JUL 26, 1978	4.13

WTR YEAR 1978 MAX 4.13 JULY 26, 1978 MIN 4.73 OCT 14, 1977

ARKANSAS RIVER BASIN
 QUALITY OF GROUND-WATER RECORDS

STATION NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS 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
BLAINE COUNTY											
360919098325201	112TRCH	78-08-22	1045	510	6.7	18.0	180	52	13	32	27
HARPER COUNTY											
363630099290801	312COCF	78-08-23	1400	2550	7.6	17.0	1600	480	97	43	6
364012099482101	110TRCL	78-08-23	1745	2400	7.1	16.0	950	270	67	170	28
364144099521501	110TRCL	78-08-23	1700	650	7.4	16.5	300	84	21	21	13
364654099515301	112TRCH	78-08-23	1400	772	7.1	16.5	350	120	13	9.9	6
364627099520101	112TRCH	78-08-23	1500	2050	7.3	17.0	580	200	20	230	46
364954099564201	112TRCH	78-08-23	1245	569	7.4	17.0	180	54	10	61	43
364759099593701	112TRCH	78-08-23	1145	1605	7.3	16.0	400	99	37	210	53
365348099580401	112TRCH	78-08-23	0945	671	7.1	16.5	280	89	14	31	19
365211099591301	112TRCH	78-08-23	1045	1440	7.3	17.5	360	93	30	160	49
MAJOR COUNTY											
361202098442901	112TRCH	78-08-22	1515	535	6.4	17.5	240	72	14	15	12
361022098384001	112TRCH	78-08-22	1200	530	6.9	17.0	230	68	14	14	12
361429098453701	112TRCH	78-08-22	1615	895	6.6	18.0	370	110	23	22	11
361423098505501	112TRCH	78-08-22	1700	400	6.9	17.5	200	51	17	14	13
361025098462801	112TRCH	78-08-22	1415	425	6.6	16.5	200	60	11	12	12
364049099411301	112TRCH	78-08-23	1730	530	7.4	18.0	280	65	29	6.7	5
363802099381201	112TRCH	78-08-23	1645	670	7.5	17.0	350	85	33	8.7	5
WOODWARD COUNTY											
361713098594601	112TRCH	78-08-22	1845	285	6.9	17.0	150	46	8.6	5.5	7
361453098584301	112TRCH	78-08-22	1800	375	6.4	17.0	160	50	9.3	6.5	8
361905099045601	112TRCH	78-08-23	0900	360	7.2	17.0	180	52	11	8.8	10
362513099093601	112TRCH	78-08-23	1045	370	6.8	16.0	150	48	6.9	9.8	13
362337099124401	112TRCH	78-08-23	1145	625	7.3	16.5	230	68	15	42	28
362630099081601	112TRCH	78-08-23	1000	550	7.0	16.5	250	79	12	20	15
363440099203802	112TRCH	78-08-23	1315	220	6.8	18.0	85	25	5.4	10	20
363259099171501	112TRCH	78-08-23	1245	290	6.5	18.0	100	32	5.2	10	17
363023099231901	112TRCH	78-08-22	1430	210	6.9	16.5	81	26	3.9	7.1	16
363508099245801	112TRCH	78-08-22	1530	222	7.2	16.5	93	30	4.4	10	19
363502099352101	110TRCL	78-08-23	1540	2118	7.4	18.0	970	240	90	94	17
363156099310401	112TRCH	78-08-23	1500	310	7.1	23.5	140	41	9.0	7.0	10
STATION NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
LINCOLN COUNTY											
355103096382901	--	78-03-28	1500	--	--	10.0	560	330	170	34	49
355108096383401	--	78-03-28	1530	--	--	15.0	1500	1400	400	120	420
SEMINOLE COUNTY											
345353096315301	--	78-03-27	1430	--	7.2	25.5	1800	1700	510	130	2000
351099096401001	322ADA	78-08-10	0930	1650	8.5	19.0	--	--	--	--	280

ARKANSAS RIVER BASIN

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QUALITY OF GROUND-WATER RECORDS

SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC=FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)
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BLAINE COUNTY

1.0	1.7	92	48	20	.2	20	327	.44	21	--	60	--
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HARPER COUNTY

.5	3.1	55	1700	16	.3	16	2730	3.71	1.4	--	640	--
2.4	3.9	280	630	230	.9	28	1690	2.30	.12	3	210	10
.5	1.7	210	44	21	.8	31	387	.53	9.1	--	80	--
.2	2.6	230	15	32	.2	29	543	.74	28	--	50	--
4.2	3.8	200	69	570	.5	25	1410	1.92	6.5	--	50	--
2.0	2.9	240	23	8.7	.8	23	349	.47	7.5	3	130	0
4.6	4.6	210	170	330	1.2	26	1010	1.37	.11	2	150	0
.8	4.0	190	51	42	.4	24	412	.56	9.9	4	100	0
3.7	3.9	230	130	230	.9	20	851	1.16	4.2	2	170	0

MAJOR COUNTY

.4	2.3	130	89	32	.3	24	349	.47	5.0	1	30	0
.4	1.8	150	46	23	.4	24	353	.48	12	--	40	--
.5	2.5	170	43	65	.2	27	634	.86	35	2	70	0
.4	1.9	190	8.1	13	.2	27	234	.32	.84	--	30	--
.4	1.4	130	62	13	.3	25	293	.40	5.4	1	30	0
.2	1.2	250	16	11	.5	48	352	.48	4.3	--	30	--
.2	1.8	170	130	18	.3	41	527	.72	12	3	60	0

WOODWARD COUNTY

.2	4.6	140	8.3	5.8	.3	23	183	.25	1.3	--	30	--
.2	1.3	99	19	11	.2	28	252	.34	14	2	20	0
.3	1.2	160	12	8.1	.2	27	230	.31	3.0	--	30	--
.4	.9	89	23	11	.4	24	255	.35	14	1	20	0
1.2	1.8	210	50	30	.5	26	375	.51	3.9	4	60	0
.6	2.0	200	47	11	.3	27	357	.49	8.2	1	90	0
.5	2.2	65	14	4.0	.2	26	149	.20	6.6	--	20	--
.4	2.9	50	30	7.7	.1	28	209	.28	12	--	20	--
.3	1.2	64	6.3	6.6	.2	34	151	.21	4.7	2	20	0
.5	1.5	82	4.7	7.2	.4	29	148	.20	3.4	--	20	--
1.3	2.8	220	750	130	.7	34	1630	2.22	9.2	--	170	--
.3	.9	130	11	3.9	.6	29	191	.26	3.1	--	20	--

SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)	IODIDE, DIS- SOLVED (MG/L AS I)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
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LINCOLN COUNTY

16	.9	1.1	280	330	.8	.00	879
38	4.7	2.8	130	1700	6.6	.01	2960

SEMINOLE COUNTY

70	20	25	99	4000	11	.02	7320
--	--	--	--	22	.3	--	830

ARKANSAS RIVER BASIN
QUALITY OF GROUND-WATER RECORDS

STATION NUMBER	CHROMIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGANESE, DIS- SOLVED (UG/L AS MN)	MERCURY, DIS- SOLVED (UG/L AS HG)	SELENIUM, DIS- SOLVED (UG/L AS SE)	ZINC, DIS- SOLVED (UG/L AS ZN)
BLAINE COUNTY								
360919098325201	--	--	--	--	--	--	--	--
HARPER COUNTY								
363630099290801	--	--	--	--	--	--	--	--
364012099482101	0	0	50	0	120	0	0	10
364144099521501	--	--	--	--	--	--	--	--
364654099515301	--	--	--	--	--	--	--	--
364627099520101	--	--	--	--	--	--	--	--
364954099564201	0	0	20	0	0	0	3	10
364759099593701	0	0	20	0	10	0	0	50
365348099580401	10	70	20	0	0	0	6	100
365211099591301	0	0	50	0	0	0	25	310
MAJOR COUNTY								
361202098442901	0	0	20	0	0	0	3	60
361022098384001	--	--	--	--	--	--	--	--
361429098453701	0	0	50	0	10	0	0	220
361423098505501	--	--	--	--	--	--	--	--
361025098462801	10	20	50	0	10	0	2	620
364049099411301	--	--	--	--	--	--	--	--
363802099381201	0	0	20	0	10	0	0	20
WOODWARD COUNTY								
361713098594601	--	--	--	--	--	--	--	--
361453098584301	0	0	20	0	0	0	1	20
361905099045601	--	--	--	--	--	--	--	--
362513099093601	0	0	20	0	0	0	1	20
362337099124401	10	0	50	0	0	0	2	40
362630099081601	0	0	430	0	10	0	1	110
363440099203802	--	--	--	--	--	--	--	--
363259099171501	--	--	--	--	--	--	--	--
363023099231901	0	0	20	0	0	0	2	30
363308099245801	--	--	--	--	--	--	--	--
363502099352101	--	--	--	--	--	--	--	--
363156099310401	--	--	--	--	--	--	--	--

A P P E N D I X

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

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

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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	AROCLOH, 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)

PARAM. 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)

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

PARAM. CODE	NEW TERMINOLOGY -- FIRST LINE	OLD TERMINOLOGY -- SECOND LINE
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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)	

PARAM. 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)
01036	COBALT, SUSPENDED RECOVERABLE (UG/L AS CU)
01036	COBALT, SUSPENDED (UG/L AS CU)

PARAM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
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)
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)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
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)
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)

PARAM, CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
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)
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)

PARAM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
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
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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