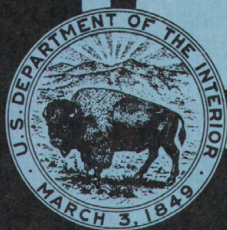
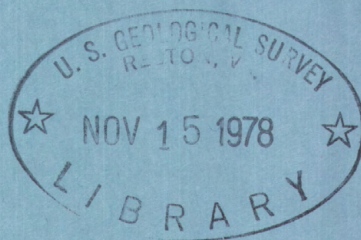


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Water Resources Data for Oklahoma Water Year 1977

Volume 1. Arkansas River Basin



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OK-77-1

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

CALENDAR FOR WATER YEAR 1977

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Water Resources Data for Oklahoma Water Year 1977

Volume 1. Arkansas River Basin



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OK-77-1

**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, 201 N.W. 3rd Street
Oklahoma City, Oklahoma 73102

1978

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

BIBLIOGRAPHIC DATA SHEET		1. Report No. USGS/WRD/HD-78/064	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data for Oklahoma, Water Year 1977, Volume 1, Arkansas River Basin				5. Report Date September 1978
				6.
7. Author(s)				8. Performing Organization Rept. No. USGS-WDR-OK 77-1
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division Rm 621, 201 N.W. 3rd Street Oklahoma City, OK 73102				10. Project/Task/Work Unit No.
				11. Contract/Grant No.
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division Rm 621, 201 N.W. 3rd Oklahoma City, OK 73102				13. Type of Report & Period Covered Annual-Oct. 1, 1976 to Sept. 30, 1977
				14.

15. Supplementary Notes
Prepared in cooperation with the State of Oklahoma and with other agencies.

16. Abstracts

Water resources data for the 1977 water year for Oklahoma consist of records stage, discharge, and water quality of streams; stage, contents, and water quality of lakes or reservoirs. Volumes 1 and 2 of this report contain discharge records 112 gaging stations; stage and contents for 22 lakes or reservoirs; water quality 95 gaging stations, 3 lakes, and 8 wells; water levels for 49 wells. Also include are 41 crest-stage partial-record stations and 1 low-flow partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Oklahoma.

17. Key Words and Document Analysis. 17a. Descriptors

*Oklahoma, *Hydrologic data, *Surface water, *Water quality, *Ground water, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Sampling sites, Water analyses, Water levels

17b. Identifiers/Open-Ended Terms

17c. COSATI Field/Group

18. Availability Statement No restriction on distribution. This report may be purchased from: National Technical Information Service Springfield, VA 22161	19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 543
	20. Security Class (This Page) UNCLASSIFIED	22. Price

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VI.

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

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WATER RESOURCES DATA FOR OKLAHOMA, 1977

Volume 1. Arkansas River Basin

INTRODUCTION

Water resources data for Oklahoma for the 1977 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 112 gaging stations; stage and contents for 22 lakes and reservoirs; water quality for 95 gaging stations, 3 lakes, and 8 wells; and water levels for 49 observation wells. Also included are data for 41 crest-stage partial-record stations and 1 low-flow partial-record station. 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, 604 South Pickett Street, Alexandria, Virginia, 22161.

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-77-1." Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22161.

COOPERATION

The U.S. Geological Survey and organizations of the State of Oklahoma have had cooperative agreements for the systematic collection of streamflow 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, Charles Baker, director of water services, succeeded by Patrick M. Brian.

Oklahoma Geological Survey, Charles J. Mankin, director.

Oklahoma State Department of Health, Environmental Health Services, Loyd F. Pummill, chief.

Oklahoma Pollution Control Coordinating Board, James F. Lovell, chairman; Denver Talley, director, 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

Drought conditions continued over the State for the first six months of the 1977 water year. The only relief was in the southeastern section where isolated showers occurred during February and some heavy local rains occurred during the last five days of March. Peak runoff equal to approximately 20-year recurrence intervals were experienced. The drought condition was essentially broken in the southern half of the State in March, but continued in the northern half through April. Runoff in May was near normal over most of the State with major flooding in south-central and southwestern sections. Rains 4 to 10 inches in 24 hours caused damages in 19 southern counties according to Civil Defense Headquarters. Four lives were lost due to flood related accidents, many homes were evacuated and numerous livestock were lost. Runoff continued about normal for the rest of the year except for the south-central. On August 27-28 a flood occurred just west of Lawton. The gaging station Blue Beaver Creek near Cache experienced a peak that was 1.3 times the 100-year recurrence interval flood. Fortunately, most of the flood inundated rural areas so that a minimum amount of damage was experienced. Monthly and annual mean discharge is compared with median discharge at Washita River near Durwood in Figure 2.

Reservoir contents were below normal for the first eight months except Lake Altus in southwest Oklahoma which was over the long-term average. In May all reservoirs in the southwest were filled to capacity, and other reservoirs showed a substantial increase. At year's end all reservoir elevations were near normal except Lake Altus which was 72 percent of normal.

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 refers to the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through 0.45-micrometer membrane filter, and thus may include some very small (coloidal) suspended particles. Analyses are performed on filtered samples.

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

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

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.

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 organo-chlorine 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 $\mu\text{g C}/(\text{m}^2 \cdot \text{time})$ for periphyton and macrophytes 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.

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.

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.

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

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 work "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.

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 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.

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".

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.

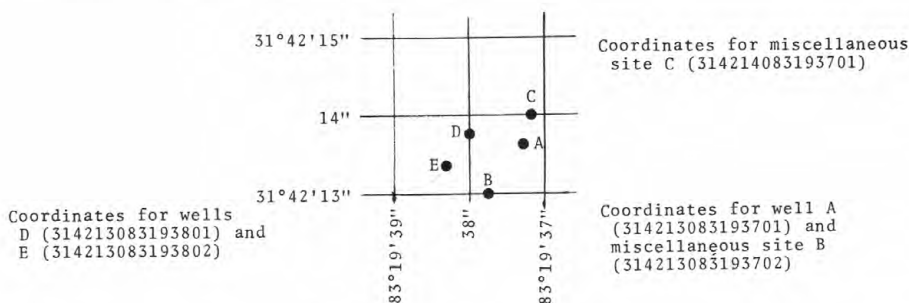


Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude)

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 above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE". In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified.

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 stations 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 work "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 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. 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 mean sea level (msl) or land-surface datum (lsd). Mean sea level 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 land-surface datum above mean sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth 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.

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office. Prices are effective January 1978 but are subject to change.

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

- 1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H. H. Stevens Jr., J. F. Picke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages. \$1.60.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W.Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages. \$0.85
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages. \$1.90.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages. \$1.75.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages. \$1.00.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages. \$0.35.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages. \$0.40.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages. \$1.00.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages. \$0.35.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages. \$1.00.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages. \$1.40.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages. \$1.25.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages. \$1.20.
- 3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson Jr.: USGS--TWRI Book 3, Chapter A12. 1968. 31 pages. \$0.35. Not currently available.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages. \$0.70.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages. \$2.50.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages. \$0.65.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages. \$2.50.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages. \$2.10.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4 Chapter A1. 1968. 39 pages. \$1.60.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages. \$0.35.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages. \$0.65.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages. \$0.75.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages. \$0.65.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages. \$1.10.
- 5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 pages. \$2.40.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages. \$0.80.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter 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.

WATER RESOURCES DATA FOR OKLAHOMA,

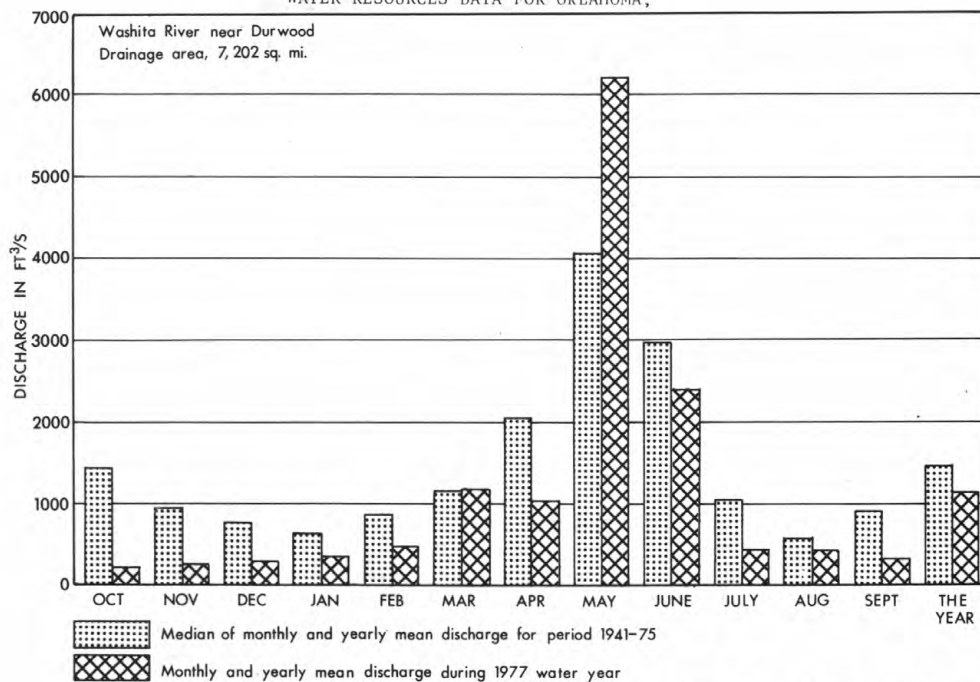


FIGURE 2--Discharge during 1977 water year compared with median discharge for period 1941-75 for one representative gaging station.

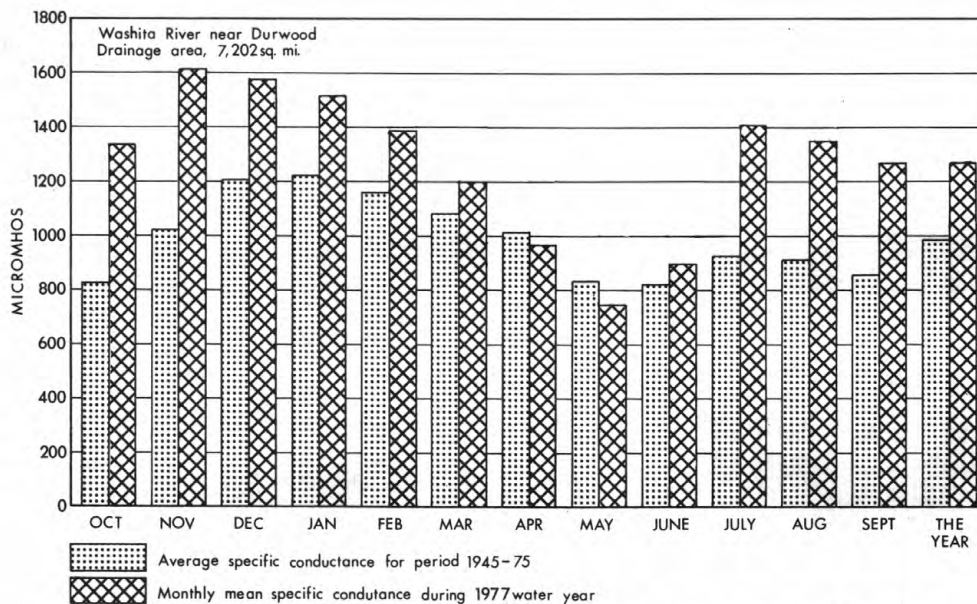


FIGURE 3--Specific conductance during 1977 water year compared with average specific conductance for period 1945-75 at one site.

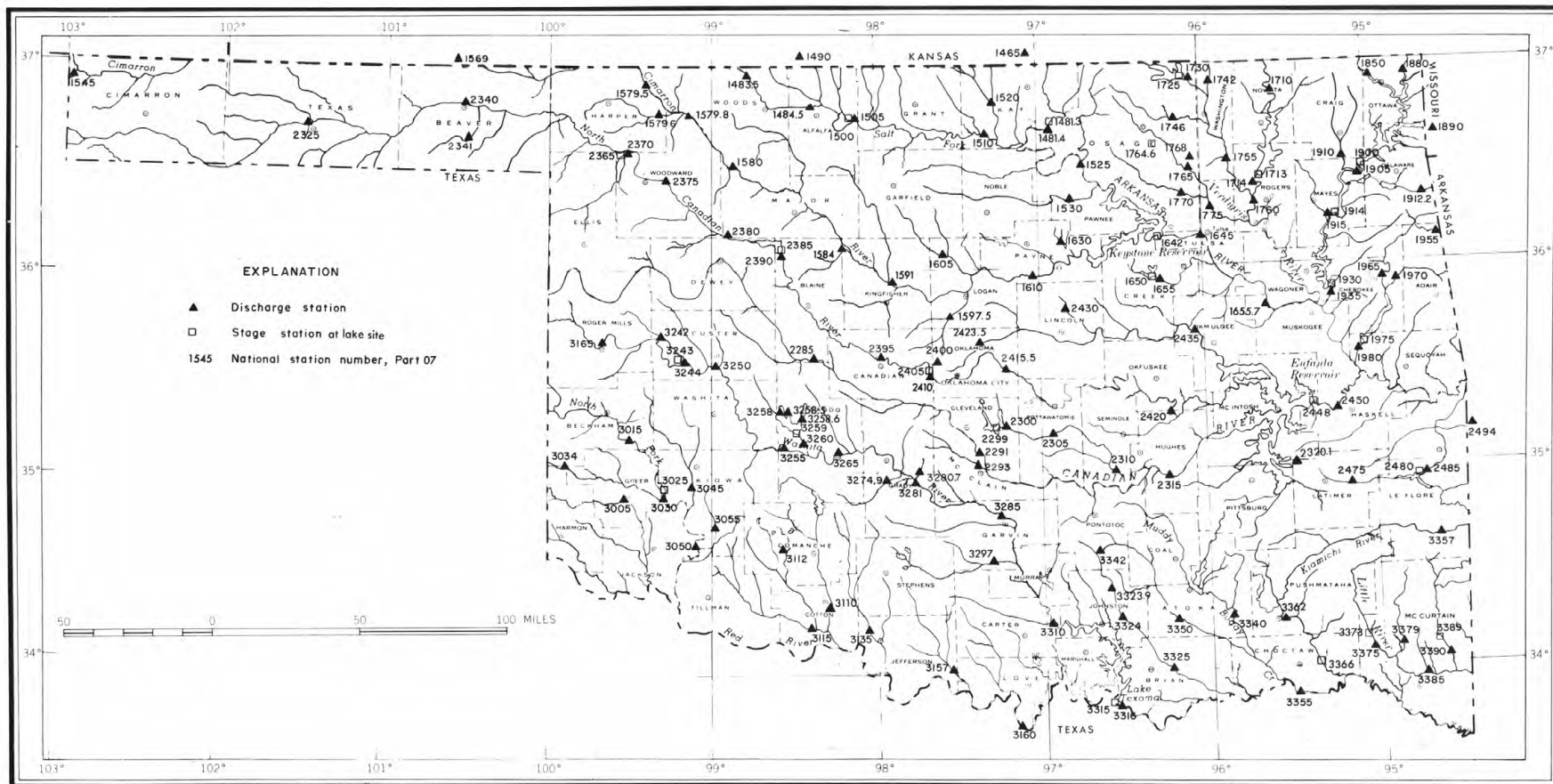


Figure 4.--Map of Oklahoma showing location of continuous-record surface-water stations, water year 1977.

Figure 5.--Map of Oklahoma showing location of partial record stations, water year 1977.

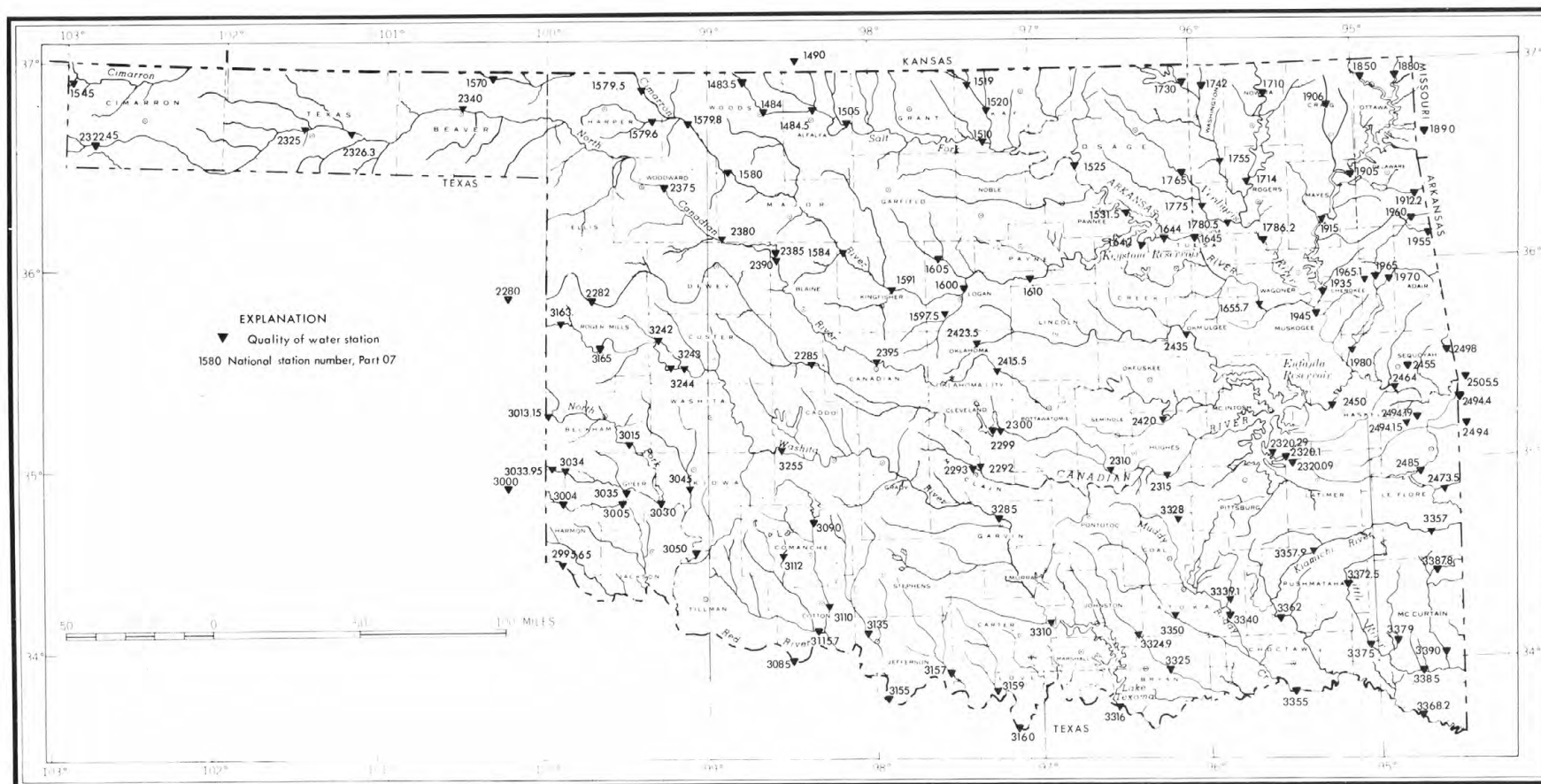


Figure 6.--Map of Oklahoma showing location of water-quality stations, water year 1977.

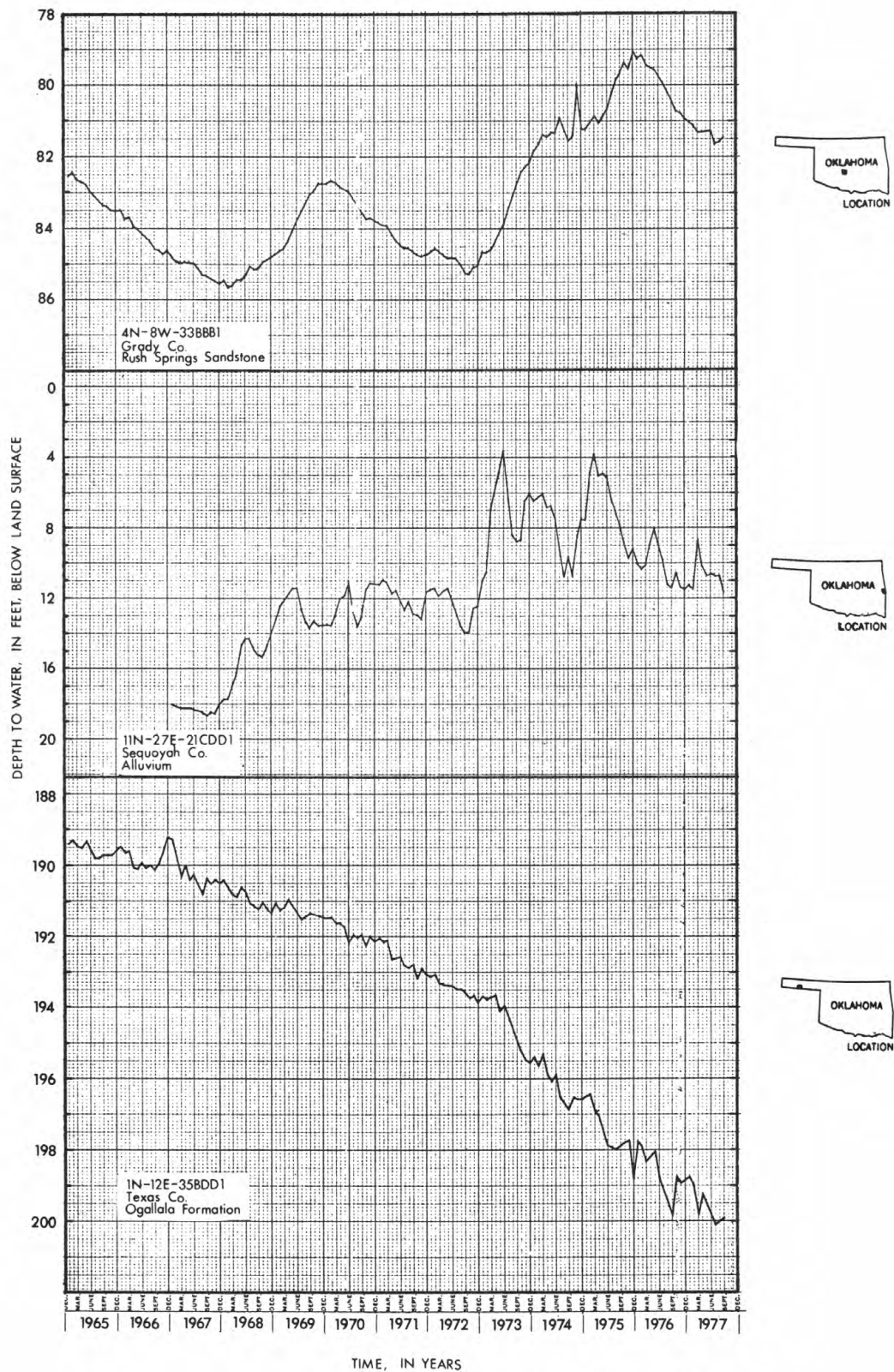


Figure 8.--Depth to water in selected wells in Oklahoma.

GAGING STATION RECORDS

ARKANSAS RIVER BASIN

07148130 KAW LAKE NEAR PONCA CITY, OK

LOCATION.--Lat 36°41'58", long 96°55'18", in NW 1/4 SW 1/4 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 mean sea level. 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, 693,400 acre-ft (855 hm³) June 26, elevation, 1,023.03 ft (311.820 m); minimum, 223,100 acre-ft (275 hm³) March 25, elevation, 995.06 ft (303.294 m).

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

995	222,400	1,012	463,700
1,000	281,200	1,018	580,900
1,006	364,300	1,024	716,700

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248600	251600	230500	228100	226500	226200	228700	299100	579600	642600	433900	500000
2	249400	251700	231000	227700	227400	226200	229700	312500	583400	630200	433900	503600
3	250000	248900	232000	227700	227600	226000	229700	316500	574600	613700	434800	540400
4	251200	245900	231800	227700	228700	225900	229600	318600	567500	598500	434800	563200
5	251300	243600	232300	227500	228800	225800	229500	319500	558900	589100	434900	565900
6	251300	242400	232600	227100	229500	225800	230400	321300	551700	581100	435500	558500
7	251300	238500	232900	227100	229600	225900	231000	322600	544200	570200	438000	540800
8	251600	236700	232200	227400	230600	226200	231100	322800	536800	557200	440800	520000
9	251600	234000	233500	226600	231300	226000	231000	322300	528500	542800	442200	509300
10	251600	231600	233700	226500	231800	225700	231000	322000	519800	528500	442900	503400
11	251600	228300	232800	225400	233700	225900	231000	322000	508800	514500	442900	498100
12	251400	227000	233300	225600	234300	225500	230700	322100	498300	499200	449900	492200
13	251400	227100	232300	225600	234500	225500	231000	322100	491100	486300	469900	486600
14	251200	227400	230800	225700	234500	226300	241700	321900	486100	478500	478900	482200
15	251000	227700	230400	224600	233700	226000	247500	321900	480000	473000	481200	484400
16	250400	227800	229600	224400	232600	225900	253100	322300	474400	467000	476100	485500
17	249600	228600	229500	224900	231600	225700	255800	323700	468600	461400	472000	487700
18	248900	229300	229600	224400	231300	225600	259600	323700	463000	455100	474600	489400
19	248300	229700	229400	225000	230600	225700	262800	328100	457600	448700	500700	486800
20	248200	229800	229500	224600	230100	225000	265600	336300	454200	442900	538400	481100
21	248200	229600	229000	224400	229600	224600	267100	365400	453700	438900	544400	475400
22	248200	229600	229300	224300	228700	224200	269400	392800	495100	437200	540200	469000
23	248700	230100	229300	224500	228500	224200	278300	437200	572100	435100	539000	464100
24	249000	230500	229300	224800	228400	223700	281000	486400	623600	433400	545600	462000
25	248300	231000	229000	224900	227700	223300	284000	510100	672800	432900	550300	459900
26	248600	232300	229500	225400	226700	223400	284025	512200	693200	433700	546400	456300
27	248600	230700	229600	225900	226400	224100	285200	508000	688700	433700	536200	452600
28	248500	230600	229400	225600	226400	225600	286600	511500	677000	434100	525100	448500
29	249300	230600	229600	225800	---	225800	287500	524100	661500	434300	514000	449900
30	250000	230600	229900	226000	---	227400	293700	529000	652300	434100	506100	447500
31	250600	---	229300	226200	---	228100	---	560300	---	433900	504000	---
MAX	251600	251700	233700	228100	234500	228100	293700	560300	693200	642600	550300	565900
MIN	248200	227000	229000	224300	226400	223300	228700	299100	453700	432900	433900	447500
†	997.49	995.74	995.62	995.34	995.36	995.52	1,000.97	1,017.01	1,021.26	1,010.31	1,014.17	1,011.09
‡	+3,100	-20,000	-1,300	-3,100	+200	+1,700	+65,600	+266,600	+92,000	-218,400	+70,100	-56,500

WTR YR 1977 MAX 693200 MIN 223300 ‡ +200,000

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

23

07148140 ARKANSAS RIVER NEAR PONCA CITY, OK

LOCATION.--Lat 36°41'55", long 96°55'40", in SW 1/4 SE 1/4 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.

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

GAGE.--Gate position recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

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

COOPERATION.--Records furnished by Corps of Engineers.

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.

Water year 1977: Maximum discharge, 20,800 ft³/s (589 m³/s) June 27-29; minimum daily, 260 ft³/s (7.36 m³/s) Oct. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	4640	5240	1460	1000	260
2							---	4850	5230	2820	1000	442
3							---	3500	5230	6080	680	466
4							---	2060	5210	14100	520	260
5							---	3760	5160	14800	520	260
6							---	5100	5130	14700	520	260
7							---	5100	3630	14900	520	260
8							---	5100	2550	15000	520	260
9							---	5100	2130	16100	520	260
10							---	5120	1620	16100	520	260
11							---	5160	1400	15800	520	260
12							---	5170	1400	14100	520	260
13							---	5180	1400	12200	520	260
14							---	5180	1400	10400	520	260
15							---	5180	1400	9100	520	260
16							---	5180	1400	8620	520	260
17							---	5170	1400	7900	520	260
18							---	5150	1400	7000	520	260
19							---	4300	1400	6310	520	260
20							---	3600	1400	4810	520	260
21							---	3320	1400	4120	520	260
22							1610	3080	1400	3790	520	260
23							1360	3080	1400	2450	520	260
24							1030	3080	1400	1480	352	260
25							1090	3080	1400	1480	260	260
26							1860	3080	1400	1480	260	260
27							2280	4410	1400	1480	260	260
28							1830	4180	1400	1260	260	260
29							3000	5240	1400	1070	260	260
30							3100	5240	1450	1000	260	260
31							---	5240	---	1000	260	---
TOTAL	---	---	---	---	---	---	---	136630	69180	232930	15252	8188
MEAN	---	---	---	---	---	---	---	4407	2306	7514	492	273
MAX	---	---	---	---	---	---	---	5240	5240	16100	1000	466
MIN	---	---	---	---	---	---	---	2060	1400	1000	260	260
AC-FT	---	---	---	---	---	---	---	271000	137200	462000	30250	16240

ARKANSAS RIVER BASIN

07148140 ARKANSAS RIVER NEAR PONCA CITY, OK--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260	280	280	400	400	520	520	1000	8000	13000	1120	9380
2	260	945	280	400	400	520	520	1000	10500	13000	1120	11000
3	260	1800	280	400	400	520	520	1000	13200	13000	1120	11000
4	260	1800	280	400	400	520	520	1000	11000	11400	1120	11000
5	260	1800	280	400	400	520	520	1000	11000	11100	1120	11000
6	390	1800	280	400	400	520	520	1000	9140	11100	1120	14200
7	520	1800	280	400	400	520	520	1000	8000	11100	1120	18000
8	465	1800	280	400	400	520	520	1000	8000	11100	1120	17300
9	400	1800	280	400	400	520	520	1000	8000	11100	1120	11700
10	400	1800	408	400	400	520	520	1000	8000	11100	1120	8000
11	400	1800	500	400	400	520	520	875	8000	11100	2300	8000
12	400	882	500	400	400	520	520	800	8000	11100	3080	8000
13	400	280	792	400	400	520	520	800	6120	9420	3080	8000
14	400	280	1000	400	738	520	520	800	5000	6190	3080	8000
15	400	280	1000	400	1000	520	520	800	5000	5000	3370	8000
16	400	280	1000	400	1000	520	520	800	5000	5000	6950	8000
17	400	280	667	400	1000	520	520	800	5000	5000	6200	8000
18	400	280	400	400	848	520	520	800	5000	5000	6200	8000
19	400	280	400	400	750	520	720	800	5000	4780	6200	8000
20	400	280	400	400	750	520	1000	800	3880	4060	6200	8000
21	325	280	400	400	750	520	1000	800	3880	2880	8750	8000
22	280	280	400	400	750	520	840	800	5000	1940	11000	8000
23	280	280	400	400	750	520	520	2580	9900	1940	11000	6940
24	280	280	400	400	750	520	520	8500	16200	1940	11000	5000
25	280	280	400	400	750	520	520	11000	18000	1560	11000	5000
26	280	280	400	400	750	520	520	11000	19900	1120	11000	5000
27	280	280	400	400	750	520	520	7830	20800	1120	11000	5000
28	280	280	400	400	625	520	520	8000	20800	1120	11000	5000
29	280	280	400	400	---	520	810	8000	17800	1120	11000	5000
30	280	280	400	400	---	520	1000	8000	13900	1120	11000	5000
31	280	---	400	400	---	520	---	8000	---	1120	9120	---
TOTAL	10600	23347	13987	12400	17161	16120	17850	92585	297020	200630	174730	260520
MEAN	342	778	451	400	613	520	595	2987	9901	6472	5636	8684
MAX	520	1800	1000	400	1000	520	1000	11000	20800	13000	11000	18000
MIN	260	280	280	400	400	520	520	800	3880	1120	1120	5000
AC-FT	21030	46310	27740	24600	34040	31970	35410	183600	589100	397900	346600	516700
WTR YR 1977 TOTAL	1136950		MEAN 3115		MAX 20800		MIN 260		AC-FT 2255000			

07148350 SALT FORK ARKANSAS RIVER NEAR WINCHESTER, OK

LOCATION.--Lat 36°57'45", long 98°46'55", in NE 1/4 SE 1/4 sec.26, T.29 N., R.13 W., Woods County, Hydro-logic Unit 11060002, near left bank on downstream side of pier of county road bridge, 1 mi (1.6 km) north-east of Winchester, 2.5 mi (4.0 km) upstream from Greenwood Creek, 4.9 mi (7.9 km) downstream from Yellowstone Creek, 5 mi (8.0 km) downstream from State line, 19 mi (30.6 km) northwest of Alva, and at mile 156.2 (251.3 km).

DRAINAGE AREA.--856 mi² (2,220 km²).

WATER-DISCHARGE RECORDS

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) above mean sea level.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--18 years, 85.4 ft³/s (2.418 m³/s), 61,870 acre-ft/yr (76.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,000 ft³/s (1,473 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 in 1961, 1964-72, 1976-77.

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, 3,800 ft³/s (108 m³/s) June 24, gage height, 9.65 ft (2.935 m), no peak above base of 5,000 ft³/s (142 m³/s); no flow Aug. 9-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	.46	.82	1.5	26	23	19	185	28	46	.35	390
2	1.1	.35	.68	2.0	43	25	19	257	42	40	130	421
3	.54	.34	.82	2.3	41	27	16	204	38	33	62	238
4	.40	.34	5.6	2.5	32	30	16	129	31	26	22	168
5	.40	.31	9.2	2.7	28	27	16	96	21	19	8.3	120
6	.68	.32	9.8	2.5	27	25	15	74	15	12	2.5	100
7	.68	.31	5.0	2.2	23	25	15	60	12	9.6	.80	80
8	.40	.26	2.9	2.0	24	24	11	53	9.1	52	.25	71
9	.40	.27	2.2	1.3	27	23	8.9	48	6.6	36	.00	58
10	.36	.23	5.4	.60	26	24	7.5	42	4.6	20	.00	52
11	.32	.22	4.4	.70	27	23	7.0	38	3.0	11	.00	56
12	.32	.22	3.9	1.0	27	22	7.2	35	2.1	6.0	.00	52
13	.32	.24	3.7	1.2	25	20	18	32	1.5	4.0	60	357
14	.32	.24	8.4	1.4	24	18	26	32	1.1	2.5	74	254
15	.24	.26	9.9	3.5	23	15	22	33	.89	1.5	17	107
16	.28	.27	9.0	2.0	24	13	19	30	.59	.80	7.6	175
17	.36	.26	9.1	2.5	25	14	63	31	.39	.50	112	287
18	.40	.25	9.0	2.2	25	15	68	31	.32	.35	55	200
19	.36	.24	8.9	2.4	23	12	43	31	.28	.25	27	107
20	.40	.32	7.0	5.0	23	12	102	53	.26	.18	27	76
21	.40	.32	3.5	10	23	11	56	505	.20	.20	20	60
22	.40	.36	4.5	20	24	12	48	196	.20	.25	15	53
23	.40	.40	3.7	48	30	13	38	86	4.3	.35	726	46
24	.40	.40	4.0	36	27	14	31	54	1380	.30	306	41
25	.54	.36	14	35	24	15	26	107	909	.25	549	35
26	1.4	1.4	13	35	24	16	21	96	410	7.0	197	32
27	1.4	1.1	14	30	23	17	17	66	167	8.0	135	28
28	.56	1.1	14	25	23	24	13	54	94	2.0	708	24
29	1.7	1.4	11	30	---	25	183	45	65	.80	742	21
30	1.5	1.8	5.0	29	---	22	528	39	51	.50	411	19
31	.56	---	1.0	36	---	17	---	32	---	.40	1020	---
TOTAL	20.94	14.35	203.42	375.50	741	603	1479.6	2774	3298.43	340.73	5434.80	3728
MEAN	.68	.48	6.56	12.1	26.5	19.5	49.3	89.5	110	11.0	175	124
MAX	3.4	1.8	14	48	43	30	528	505	1380	52	1020	421
MIN	.24	.22	.68	.60	23	11	7.0	30	.20	.18	.00	19
AC-FT	42	28	403	745	1470	1200	2930	5500	6540	676	10780	7390
CAL YR 1976	TOTAL	24137.23	MEAN	65.9	MAX	1550	MIN	.00	AC-FT	47880		
WTR YR 1977	TOTAL	19013.77	MEAN	52.1	MAX	1380	MIN	.00	AC-FT	37710		

ARKANSAS RIVER BASIN

07148350 SALT FORK ARKANSAS RIVER NEAR WINCHESTER, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-62, 1976 to September 1977 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1960 to September 1961.

WATER TEMPERATURES: June 1960 to September 1961.

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. No flow was observed on Aug. 9.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COLLECTING SAMPLE	CODE FOR AGENCY ANALYZING SAMPLE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARDNESS (CA, MG) (MG/L)
OCT 13...	1028	9740	1415	3000	8.0	28.0	3	9.6	126	11	335
NOV 10...	1028	9740	0830	2700	7.8	5.5	7	12.4	102	21	1269
DEC 15...	1028	9740	1200	4000	7.7	4.5	48	12.0	92	4	924
FEB 01...	1028	9740	1410	2600	8.0	4.5	55	12.6	102	9	753
09...	1028	9740	1400	2100	8.2	12.0	43	9.8	95	9	730
MAR 08...	1028	9740	1400	2200	8.2	20.0	9	8.8	101	8	817
APR 14...	1028	9740	1230	2000	8.3	21.0	27	9.3	109	8	645
MAY 04...	1028	9740	1310	4000	8.4	26.0	170	7.5	97	18	845
JUN 07...	1028	9740	2130	2800	8.0	24.0	25	7.7	96	12	814
JUL 12...	1028	9740	1445	3250	7.7	35.0	23	7.4	109	10	1071
SEP 08...	1028	9740	0845	2400	8.3	22.0	27	7.8	93	7	441

DATE	TOTAL CALCIUM (CA) (MG/L)	TOTAL MAGNESIUM (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL POTASSIUM (K) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	TOTAL FLUORIDE (F) (MG/L)	TOTAL FILTERABLE RESIDUE (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 13...	360	91	159	6.4	--	208	.3	2293	.70	<.11	--
NOV 10...	189	46	146	4.9	--	196	.4	2310	1.0	<.01	3
DEC 15...	253	52	238	3.5	--	334	.4	1901	.60	.02	--
FEB 01...	242	50	220	9.1	605	319	.3	1551	.70	.08	4
09...	234	47	213	4.9	490	303	.4	1540	.90	.05	5
MAR 08...	229	46	245	4.9	620	351	.4	1593	1.2	.06	--
APR 14...	206	46	268	5.8	429	374	.4	1545	1.4	.07	--
MAY 04...	264	43	128	9.5	594	164	.3	1439	2.2	.28	9
JUN 07...	258	56	410	10	322	403	.4	1830	1.2	.10	--
JUL 12...	334	59	370	10	892	552	.4	2558	1.1	.07	--
SEP 08...	107	41	175	5.8	899	283	.3	2045	<.65	.06	--

ARKANSAS RIVER BASIN

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07148350 SALT FORK ARKANSAS RIVER NEAR WINCHESTER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT											
13...	--	--	--	100	--	199	--	--	--	--	--
NOV											
10...	4	37	13	200	68	569	<.5	29	<2	6	16
DEC											
15...	--	--	--	270	--	286	--	--	--	--	--
FEB											
01...	3	39	<1	790	18	110	<.5	21	1	12	16
09...	5	59	18	1090	22	80	1.2	14	1	5	12
MAR											
08...	--	--	--	520	--	50	--	--	--	--	--
APR											
14...	--	--	--	1190	--	110	--	--	--	--	--
MAY											
04...	2	43	21	1730	35	240	<.5	32	1	7	45
JUN											
07...	--	--	--	260	--	80	--	--	--	--	--
JUL											
12...	--	--	--	230	--	100	--	--	--	--	--
SEP											
08...	--	--	--	1900	--	68	--	--	--	--	--

ARKANSAS RIVER BASIN

07148400 SALT FORK ARKANSAS RIVER NEAR ALVA, OK

LOCATION.--Lat 36°48'45", long 98°38'50", in SW 1/4 SW 1/4 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, April to September 1977.

REMARKS.--No flow was observed in July and August.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN- TANEGUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER DAY)
APR 07...	1600	--	2500	25.0	250	210	720	310	1730	--
MAY 04...	1545	151	1300	26.0	190	57	450	72	906	369
JUN 07...	1500	14	2000	29.5	280	200	730	280	1760	66.5
SEP 07...	1710	43	2480	30.5	340	190	940	290	1990	231

ARKANSAS RIVER BASIN

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07148450 SALT FORK ARKANSAS RIVER NEAR INGERSOLL, OK

LOCATION.--Lat 36°49'18", long 98°21'35", in SW 1/4 NW 1/4, sec.14, T.27 N., P.11 W., Alfalfa County, Hydrologic Unit 11060002, on downstream right bank near end of bridge on State Highways 8 and 58, 2.0 mi (3.2 km) upstream from Medicine Lodge River, 2.5 mi (4.0 km) northeast of Ingersoll and at mile 120.3 (194 km).

DRAINAGE AREA.--1,140 mi² (2,953 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1961 to September 1962, October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,170.30 ft (356.707 m) above mean sea level (State Highway Department bench mark).

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,340 ft³/s (151 m³/s) Oct. 12, 1973, gage height, 11.5 ft (3.51 m) from graph of wire-weight reading; no flow at times during 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,910 ft³/s (82.4 m³/s) Aug. 29, gage height, 8.18 ft (2.493 m), no peak above base of 5,000 ft³/s (142 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	1.8	.70	.50	33	23	25	468	58	51	3.8	839
2	1.8	1.4	1.5	.40	28	23	24	273	82	41	4.2	336
3	1.4	1.1	1.2	.45	22	23	24	261	57	33	10	299
4	.78	.81	1.3	.40	25	23	25	286	45	27	33	221
5	.32	.70	1.8	.50	28	23	24	199	42	21	16	167
6	.07	.70	1.8	.32	25	24	27	172	36	18	8.9	132
7	.00	.70	1.0	.60	30	24	34	132	28	16	5.6	111
8	.00	.65	.79	.78	28	23	34	110	24	19	3.7	94
9	.00	.75	1.2	.60	27	23	33	95	21	23	2.1	79
10	.00	1.0	1.7	.25	23	23	33	83	22	31	1.6	68
11	.00	.35	2.6	.40	26	25	31	75	20	18	3.2	65
12	.00	.14	4.3	.70	37	29	31	68	17	13	11	64
13	.00	.21	5.1	1.5	35	26	42	62	17	12	13	99
14	.00	.28	5.5	2.5	26	24	53	59	17	10	34	245
15	.00	.35	6.3	4.0	25	22	58	99	15	9.2	64	214
16	.00	.35	7.1	2.5	24	21	47	82	13	8.4	25	142
17	.00	.42	7.5	2.8	23	22	42	95	12	7.2	263	226
18	.00	.70	11	2.1	23	21	70	114	11	6.2	266	205
19	.00	1.0	9.1	2.3	23	21	95	117	9.9	5.1	103	192
20	.00	.86	7.5	5.0	23	20	77	92	9.9	4.3	130	129
21	.00	.70	6.3	14	22	19	213	1610	9.4	3.8	81	95
22	.00	.63	8.7	50	22	20	104	718	8.7	3.6	37	79
23	.00	.63	11	45	22	20	74	354	8.7	3.7	204	68
24	.00	.86	11	35	23	22	60	227	150	3.5	727	60
25	.00	.63	10	29	24	21	52	149	648	3.2	229	52
26	.00	.49	10	25	25	20	45	142	610	3.0	325	47
27	.46	.42	9.6	28	26	21	40	165	302	3.6	140	46
28	.27	.28	9.0	23	25	25	36	109	162	6.1	322	46
29	.85	.21	2.5	17	---	24	38	79	103	6.1	1900	46
30	1.8	.21	.60	20	---	24	139	49	73	3.5	644	43
31	2.3	---	.25	30	---	24	---	56	---	3.9	404	---
TOTAL	12.55	19.33	157.94	344.60	723	703	1630	6600	2631.6	417.4	6014.1	4509
MEAN	.40	.64	5.09	11.1	25.8	22.7	54.3	213	87.7	13.5	194	150
MAX	2.5	1.8	11	50	37	29	213	1610	648	51	1900	839
MIN	.00	.14	.25	.25	22	19	24	49	8.7	3.0	1.6	43
AC-FT	25	38	313	684	1430	1390	3230	13090	5220	828	11930	8940
CAL YR 1976	TOTAL	26156.85	MEAN	71.5	MAX	2000	MIN	.00	AC-FT	51880		
WTR YR 1977	TOTAL	23762.52	MEAN	65.1	MAX	1900	MIN	.00	AC-FT	47130		

ARKANSAS RIVER BASIN

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
02...	--	--	1645	1.8	1930	8.0	--	--	--	--
05...	1028	9740	1730	.32	1510	8.6	24.0	110	11.8	145
NOV										
02...	1028	9740	1400	1.3	2200	8.3	18.0	6	11.9	129
02...	--	--	1645	1.3	2020	8.1	--	--	--	--
07...	--	--	1500	.14	2230	7.9	--	--	--	--
30...	--	--	1330	.49	1920	7.9	--	--	--	--
DEC										
01...	--	--	1515	.63	1920	7.9	--	--	--	--
07...	1028	9740	1530	1.0	1700	8.5	3.0	2	12.5	97
07...	--	--	1615	1.0	2070	7.8	--	--	--	--
18...	--	--	1600	11	2230	8.0	--	--	--	--
JAN										
04...	1028	9740	1530	.40	2060	8.2	.5	1	14.2	101
FEB										
01...	1028	9740	1535	25	2100	8.0	3.5	54	13.2	102
14...	--	--	1700	26	2100	8.1	--	--	--	--
17...	--	--	1700	24	2170	8.0	--	--	--	--
24...	--	--	1700	24	2240	8.2	--	--	--	--
MAR										
02...	1028	9740	1307	23	2100	8.5	9.0	7	12.2	111
07...	--	--	1815	24	2180	8.3	--	--	--	--
17...	--	--	1715	22	2300	8.2	--	--	--	--
31...	--	--	1810	26	2400	8.4	--	--	--	--
APR										
05...	1028	9740	1415	26	2310	7.9	17.0	21	10.3	110
10...	--	--	1830	34	2460	7.8	--	--	--	--
21...	--	--	1745	207	1700	7.3	--	--	--	--
25...	--	--	1830	50	2090	7.6	--	--	--	--
MAY										
03...	1028	9740	1400	185	1410	7.9	26.0	240	7.8	100
14...	--	--	1730	57	2420	7.5	--	--	--	--
21...	--	--	1710	2080	573	7.4	--	--	--	--
24...	--	--	1730	207	1460	7.6	--	--	--	--
JUN										
01...	1028	9740	1600	58	1450	8.2	29.0	150	7.8	104
02...	--	--	1900	82	1690	7.4	--	--	--	--
10...	--	--	1820	21	2270	7.6	--	--	--	--
28...	--	--	1734	141	997	7.5	--	--	--	--
JUL										
05...	1028	9740	1545	20	2190	8.1	32.0	22	7.4	104
08...	--	--	1734	19	1910	7.9	--	--	--	--
11...	--	--	2030	15	2430	7.6	--	--	--	--
25...	--	--	1735	3.1	2170	7.6	--	--	--	--
AUG										
02...	1028	9740	1440	4.8	2000	8.3	32.5	4	8.5	120
09...	--	--	1850	2.0	2320	7.4	--	--	--	--
11...	--	--	1730	4.0	1550	7.8	--	--	--	--
17...	--	--	1745	347	289	7.4	--	--	--	--

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
SEP										
07...	1028	9740	1415	107	1920	8.2	28.0	87	7.9	104
14...	--	--	1805	271	1660	7.5	--	--	--	--
19...	--	--	1730	171	1150	7.6	--	--	--	--
28...	--	--	1815	46	2190	8.0	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT										
02...	--	900	750	--	260	--	60	--	96	19
05...	10	--	--	--	--	--	--	--	--	--
NOV										
02...	--	--	--	--	--	--	--	--	--	--
02...	--	910	760	--	260	--	64	--	120	22
12...	--	1000	830	--	290	--	71	--	120	20
30...	--	860	730	--	250	--	58	--	98	20
DEC										
01...	--	910	750	--	270	--	58	--	93	18
07...	0	--	--	--	--	--	--	--	--	--
07...	--	970	780	--	280	--	65	--	110	20
18...	--	1100	920	--	330	--	68	--	130	20
JAN										
04...	3	--	--	--	--	--	--	--	--	--
FEB										
01...	21	--	--	--	--	--	--	--	--	--
14...	--	820	670	--	240	--	54	--	160	30
17...	--	830	680	--	240	--	56	--	160	29
24...	--	830	690	--	240	--	57	--	170	31
MAR										
02...	8	--	--	--	--	--	--	--	--	--
07...	--	860	720	--	250	--	58	--	170	30
17...	--	930	780	--	270	--	62	--	180	30
31...	--	900	770	--	260	--	62	--	200	32
APR										
05...	16	--	--	--	--	--	--	--	--	--
10...	--	990	840	--	290	--	64	--	200	30
21...	--	890	800	--	300	--	35	--	77	16
25...	--	860	720	--	260	--	50	--	150	27
MAY										
03...	41	--	--	--	--	--	--	--	--	--
14...	--	920	780	--	280	--	54	--	200	32
21...	--	240	160	--	78	--	11	--	21	16
24...	--	680	550	--	220	--	31	--	74	19
JUN										
01...	20	--	--	--	--	--	--	--	--	--
02...	--	660	540	--	200	--	38	--	130	30
10...	--	970	820	--	290	--	60	--	160	26
28...	--	470	380	--	160	--	16	--	37	15
JUL										
05...	4	--	--	--	--	--	--	--	--	--
08...	--	800	690	--	240	--	48	--	130	26
11...	--	960	840	--	300	--	52	--	190	30
25...	--	950	840	--	280	--	60	--	140	24
AUG										
02...	8	--	--	--	--	--	--	--	--	--
09...	--	1100	980	--	320	--	67	--	130	21
11...	--	690	580	--	210	--	40	--	88	22
17...	--	120	58	--	35	--	7.4	--	12	18
SEP										
07...	12	--	--	--	--	--	--	--	--	--
14...	--	950	880	--	330	--	30	--	40	8
19...	--	540	450	--	180	--	23	--	43	15
28...	--	930	780	--	280	--	57	--	150	26

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	CAR- BONATE (CO ₃) (MG/L)	ALKA- LINITY AS CaCO ₃ (MG/L)	CARBON DIOXIDE (CO ₂) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
02...	1.4	--	7.2	183	0	150	2.9	780	120	--
05...	--	--	--	--	--	--	--	--	--	.5
NOV										
02...	--	--	--	--	--	--	--	--	--	.3
02...	1.7	--	7.3	185	0	152	2.4	740	150	--
12...	1.6	--	9.2	226	0	185	4.6	790	170	--
30...	1.5	--	5.2	160	0	131	3.2	700	130	--
DEC										
01...	1.3	--	5.5	203	0	167	4.1	700	140	--
07...	--	--	--	--	--	--	--	--	--	.4
07...	1.5	--	6.1	226	0	185	5.7	780	160	--
18...	1.7	--	5.5	220	0	180	3.5	890	200	--
JAN										
04...	--	--	--	--	--	--	--	--	--	.3
FEB										
01...	--	--	--	--	--	--	--	--	--	.3
14...	2.4	--	4.9	182	0	149	2.3	640	230	--
17...	2.4	--	6.2	182	0	149	2.9	660	230	--
24...	2.6	--	5.3	172	0	141	1.7	670	260	--
MAR										
02...	--	--	--	--	--	--	--	--	--	.4
07...	2.5	--	5.1	170	0	140	1.4	720	240	--
17...	2.6	--	5.7	180	0	150	1.8	760	260	--
31...	2.9	--	5.3	160	1	130	1.0	770	290	--
APR										
05...	--	--	--	--	--	--	--	--	--	.4
10...	2.8	--	6.0	180	0	148	4.6	810	280	--
21...	1.1	--	4.6	120	0	98	9.6	770	84	--
25...	2.2	--	5.3	170	0	139	6.8	700	200	--
MAY										
03...	--	--	--	--	--	--	--	--	--	.4
14...	2.9	--	5.7	170	0	140	8.6	740	320	--
21...	.6	--	5.1	98	0	80	6.2	150	37	--
24...	1.2	--	4.8	150	0	120	6.0	540	94	--
JUN										
01...	--	--	--	--	--	--	--	--	--	.4
02...	2.2	--	7.1	140	0	110	8.9	530	180	--
10...	2.2	--	6.3	190	0	156	7.6	790	220	--
28...	.7	--	6.9	110	0	90	5.6	360	46	--
JUL										
05...	--	--	--	--	--	--	--	--	--	.3
08...	2.0	--	6.4	130	0	107	2.6	680	180	--
11...	2.7	--	7.5	150	0	123	6.0	860	270	--
25...	2.0	--	9.9	130	0	107	5.2	860	200	--
AUG										
02...	--	--	--	--	--	--	--	--	--	.3
09...	1.7	--	12	110	0	90	7.0	900	200	--
11...	1.5	--	4.6	130	0	110	3.3	580	110	--
17...	.5	--	4.1	73	0	60	4.7	64	12	--
SEP										
07...	--	--	--	--	--	--	--	--	--	.3
14...	.6	--	5.6	86	0	71	4.4	890	52	--
19...	.8	--	4.9	120	0	98	4.8	430	56	--
28...	2.1	--	5.9	190	0	160	3.0	780	200	--

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
02...	--	1520	--	2.07	7.39	.54	--	--	--	--
05...	--	--	--	--	--	--	.50	<.14	--	--
NOV										
02...	--	--	--	--	--	--	--	<.08	3	4
02...	--	1570	--	2.14	5.51	.71	--	--	--	--
12...	--	1710	--	2.33	.65	.66	--	--	--	--
30...	--	1420	--	1.93	1.88	.37	--	--	--	--
DEC										
01...	--	1470	--	2.00	2.50	.28	--	--	--	--
07...	--	--	--	--	--	--	.80	.48	--	--
07...	--	1610	--	2.19	4.35	.29	--	--	--	--
18...	--	1730	--	2.35	51.4	.65	--	--	--	--
JAN										
04...	--	--	--	--	--	--	.80	.25	--	--
FEB										
01...	--	--	--	--	--	--	--	.42	7	3
14...	--	1550	--	2.11	109	.64	--	--	--	--
17...	--	1600	--	2.18	104	.71	--	--	--	--
24...	--	1650	--	2.24	107	.62	--	--	--	--
MAR										
02...	--	--	--	--	--	--	1.1	.30	--	--
07...	--	1600	--	2.18	104	.19	--	--	--	--
17...	--	1690	--	2.30	100	.31	--	--	--	--
31...	--	1750	--	2.38	123	.01	--	--	--	--
APR										
05...	--	--	--	--	--	--	1.5	.28	--	--
10...	--	1840	--	2.50	169	.48	--	--	--	--
21...	--	1440	--	1.96	805	.56	--	--	--	--
25...	--	1580	--	2.15	213	.67	--	--	--	--
MAY										
03...	--	--	--	--	--	--	2.2	.68	12	5
14...	--	1780	--	2.42	274	--	--	--	--	--
21...	--	403	--	.55	2260	--	--	--	--	--
24...	--	1110	--	1.51	620	--	--	--	--	--
JUN										
01...	--	--	--	--	--	--	2.0	.45	--	--
02...	--	1200	--	1.63	266	--	--	--	--	--
10...	--	1750	--	2.38	99.2	--	--	--	--	--
28...	--	717	--	.98	273	--	--	--	--	--
JUL										
05...	--	--	--	--	--	--	1.4	.16	--	--
08...	--	1440	--	1.96	73.9	--	--	--	--	--
11...	--	1850	--	2.52	74.9	--	--	--	--	--
25...	--	1700	--	2.31	14.2	--	--	--	--	--
AUG										
02...	--	--	--	--	--	--	1.3	.07	6	1
09...	--	1860	--	2.53	10.0	--	--	--	--	--
11...	--	1160	--	1.58	12.5	--	--	--	--	--
17...	--	188	--	.26	176	--	--	--	--	--
SEP										
07...	--	--	--	--	--	--	<.65	.21	--	--
14...	--	1440	--	1.96	1050	--	--	--	--	--
19...	--	866	--	1.18	400	--	--	--	--	--
28...	--	1700	--	2.31	211	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.5	16.0	4.5		---	---	15.0	24.0	28.0	29.0	26.0	26.0
2	25.5	18.0	5.0		---	13.0	19.0	26.0	28.0	28.0	27.0	24.0
3	25.0	15.0	4.0		---	12.0	17.0	20.0	29.0	29.0	29.0	23.0
4	19.0	12.0	9.0		---	12.0	15.0	21.0	29.0	28.0	26.0	24.0
5	22.5	13.0	6.0		---	12.0	19.0	25.0	30.0	29.0	27.0	25.0
6	12.0	14.0	4.5		---	14.0	21.0	28.0	24.0	29.0	28.0	28.0
7	27.0	7.0	4.0		---	8.0	22.0	29.0	30.0	29.0	30.0	28.0
8	18.0	10.0	4.0		---	18.0	21.0	30.0	27.0	27.0	28.0	28.0
9	21.5	15.0	4.5		---	17.5	21.0	30.0	29.0	29.0	29.0	22.0
10	21.5	13.5	5.0		---	17.0	18.0	23.0	29.0	25.0	30.0	24.0
11	16.5	10.0	0.5		---	15.0	20.0	25.0	30.0	30.0	20.0	27.0
12	21.0	6.0	5.5		---	10.0	18.0	29.0	29.0	29.0	20.0	27.0
13	21.5	6.5	7.5		---	16.0	16.0	29.0	30.0	27.0	21.0	24.0
14	20.0	7.0	6.5		14.0	18.0	20.0	28.0	30.0	28.0	27.0	23.0
15	21.0	6.0	5.5		8.0	18.0	22.0	25.0	29.0	29.0	28.0	24.0
16	21.5	7.0	6.0		14.0	15.0	20.0	25.0	29.0	27.0	33.0	25.0
17	21.0	9.0	5.0		16.0	15.0	20.0	23.0	27.0	30.0	26.0	24.0
18	11.0	9.0	10.0		16.0	20.0	21.0	24.0	30.0	26.0	23.0	25.0
19	19.0	9.0	9.5		13.0	15.0	23.0	22.0	33.0	27.0	27.0	26.0
20	14.0	8.0	3.0		13.0	17.0	22.0	20.0	29.0	30.0	27.0	26.0
21	15.0	9.5	1.5		16.0	14.0	12.0	23.0	29.0	27.0	27.0	26.0
22	17.0	10.0	4.0		13.0	16.0	13.0	23.0	28.0	29.0	30.0	27.0
23	19.0	6.0	5.0		9.0	16.0	16.0	23.0	28.0	28.0	30.0	24.0
24	12.5	7.5	4.0		13.0	16.0	23.0	24.0	29.5	28.0	27.0	26.0
25	10.5	8.0	5.5		7.0	18.0	23.0	26.0	27.0	27.0	29.0	25.0
26	13.0	7.0	5.0		---	18.0	24.0	24.0	29.0	26.0	28.0	27.0
27	8.0	7.0	4.5		---	16.0	25.0	23.0	33.0	26.0	27.0	26.0
28	10.0	7.0	---		---	19.0	25.0	26.0	33.0	27.0	20.0	24.0
29	12.0	6.0	---		---	17.0	23.0	28.0	31.0	28.0	20.0	23.0
30	11.0	6.0	---		---	15.0	20.0	29.0	28.0	30.0	21.0	23.0
31	14.0	---	---		---	15.0	---	25.0	---	27.0	27.0	---
MONTH	17.5	9.5	5.0		---	15.5	20.0	25.0	29.0	28.0	26.5	25.0
YEAR	MAX	33.0	MIN	0.5	MEAN	20.0						

DISSOLVED SOLIDS (TUNS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	2.51	---	103.00	119.00	1170.00	221.00	198.00	15.10	2030.00
2			---	1.75	---	---	113.00	796.00	281.00	183.00	19.40	1020.00
3			---	1.90	---	106.00	113.00	747.00	215.00	135.00	38.90	977.00
4			---	1.68	---	106.00	117.00	675.00	185.00	116.00	146.00	656.00
5			---	2.11	---	107.00	113.00	457.00	192.00	98.10	67.40	555.00
6			---	1.36	---	---	131.00	655.00	156.00	81.20	38.20	492.00
7			---	---	---	---	170.00	545.00	124.00	67.00	24.60	429.00
8			---	3.24	---	103.00	161.00	472.00	110.00	74.90	16.30	388.00
9			4.86	2.71	---	195.00	160.00	453.00	96.40	98.10	9.92	339.00
10			7.53	1.12	104.00	101.00	161.00	392.00	103.00	144.00	7.08	292.00
11			11.70	---	117.00	115.00	153.00	356.00	94.50	86.50	10.20	253.00
12			18.60	---	165.00	131.00	155.00	329.00	77.60	58.30	28.20	264.00
13			21.90	---	---	120.00	160.00	298.00	77.60	57.30	29.10	356.00
14			23.90	---	112.00	112.00	216.00	244.00	76.70	46.70	58.10	959.00
15			28.20	---	109.00	103.00	254.00	425.00	68.40	42.70	213.00	693.00
16			31.20	---	106.00	97.50	212.00	394.00	59.30	37.90	96.50	460.00
17			33.80	---	---	103.00	170.00	410.00	50.50	32.90	81.00	714.00
18			50.50	---	---	99.20	261.00	285.00	49.90	28.30	638.00	703.00
19			41.30	---	104.00	103.00	377.00	385.00	44.40	23.00	303.00	449.00
20			34.00	---	105.00	95.00	314.00	380.00	45.20	19.00	296.00	362.00
21			28.70	---	---	93.40	753.00	1820.00	42.90	16.60	262.00	326.00
22			36.90	---	---	97.20	404.00	1960.00	38.30	15.60	135.00	301.00
23			46.30	---	---	96.10	294.00	1140.00	37.30	16.30	519.00	281.00
24			47.50	---	---	106.00	248.00	674.00	737.00	15.10	1910.00	254.00
25			43.70	---	110.00	101.00	195.00	491.00	1700.00	14.30	582.00	229.00
26			43.50	---	109.00	96.70	179.00	472.00	1450.00	12.50	913.00	202.00
27			42.20	---	114.00	99.20	180.00	443.00	675.00	15.26	423.00	202.00
28			38.20	---	110.00	114.00	165.00	318.00	322.00	26.50	965.00	206.00
29			10.50	---	---	114.00	169.00	273.00	273.00	27.70	3730.00	204.00
30			2.56	---	---	115.00	604.00	169.00	242.00	15.90	1220.00	189.00
31			1.27	---	---	117.00	---	225.00	---	18.10	816.00	---
MEAN			28.20	2.04	114.00	106.00	227.00	576.00	262.00	58.80	463.00	493.00
WTR YR 1977	MEAN	268.00		MAX	3730.00		MIN	1.12				

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1940	2010	1920		---	2200	2340	1230	1790	1960	1930	1190
2	1930	2020	2040		---	2220	2290	1400	1690	2210	2260	1480
3	2000	2040	2040		---	2240	2320	1440	1860	2080	2070	1600
4	2000	2070	2070		---	2260	2320	1150	2080	2240	2120	1460
5	2140	2060	2050		---	2280	2340	1160	2240	2260	2120	1650
6	2150	2080	2060		---	2270	2360	1860	2120	2210	2150	1830
7	2000	2080	2070		---	2180	2410	2020	2170	2160	2190	1980
8	1990	2110	2020		---	2190	2380	2120	2240	1910	2180	2010
9	2390	2110	1990		---	2250	2430	2220	2260	2210	2320	2080
10	2380	2110	2140		---	2280	2460	2300	2270	2100	2180	2100
11	2460	2110	2190		---	2240	2460	2340	2250	2430	1550	1900
12	2640	2230	2110		---	2180	2420	2380	2220	2360	1240	2050
13	2640	2230	2100		---	2280	1850	2390	2210	2350	1060	1720
14	2640	2180	2160	2100	2300	1860	2420	2190	2270	846	1660	1660
15	2650	2190	2160	2170	2300	2190	2050	2210	2260	1620	1590	1590
16	2670	2120	2160	2150	2280	2220	2350	2220	2220	1880	1560	1560
17	2670	2100	2180	2170	2300	1990	2120	2240	2180	---	1540	1540
18	2680	2080	2230	2170	2310	1930	1170	2200	2230	1160	1720	1720
19	2720	2100	2210	2210	2400	2040	1600	2190	2230	1440	1150	1150
20	2750	2120	2200	2200	2350	2020	2100	2210	2210	1120	1390	1390
21	2680	2140	2210	2200	2390	1700	573	2220	2090	1610	1690	1690
22	2660	2130	2100	2210	2390	1890	1320	2160	2120	1800	1900	1900
23	2660	2120	2090	2220	2360	2020	1560	2100	2140	1280	2030	2030
24	2720	2100	2130	2240	2370	2050	1460	2130	2140	1290	2100	2100
25	2680	---	2140	2210	2350	2090	1610	1190	2170	1120	2140	2140
26	2490	2220	2130	2120	2370	2170	1660	1160	1970	1390	2160	2160
27	2500	---	2130	2140	2310	2260	1210	1030	2090	1500	2160	2160
28	2700	2250	---	2160	2220	2310	1420	997	2420	1460	2190	2190
29	2140	2250	---	---	2350	2190	1680	1400	2240	966	2180	2180
30	2020	1920	---	---	2380	2190	1880	1730	2240	910	2190	2190
31	2010	---	---	---	2400	---	1880	---	2280	994	---	---
MEAN	2410	2120	2110		2180	2300	2180	1740	1970	2190	1590	1810
WTR YR 1977	MEAN	2050		MAX	2750		MIN	573				

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	.0		---	13.5	22.0	24.5	26.0	24.5	26.0
2			---	0.5		---	15.0	23.5	25.0	27.5	23.5	24.5
3			---	0.5		---	13.0	24.0	26.0	26.0	27.5	26.5
4			---	0.5		---	12.0	24.0	26.5	25.0	26.5	26.5
5			---	0.5		---	11.5	22.5	27.0	26.0	26.0	23.5
6			---	0.5		---	16.0	23.5	25.5	26.5	25.5	24.0
7			---	.0		---	18.0	26.0	23.0	25.5	26.5	24.5
8			---	.0		---	19.0	26.0	23.5	27.0	26.0	25.5
9			6.5	.0		13.0	18.5	25.0	23.5	30.0	26.5	26.0
10			2.0	0.5		14.0	18.0	22.0	25.5	28.5	24.5	21.5
11			---	0.5		12.0	18.0	21.0	26.0	27.5	24.5	21.0
12			---	---		8.5	17.0	22.0	25.0	28.0	20.0	24.0
13			2.0	---		10.5	17.0	21.5	25.5	27.5	23.0	23.5
14			4.0	---		14.0	17.5	21.0	27.0	25.0	25.0	22.5
15			4.0	---		13.5	19.5	22.0	27.0	23.5	28.5	20.0
16			4.0	---		11.0	18.0	22.5	26.5	28.5	29.0	21.0
17			5.5	---		12.5	19.0	21.5	26.5	24.0	29.5	22.5
18			5.5	---		13.0	19.0	22.5	24.5	27.0	23.5	22.5
19			5.5	---		11.5	20.5	21.5	26.0	24.5	23.0	23.0
20			1.5	---		10.0	20.0	19.0	26.5	26.0	22.5	22.0
21			1.0	---		10.0	15.5	17.5	25.5	25.5	24.0	21.5
22			1.5	---		10.5	14.5	20.5	23.5	25.0	26.5	23.5
23			1.5	---		13.0	17.5	22.0	24.5	25.0	27.0	24.0
24			3.0	---		14.0	19.0	20.5	25.5	24.5	26.5	22.5
25			3.0	---		15.0	21.0	23.5	24.0	24.0	26.5	21.0
26			3.5	---		16.5	21.0	21.5	27.5	26.0	26.0	21.0
27			5.0	---		16.5	20.5	21.0	---	24.0	26.5	22.5
28			4.5	---		17.0	22.5	23.5	29.0	23.5	25.5	21.0
29			3.0	---		14.5	22.5	24.5	27.0	25.5	20.5	19.0
30			0.5	---		13.0	21.5	25.0	27.0	27.0	20.5	19.0
31			.0	---		12.5	---	24.0	---	24.5	23.5	---
MEAN			3.0	0.5		13.0	18.0	22.5	25.5	26.0	25.0	23.0
WTR YR 1977	MEAN	19.5		MAX	30.0		MIN	.0				

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

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	2450	---	2190	2330	1220	1850	1900	1940	1180
2			---	2130	---	---	2300	1420	1670	2170	2250	1470
3			---	2050	---	2240	2310	1390	1840	2000	1890	1590
4			---	2050	---	2250	2290	1150	2000	2100	2160	1450
5			---	2060	---	2260	2310	1120	2230	2280	2060	1620
6			---	2070	---	---	2370	1860	2110	2200	2090	1820
7			---	---	---	---	2430	2020	2160	2040	2150	1880
8			---	2030	---	2190	2310	2100	2220	1920	2150	2020
9			1970	2200	---	2230	2370	2220	2240	2080	2300	2100
10			2160	2160	2210	2150	2380	2300	2280	2270	2160	2090
11			2190	---	2200	2240	2410	2320	2310	2350	1550	1900
12			2110	---	2170	2200	2440	2360	2230	2190	1250	2010
13			2090	---	---	2250	1850	2340	2220	2330	1090	1750
14			2120	---	2090	2280	1990	2010	2200	2280	833	1910
15			2180	---	2130	2290	2130	2090	2220	2260	1620	1580
16			2150	---	2150	2270	2200	2340	2230	2200	1880	1580
17			2200	---	---	2280	1970	2110	2050	2220	1500	1540
18			2240	---	---	2300	1820	1220	2210	2230	1170	1670
19			2210	---	2200	2380	1940	1610	2190	2200	1440	1140
20			2210	---	2230	2320	1990	2020	2220	2160	1110	1370
21			2220	---	---	2390	1730	551	2220	2130	1580	1670
22			2070	---	---	2370	1890	1330	2150	2120	1780	1860
23			2060	---	---	2350	1940	1570	2090	2150	1240	2010
24			2110	---	---	2360	2010	1450	2390	2110	1280	2070
25			2130	---	2220	2350	1830	1600	1280	2170	1240	2140
26			2120	---	2120	2360	1940	1620	1160	2030	1370	2100
27			2150	---	2130	2310	2200	1310	1090	2050	1480	2140
28			2070	---	2150	2230	2240	1420	968	2120	1460	2180
29			2040	---	---	2320	2170	1680	1290	2210	958	2160
30			2080	---	---	2340	2120	1880	1620	2210	924	2150
31			2470	---	---	2380	---	1960	---	2260	984	---
MEAN			2150	2140	2170	2290	2140	1730	1960	2160	1580	1810
WTR YR 1977	MEAN	1980		MAX	2470		MIN	551				

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	250	---	210	230	80	160	170	180	74
2			---	200	---	---	220	110	140	210	220	110
3			---	190	---	220	230	100	160	180	170	130
4			---	190	---	220	220	70	180	200	210	110
5			---	190	---	220	230	66	220	220	190	130
6			---	190	---	---	230	170	200	210	200	160
7			---	---	---	---	240	190	210	190	200	170
8			---	190	---	210	230	200	210	170	200	190
9			180	210	---	220	230	210	220	200	220	200
10			210	210	210	200	240	220	220	220	210	200
11			210	---	210	220	240	230	230	230	120	170
12			200	---	210	210	240	230	220	210	84	190
13			200	---	---	220	160	230	210	230	62	150
14			200	---	200	220	180	190	210	220	43	170
15			210	---	200	220	200	200	210	220	130	130
16			200	---	200	220	210	230	220	210	170	130
17			210	---	---	220	180	200	190	210	120	120
18			220	---	---	220	160	80	210	220	73	140
19			210	---	210	240	180	130	210	210	110	69
20			210	---	220	230	180	190	210	210	65	100
21			210	---	---	240	150	32	210	200	130	140
22			190	---	---	230	170	94	200	200	150	170
23			190	---	---	230	180	130	200	200	82	190
24			200	---	---	230	190	110	240	200	88	190
25			200	---	210	230	160	130	88	210	82	200
26			200	---	200	230	180	130	72	190	100	200
27			200	---	200	230	210	92	62	190	110	200
28			190	---	200	220	220	110	49	200	110	210
29			190	---	---	230	210	140	89	210	46	210
30			200	---	---	230	200	170	130	210	47	200
31			250	---	---	240	---	180	---	220	49	---
MEAN			200	200	210	220	200	150	180	210	130	160
WTR YR 1977	MEAN	180		MAX	250		MIN	32				

ARKANSAS RIVER BASIN

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

DISSOLVED SULFATE (SO₄), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	860	---	770	820	450	660	680	690	440
2			---	750	---	---	810	520	600	770	800	530
3			---	730	---	790	820	510	660	710	670	570
4			---	730	---	800	810	430	710	740	760	530
5			---	730	---	800	820	420	790	810	730	580
6			---	730	---	---	840	660	750	780	740	650
7			---	---	---	---	860	720	760	720	760	670
8			---	720	---	770	820	740	780	680	760	720
9			700	780	---	790	840	780	790	740	810	740
10			760	770	780	760	840	810	810	800	760	740
11			770	---	780	790	850	820	820	830	560	680
12			750	---	770	780	860	830	790	770	460	710
13			740	---	---	800	660	830	780	820	410	630
14			750	---	740	810	710	710	780	810	320	680
15			770	---	750	810	750	740	780	800	580	570
16			760	---	760	800	780	830	790	780	670	570
17			780	---	---	810	700	750	730	780	540	560
18			790	---	---	810	650	450	780	790	430	600
19			780	---	780	840	690	580	770	780	520	420
20			780	---	790	820	710	720	780	760	410	500
21			780	---	---	840	620	230	780	750	570	600
22			730	---	---	840	670	490	760	750	640	660
23			730	---	---	830	690	570	740	760	460	710
24			750	---	---	830	710	530	840	750	470	730
25			750	---	780	830	650	560	470	770	460	760
26			750	---	750	830	690	580	430	720	500	740
27			760	---	750	820	780	480	410	730	540	760
28			730	---	760	790	790	520	370	750	530	770
29			720	---	---	820	770	600	470	780	360	760
30			740	---	---	830	750	670	580	780	350	760
31			870	---	---	840	---	700	---	800	370	---
MEAN			760	760	770	810	760	620	700	760	570	640
WTR YR 1977	MEAN	700		MAX	870	MIN	230					

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	.34	---	13.00	15.50	101.00	25.10	23.40	1.85	168.00
2			---	.22	---	---	14.30	81.10	31.00	23.20	2.49	99.80
3			---	.23	---	13.70	14.90	70.50	24.60	16.00	4.59	105.00
4			---	.21	---	13.70	14.90	54.10	21.90	14.60	18.70	65.60
5			---	.26	---	13.70	14.90	35.50	24.90	12.50	8.21	58.60
6			---	.16	---	---	16.80	78.90	19.40	10.20	4.81	57.00
7			---	---	---	---	22.00	67.70	15.90	8.21	3.02	50.90
8			---	.40	---	13.00	21.10	59.40	13.60	8.72	2.00	48.20
9			.58	.34	---	13.70	20.50	53.90	12.50	12.40	1.25	42.70
10			.96	.14	13.00	12.40	21.40	49.30	13.10	18.40	.91	36.70
11			1.47	---	14.70	14.90	20.10	46.60	12.40	11.20	1.04	29.80
12			2.32	---	21.00	16.40	20.10	42.20	10.10	7.37	2.49	32.80
13			2.75	---	---	15.40	18.10	38.50	9.64	7.45	2.18	40.10
14			2.97	---	14.00	14.30	25.80	30.30	9.64	5.94	3.95	112.00
15			3.57	---	13.50	13.10	31.30	53.50	8.50	5.46	22.50	75.10
16			3.83	---	13.00	12.50	26.60	50.90	7.72	4.76	11.50	49.80
17			4.25	---	---	13.10	20.40	51.30	6.16	4.08	85.20	73.20
18			6.53	---	---	12.50	30.20	24.60	6.24	3.68	52.40	77.50
19			5.16	---	13.00	13.60	46.20	41.10	5.61	2.89	30.60	35.80
20			4.25	---	13.70	12.40	37.40	47.20	5.61	2.44	22.80	34.80
21			3.57	---	---	12.30	86.30	139.00	5.33	2.05	28.40	35.90
22			4.46	---	---	12.40	47.70	182.00	4.70	1.94	15.00	36.30
23			5.64	---	---	12.40	36.00	124.00	4.70	2.00	45.20	34.90
24			5.94	---	---	13.70	30.80	67.40	97.20	1.89	173.00	30.80
25			5.40	---	13.60	13.00	22.50	52.30	154.00	1.81	50.70	28.10
26			5.40	---	13.50	12.40	21.90	49.80	119.00	1.54	87.70	25.40
27			5.18	---	14.00	13.00	22.70	41.00	50.60	1.85	41.60	24.80
28			4.62	---	13.50	14.90	21.40	32.40	21.40	3.29	95.60	26.10
29			1.28	---	---	14.90	21.50	29.90	24.80	3.46	246.00	26.10
30			.32	---	---	14.90	75.10	22.50	25.60	1.98	81.70	23.20
31			.17	---	---	15.60	---	27.20	---	2.32	53.40	---
MEAN			3.51	.26	14.20	13.60	27.90	59.50	26.40	7.32	38.70	52.80
WTR YR 1977	MEAN	27.90		MAX	246.00	MIN	.14					

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

DISSOLVED SULFATE (SO₄), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	1.16	---	47.80	55.30	569.00	103.00	93.60	7.08	997.00
2			---	.81	---	---	52.50	383.00	133.00	85.20	9.07	481.00
3			---	.89	---	49.10	53.10	359.00	102.00	63.30	18.10	460.00
4			---	.79	---	49.70	54.70	332.00	86.30	53.90	67.70	316.00
5			---	.99	---	49.70	53.10	226.00	89.60	45.90	31.50	262.00
6			---	.63	---	---	61.20	307.00	72.90	37.90	17.80	232.00
7			---	---	---	---	78.90	257.00	57.50	31.10	11.50	201.00
8			---	1.52	---	47.80	75.30	220.00	50.50	34.90	7.59	183.00
9			2.27	1.26	---	49.10	74.80	200.00	44.80	46.00	4.59	158.00
10			3.49	.52	46.40	47.20	74.80	182.00	48.10	67.00	3.28	136.00
11			5.41	---	54.80	53.30	71.10	166.00	44.30	40.30	4.84	119.00
12			8.71	---	76.90	61.10	72.00	152.00	36.30	27.00	13.70	123.00
13			10.20	---	---	56.20	74.80	139.00	35.80	26.60	14.40	168.00
14			11.10	---	51.90	52.50	102.00	113.00	35.80	21.90	29.40	450.00
15			13.10	---	50.60	48.10	117.00	198.00	31.60	19.90	100.00	329.00
16			14.60	---	49.20	45.40	99.00	184.00	27.70	17.70	45.20	219.00
17			15.80	---	---	46.10	79.40	192.00	23.70	15.20	383.00	342.00
18			23.50	---	---	45.90	123.00	139.00	23.20	13.20	309.00	332.00
19			19.20	---	48.40	47.60	177.00	183.00	20.60	10.70	145.00	218.00
20			15.80	---	49.10	44.30	148.00	179.00	20.80	8.82	144.00	174.00
21			13.30	---	---	43.10	357.00	1000.00	19.80	7.69	125.00	154.00
22			17.10	---	---	45.40	188.00	950.00	17.90	7.29	63.90	141.00
23			21.70	---	---	44.80	138.00	545.00	17.40	7.59	253.00	130.00
24			22.30	---	---	44.30	115.00	325.00	340.00	7.09	923.00	118.00
25			20.20	---	50.50	47.10	91.30	233.00	822.00	6.65	284.00	107.00
26			20.20	---	50.60	44.80	83.80	222.00	708.00	5.83	439.00	93.90
27			19.70	---	52.60	46.50	84.20	214.00	334.00	7.10	204.00	94.40
28			17.70	---	51.30	53.30	76.80	153.00	162.00	12.40	461.00	95.60
29			4.86	---	---	53.10	79.00	128.00	131.00	12.80	1850.00	94.40
30			1.20	---	---	53.80	281.00	88.60	114.00	7.37	609.00	88.20
31			.59	---	---	54.40	---	106.00	---	6.42	404.00	---
MEAN			13.10	.95	52.90	49.20	106.00	279.00	125.00	27.40	225.00	234.00
WTR YR 1977	MEAN	124.00			MAX	1850.00		MIN	.52			

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	1660	---	1660	1770	927	1410	1440	1470	897
2			---	1620	---	---	1750	1080	1270	1650	1710	1120
3			---	1560	---	1700	1750	1060	1400	1520	1440	1210
4			---	1560	---	1710	1740	874	1520	1590	1640	1100
5			---	1560	---	1720	1750	851	1690	1730	1560	1230
6			---	1570	---	---	1800	1410	1600	1670	1590	1380
7			---	---	---	---	1850	1530	1640	1550	1630	1430
8			---	1540	---	1660	1750	1590	1690	1460	1630	1530
9			1500	1670	---	1690	1600	1690	1700	1580	1750	1590
10			1640	1660	1680	1630	1810	1750	1730	1720	1640	1590
11			1660	---	1670	1700	1830	1760	1750	1780	1180	1440
12			1600	---	1650	1670	1850	1790	1690	1660	950	1530
13			1590	---	---	1710	1410	1780	1690	1770	828	1330
14			1610	---	1590	1730	1510	1530	1670	1730	633	1450
15			1660	---	1620	1740	1620	1590	1690	1720	1230	1200
16			1630	---	1630	1720	1670	1780	1690	1670	1430	1200
17			1670	---	---	1730	1500	1600	1560	1690	1140	1170
18			1700	---	---	1750	1380	927	1680	1690	889	1270
19			1680	---	1670	1610	1470	1220	1660	1670	1090	866
20			1680	---	1690	1760	1510	1530	1690	1640	844	1040
21			1690	---	---	1820	1310	419	1690	1620	1200	1270
22			1570	---	---	1800	1440	1010	1630	1610	1350	1410
23			1560	---	---	1780	1470	1190	1590	1630	942	1530
24			1600	---	---	1790	1530	1100	1820	1600	973	1570
25			1620	---	1690	1780	1590	1220	973	1650	942	1630
26			1610	---	1610	1790	1470	1230	882	1540	1040	1590
27			1630	---	1620	1750	1670	995	828	1560	1120	1630
28			1570	---	1630	1690	1700	1080	736	1610	1110	1660
29			1550	---	---	1760	1650	1280	980	1660	726	1640
30			1580	---	---	1780	1610	1430	1230	1680	702	1630
31			1880	---	---	1810	---	1490	---	1720	748	---
MEAN			1630	1620	1650	1740	1630	1310	1490	1640	1200	1370
WTR YR 1977	MEAN	1510			MAX	1880		MIN	419			

ARKANSAS RIVER BASIN

07149000 MEDICINE LODGE RIVER NEAR KIOWA, KS

LOCATION.--Lat 37°02'17", long 98°28'04", in SE 1/4 SW 1/4 sec.36, T.34 S., R.11 W., Barber County, Hydro-logic Unit 11060003, at downstream side of bridge on state Highway 14, 200 ft (61 m) downstream from the Atchison, Topeka and Santa Fe Railway Co. bridge, 1.5 mi (2.4 km) northeast of Kiowa, and at mile 22.2 (35.7 km).

DRAINAGE AREA.--903 mi² (2,340 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1895 to October 1896, October 1937 to September 1950, October 1954 to September 1955, June 1959 to current year. Published as Medicine River near Kiowa 1895-96. All figures of discharge above 2,000 ft³/s (57 m³/s) for June and July 1896, published in Eighteenth Annual Report of the Geological Survey (Part 4), have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1391: 1938(M), 1942(M). WSP 1921: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,286.99 ft (392.275 m) above mean sea level (levels by Corps of Engineers). May 1895 to October 1896, nonrecording gage at site 2.0 mi (3.2 km) upstream at different datum. Feb. 11 to Mar. 2, 1938, nonrecording gage and Mar. 3, 1938, to Sept. 30, 1944, water-stage recorder at present site at datum 3.00 ft (0.914 m) higher. Oct. 1, 1944, to Sept. 30, 1950, and Oct. 1, 1954, to Sept. 30, 1955, water-stage recorder at present site and datum.

REMARKS.--Records fair, except those for winter periods, which are poor.

AVERAGE DISCHARGE.--32 years (water years 1938-50, 1955, 1960-77), 138 ft³/s (3.908 m³/s), 99,980 acre-ft/yr (123 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s (453 m³/s) Oct. 22, 1941, gage height, 11.75 ft (3.581 m), present datum; maximum gage height, 12.10 ft (3.688 m) Oct. 12, 1973; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of May 8, 1922, and June 1957 reached stages of about 16 ft (4.9 m) and 15.5 ft (4.7 m), respectively, present site and datum, from the Atchison, Topeka and Santa Fe Railway Co. records and information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,190 ft³/s (62.0 m³/s) May 23, gage height, 7.62 ft (2.323 m), no peak above base of 3,700 ft³/s (105 m³/s); minimum, 1.0 ft³/s (0.028 m³/s) July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	76	64	61	80	64	78	176	104	48	6.0	142
2	28	74	74	55	85	68	78	106	198	42	9.5	317
3	22	68	84	51	90	72	78	92	306	32	8.5	146
4	19	66	80	47	95	80	76	94	152	26	10	108
5	19	64	72	48	104	76	78	88	116	23	17	102
6	20	64	70	50	98	78	78	84	96	22	15	94
7	23	62	50	47	88	80	74	86	84	18	11	84
8	26	62	64	44	80	82	74	80	80	28	7.5	76
9	28	64	76	39	84	70	72	76	70	24	5.0	70
10	28	64	80	36	90	70	70	70	60	18	2.8	62
11	26	64	58	34	80	76	66	64	56	17	7.0	58
12	25	64	72	33	78	76	62	58	52	14	7.0	66
13	25	64	72	34	76	78	82	54	50	12	9.0	504
14	25	64	76	35	76	72	96	50	46	10	51	868
15	24	64	78	35	72	70	96	48	40	9.5	68	266
16	23	63	78	34	74	68	90	46	34	8.0	34	276
17	24	63	78	34	84	66	96	58	30	6.5	40	853
18	25	63	76	36	76	66	106	70	29	5.3	34	248
19	29	63	74	38	64	66	112	54	29	4.2	50	146
20	32	63	70	40	58	64	126	106	28	3.6	52	116
21	34	63	44	43	58	64	130	651	26	3.2	50	106
22	36	63	44	46	62	64	134	281	24	4.6	58	98
23	36	62	66	50	66	66	128	1270	28	3.6	98	92
24	36	62	88	54	68	66	116	626	379	2.2	299	88
25	38	62	92	58	70	66	102	385	185	1.5	110	86
26	40	62	90	62	66	66	98	210	138	6.5	78	80
27	46	50	88	68	62	68	90	170	92	6.5	62	74
28	52	50	84	72	64	82	82	154	76	5.0	120	70
29	60	50	80	70	---	96	84	136	66	3.9	706	72
30	76	55	74	68	---	90	318	122	56	2.2	300	74
31	80	---	66	75	---	78	---	112	---	2.8	186	---
TOTAL	1035	1878	2262	1497	2146	2248	2970	5677	2730	413.1	2511.3	5442
MEAN	33.4	62.6	73.0	48.3	76.7	72.5	99.0	183	91.0	13.3	81.0	181
MAX	80	76	92	75	104	96	318	1270	379	48	706	868
MIN	19	50	44	33	58	64	62	46	24	1.5	2.8	58
AC-FT	2050	3730	4490	2970	4260	4460	5890	11260	5410	819	4980	10790

CAL YR 1976 TOTAL 37541.87 MEAN 103 MAX 2520 MIN .00 AC-FT 74460
WTR YR 1977 TOTAL 30811.40 MEAN 84.4 MAX 1270 MIN 1.5 AC-FT 61110

ARKANSAS RIVER BASIN

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07149000 MEDICINE LODGE RIVER NEAR KIOWA, KS

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955-57, 1960-62, 1974 to September 1977 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1954 to September 1955, October 1973 to September 1976 (discontinued).

WATER TEMPERATURE: October 1954 to September 1955, October 1973 to September 1976 (discontinued).

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 water quality data are available from the Kansas District Office. No flow was observed on January 4 because of ice cover.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)
OCT 05...	1028	9740	1400	900	8.6	19.0	2	10.8	121	7	--
NOV 02...	1028	9740	1245	900	8.2	14.0	9	10.2	101	5	316
DEC 07...	1028	9740	1230	900	8.4	1.0	7	14.5	108	1	378
FEB 01...	1028	9740	1205	960	8.2	1.0	13	13.4	98	10	334
MAR 02...	1028	9740	1544	810	8.6	10.0	9	11.0	104	6	357
APR 05...	1028	9740	1300	890	7.9	14.0	20	10.8	108	14	342
MAY 03...	1028	9740	1230	970	8.1	26.0	125	8.1	104	26	410
JUN 01...	1028	9740	1315	1050	8.3	29.0	63	7.7	104	9	236
JUL 05...	1028	9740	1430	1220	8.2	32.0	10	7.2	101	<3	472
AUG 02...	1028	9740	1655	1500	8.4	32.5	2	8.2	117	9	479
SEP 07...	1028	9740	1300	900	8.3	28.0	96	7.6	100	15	406

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT 05...	--	--	--	--	--	--	.6	--	.50	<.14	--
NOV 02...	58	12	53	4.2	--	71	.4	550	.80	<.08	1
DEC 07...	93	20	57	3.4	--	74	.6	605	1.1	.04	--
FEB 01...	97	20	67	3.8	139	102	.3	506	.90	.07	4
MAR 02...	99	21	65	4.7	155	87	.4	564	.90	.09	--
APR 05...	102	23	60	4.5	154	71	.4	534	1.4	.20	--
MAY 03...	122	25	60	6.0	219	69	.4	622	3.0	.35	<1
JUN 01...	117	29	71	6.4	209	89	.5	677	1.1	.24	--
JUL 05...	127	30	104	7.5	295	133	.4	833	1.1	.12	--
AUG 02...	112	35	123	8.1	445	174	.4	930	1.3	.06	5
SEP 07...	121	24	40	4.9	212	51	.4	618	<.65	.86	--

ARKANSAS RIVER BASIN

07149000 MEDICINE LODGE RIVER NEAR KIOWA, KS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 05...	--	--	--	100	--	28	--	--	--	--	--
NOV 02...	1	17	5	100	15	33	<.5	5	1	2	7
DEC 07...	--	--	--	160	--	42	--	--	--	--	--
FEB 01...	2	18	5	450	4	40	<.5	10	1	5	7
MAR 02...	--	--	--	520	--	20	--	--	--	--	--
APR 05...	--	--	--	520	--	70	--	--	--	--	--
MAY 03...	2	25	22	2700	17	260	<.5	26	<1	5	37
JUN 01...	--	--	--	1000	--	170	--	--	--	--	--
JUL 05...	--	--	--	300	--	70	--	--	--	--	--
AUG 02...	1	10	6	100	15	80	<.5	11	<1	2	13
SEP 07...	--	--	--	140	--	5000	--	--	--	--	--

07150000 GREAT SALT PLAINS LAKE NEAR JET, OK

LOCATION.--Lat 36°44'40", long 98°08'08", in NW 1/4 SE 1/4 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 mean sea level.

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, 53,540 acre-ft (66.0 hm³) May 25, elevation, 1,127.21 ft (343,574 m); minimum, 20,300 acre-ft (25.0 hm³) Oct. 27, elevation, 1,123.60 ft (342,473 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 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23890	24280	24510	26410	28950	32470	33190	34630	44530	34720	29120	40400
2	23810	23660	24280	26570	29450	33900	32300	34810	43710	34450	29030	40400
3	23430	23890	24590	26570	29790	34080	33190	35080	42900	34080	28780	40500
4	23280	23660	24430	26730	29880	33360	33810	35180	41790	33450	28620	40500
5	23280	23890	24820	26730	30300	33190	32740	35180	40500	33190	28530	41390
6	23430	23130	24820	26810	29540	33540	32830	35180	39420	32920	28450	40300
7	23430	23740	24740	26810	30300	33360	33010	34990	38750	34630	28200	39520
8	23430	24050	24670	26970	30730	33450	32740	34810	38080	35450	27870	38750
9	23200	23810	25210	27130	30990	32920	32560	34450	36850	34990	27620	37790
10	23050	23660	24670	27050	30990	32740	32390	34450	36290	34260	27220	37030
11	23050	23810	25060	27130	31860	32920	32120	34260	35640	34260	29290	36660
12	22900	23510	25060	27130	32300	33190	32470	34170	35270	33630	29030	36660
13	22750	23890	25530	27220	32300	32470	32830	33900	34810	32920	32560	36850
14	22820	23660	25450	27300	32300	32830	32920	34080	34630	32560	32560	37410
15	22070	23890	25450	27380	32300	32650	33190	34080	34260	32390	33010	37980
16	21850	23890	25610	27380	32740	32470	32920	34260	33810	32030	33010	38940
17	21550	24050	25610	27620	32920	32740	33630	34350	33630	31860	33810	39810
18	22070	24050	25930	27460	32830	32030	33900	34350	33190	31600	34080	40300
19	21770	23810	25850	27540	33010	32210	33720	34810	33360	31080	34900	40210
20	21770	24120	25770	27620	33010	32030	34170	36380	32920	30990	34990	39330
21	22000	24120	26010	27620	33630	32300	34540	41490	33010	30820	34810	38750
22	22150	24050	25850	27870	33540	32470	34990	42590	33270	31080	34810	37790
23	21620	24280	26170	28120	33100	32300	35450	46410	33190	30730	36570	37320
24	21400	24510	25770	28280	32650	32030	35270	50850	33190	30470	37220	36570
25	21400	24350	26090	28450	32650	32210	35080	53200	34170	30390	37600	36380
26	20590	24350	26250	28620	33360	32300	34810	52300	34810	29960	37030	36190
27	21620	24350	26330	28780	33720	32470	34630	49530	35270	29880	36850	35270
28	21920	24280	26410	28870	32920	33900	34540	47160	35450	29790	36660	35270
29	22980	24280	26410	28870	---	33010	34170	45570	35730	29790	37790	35360
30	23810	24280	26410	28870	---	32650	34170	44740	34990	29620	39520	35270
31	23810	---	26410	28950	---	32650	---	45160	---	29450	39810	---
MAX	23890	24510	26410	28950	33720	34080	35450	53200	44530	35450	39810	41390
MIN	20590	23130	24280	26410	28950	32030	32120	33900	32920	29450	27220	35270
†	1,124.07	1,124.13	1,124.40	1,124.71	1,125.17	1,125.14	1,125.31	1,126.44	1,125.40	1,124.77	1,125.91	1,125.43
‡	-310	+470	+2,130	+2,540	+3,970	-270	+1,520	+10,990	-10,170	-5,540	+10,360	-4,540

CAL YR 1976 MAX 48340 MIN 20590 ‡ -7,490
WTR YR 1977 MAX 53200 MIN 20590 ‡ +11,150

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

07150500 SALT FORK ARKANSAS RIVER NEAR JET, OK

LOCATION.--Lat 36°45'11", long 98°07'44", in NE 1/4 NE 1/4 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) above mean sea level (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) 36 years (water years 1942-77), 371 ft³/s (10.51 m³/s), 268,800 acre-ft/yr (3.71 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, 2,350 ft³/s (66.6 m³/s) May 26, gage height, 6.58 ft (2.006 m); minimum daily, 0.60 ft³/s (0.017 m³/s) Jan. 30,31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	1.4	1.2	1.5	.71	14	41	152	1260	146	20	612
2	16	1.3	.90	1.5	.87	62	63	188	1170	168	21	656
3	16	1.4	.90	1.7	.86	95	24	233	1050	152	20	677
4	16	1.5	1.1	1.7	.87	66	92	300	955	116	20	677
5	15	1.5	.90	1.7	.90	38	61	231	847	83	20	746
6	15	1.5	.90	1.8	.78	42	38	245	621	56	20	695
7	15	1.8	1.1	2.4	1.0	51	42	226	544	52	19	592
8	14	1.5	1.1	2.1	.98	72	39	214	483	216	19	507
9	14	1.4	1.5	2.1	1.0	62	51	160	395	191	20	379
10	14	1.7	.61	2.4	.95	40	47	162	321	161	20	318
11	13	2.1	.86	2.4	1.2	116	30	155	245	173	23	289
12	14	1.8	.82	2.4	1.8	206	28	139	177	106	20	304
13	14	1.7	.92	2.4	2.9	29	30	131	147	91	28	256
14	14	1.3	.94	4.2	3.8	34	44	121	137	53	43	265
15	15	1.4	1.0	3.9	3.1	38	50	161	115	27	42	347
16	15	1.6	1.2	3.9	6.0	21	53	141	88	19	41	492
17	14	1.5	1.4	4.2	15	114	72	146	86	16	58	586
18	8.4	1.4	1.6	3.3	15	25	102	155	64	14	83	623
19	2.9	1.1	1.4	3.3	18	125	106	185	53	7.2	115	625
20	2.4	1.2	1.5	3.3	17	22	172	240	43	10	144	570
21	2.3	1.2	1.4	3.3	24	20	156	831	71	21	137	562
22	2.1	1.1	1.4	4.2	59	24	177	975	32	22	122	437
23	1.6	1.1	1.5	4.5	164	13	235	1310	66	21	241	442
24	1.9	1.5	1.4	4.9	24	17	212	1700	43	20	239	321
25	2.0	1.4	1.5	2.1	5.3	18	214	2280	79	20	342	284
26	2.0	1.1	1.5	2.1	23	38	201	2220	128	21	361	253
27	2.6	1.1	1.5	2.1	29	21	235	1950	182	19	331	200
28	1.7	1.2	1.5	1.2	63	139	170	1640	188	20	246	174
29	2.3	1.4	1.4	.71	---	62	142	1400	216	20	281	186
30	1.9	1.4	1.2	.60	---	120	139	1220	205	20	459	199
31	1.4	---	1.2	.60	---	31	---	1220	---	21	622	---
TOTAL	286.5	42.6	37.35	78.51	484.02	1775	3066	20431	10011	2082.2	4177	13274
MEAN	9.24	1.42	1.20	2.53	17.3	57.3	102	659	334	67.2	135	442
MAX	17	2.1	1.6	4.9	164	206	235	2280	1260	216	622	746
MIN	1.4	1.1	.61	.60	.71	13	24	121	32	7.2	19	174
AC-FT	568	84	74	156	960	3520	6080	40520	19860	4130	8290	26330
CAL YR 1976	TOTAL	62335.45	MEAN 170	MAX 1750	MIN .61	AC-FT 123600						
WTR YR 1977	TOTAL	55745.18	MEAN 153	MAX 2280	MIN .60	AC-FT 110600						

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, 57,000 micromhos Jan. 28; minimum daily, 1,990 micromhos Jan. 13.

WATER TEMPERATURE: Maximum daily, 34.5°C July 23; minimum daily, 0.0°C Nov. 29, Dec. 30, Jan. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
05...	1028	9740	1830	16	11500	9.0	19.5	180	13.4	149
15...	--	--	1920	15	17000	7.2	--	--	--	--
24...	--	--	1845	2.1	22100	7.2	--	--	--	--
29...	--	--	1730	3.0	15000	7.5	--	--	--	--
NOV										
02...	1028	9740	1545	1.4	28000	8.4	16.5	9	15.2	158
05...	--	--	1840	1.4	21800	8.2	--	--	--	--
14...	--	--	1745	1.2	15900	8.3	--	--	--	--
20...	--	--	1735	1.2	21400	8.1	--	--	--	--
DEC										
05...	--	--	1530	.90	24000	7.8	--	--	--	--
07...	1028	9740	1715	1.1	21000	8.5	4.0	6	14.9	118
15...	--	--	1730	1.0	28200	8.2	--	--	--	--
25...	--	--	1600	1.5	29700	7.9	--	--	--	--
JAN										
05...	--	--	1630	1.7	18400	8.1	--	--	--	--
15...	--	--	1600	3.9	14800	8.1	--	--	--	--
25...	--	--	1645	2.1	31700	7.9	--	--	--	--
FEB										
01...	1028	9740	1705	.90	21500	7.4	9.0	5	19.8	176
05...	--	--	1715	.90	49000	7.7	--	--	--	--
15...	--	--	1730	4.2	16600	7.7	--	--	--	--
24...	--	--	1835	9.3	13600	7.2	--	--	--	--
MAR										
02...	1028	9740	1048	21	7000	8.2	7.5	14	11.8	104
05...	--	--	1720	36	13500	8.0	--	--	--	--
15...	--	--	1630	22	14000	7.6	--	--	--	--
25...	--	--	0700	14	15900	7.6	--	--	--	--
APR										
05...	1028	9740	1530	48	10100	8.2	15.0	38	11.8	119
05...	--	--	1830	36	15100	7.4	--	--	--	--
14...	--	--	1645	46	15200	7.4	--	--	--	--
25...	--	--	1630	204	14700	7.4	--	--	--	--
MAY										
03...	1028	9740	1500	208	15000	8.2	24.0	23	8.7	106
05...	--	--	1745	239	12700	7.4	--	--	--	--
15...	--	--	1730	212	13600	7.2	--	--	--	--
25...	--	--	1700	2350	4870	7.3	--	--	--	--
JUN										
01...	1028	9740	1815	1220	8500	8.7	27.0	22	8.7	112
04...	--	--	1715	932	3440	7.6	--	--	--	--
15...	--	--	1930	98	7570	7.4	--	--	--	--
25...	--	--	1715	93	7710	7.3	--	--	--	--
JUL										
05...	1028	9740	1700	106	7990	8.1	29.0	75	8.9	119
05...	--	--	1810	100	8680	7.3	--	--	--	--
15...	--	--	1745	28	10000	7.1	--	--	--	--
25...	--	--	1915	20	10700	7.0	--	--	--	--

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
AUG										
02...	1028	9740	1230	20	11000	8.5	28.0	33	12.2	161
04...	--	--	2000	20	11100	7.2	--	--	--	--
14...	--	--	2000	46	11800	7.2	--	--	--	--
24...	--	--	2000	234	11300	7.1	--	--	--	--
SEP										
04...	--	--	1900	651	8750	7.4	--	--	--	--
07...	1028	9740	1545	583	8500	8.8	27.5	32	8.8	114
14...	--	--	1800	271	7730	7.9	--	--	--	--
25...	--	--	1900	297	5910	7.4	--	--	--	--
OCT										
05...	64	--	--	--	--	--	--	--	--	--
15...	--	790	710	--	200	--	70	--	3600	91
24...	--	940	810	--	250	--	77	--	4900	92
29...	--	720	580	--	190	--	59	--	3000	90
NOV										
02...	194	--	--	--	--	--	--	--	--	--
05...	--	1000	850	--	270	--	79	--	4800	91
14...	--	730	540	--	190	--	62	--	3300	91
20...	--	980	810	--	260	--	80	--	4600	91
DEC										
05...	--	1000	--	--	280	--	77	--	5300	92
07...	47	--	--	--	--	--	--	--	--	--
15...	--	1100	--	--	310	--	89	--	6200	92
25...	--	1200	1000	--	330	--	94	--	6800	92
JAN										
05...	--	810	550	--	220	--	63	--	3900	91
15...	--	610	360	--	170	--	45	--	3200	92
25...	--	1200	990	--	340	--	87	--	7400	93
FEB										
01...	47	--	--	--	--	--	--	--	--	--
05...	--	1700	1500	--	480	--	130	--	12000	94
15...	--	830	660	--	220	--	69	--	3500	90
24...	--	700	560	--	180	--	60	--	2800	90
MAR										
02...	70	--	--	--	--	--	--	--	--	--
05...	--	710	580	--	190	--	58	--	2800	89
15...	--	750	610	--	200	--	61	--	2900	89
25...	--	1100	980	--	340	--	69	--	3200	86
APR										
05...	42	--	--	--	--	--	--	--	--	--
05...	--	760	620	--	200	--	64	--	3100	90
14...	--	790	650	--	210	--	65	--	3200	90
25...	--	740	610	--	190	--	64	--	3100	90
MAY										
03...	32	--	--	--	--	--	--	--	--	--
05...	--	700	580	--	190	--	55	--	2700	89
15...	--	460	330	--	170	--	48.4	--	2900	93
25...	--	320	240	--	91	--	23	--	890	85
JUN										
01...	28	--	--	--	--	--	--	--	--	--
04...	--	360	220	--	100	--	27	--	610	78
15...	--	450	320	--	120	--	36	--	1400	87
25...	--	450	330	--	120	--	37	--	1500	88
JUL										
05...	37	--	--	--	--	--	--	--	--	--
05...	--	490	390	--	130	--	41	--	1600	87
15...	--	490	400	--	130	--	41	--	2000	90
25...	--	530	440	--	140	--	43	--	2100	89
AUG										
02...	71	--	--	--	--	--	--	--	--	--
04...	--	540	440	--	140	--	47	--	2300	90
14...	--	550	450	--	140	--	49	--	2600	91
24...	--	510	430	--	130	--	44	--	2400	91
SEP										
04...	--	470	400	--	130	--	36	--	1800	89
07...	37	--	--	--	--	--	--	--	--	--
14...	--	470	370	--	130	--	35	--	1500	87
25...	--	450	340	--	130	--	30	--	1100	84

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (MCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
05...	--	--	--	--	--	--	--	--	--	.5
15...	56	--	13	94	0	77	9.5	700	5700	--
24...	70	--	13	166	0	136	17	830	7600	--
29...	49	--	10	170	0	139	8.6	600	4900	--
NOV										
02...	--	--	--	--	--	--	--	--	--	.3
05...	66	--	12	184	0	151	1.9	870	7400	--
14...	53	--	9.6	237	0	194	1.9	610	5100	--
20...	64	--	11	204	0	167	2.7	830	7200	--
DEC										
05...	72	--	11	--	0	--	--	870	8600	--
07...	--	--	--	--	--	--	--	--	--	.4
15...	80	--	12	--	0	--	--	990	9900	--
25...	85	--	13	243	0	199	4.9	1100	11000	--
JAN										
05...	60	--	8.8	312	0	256	4.0	650	6300	--
15...	56	--	6.6	303	0	249	3.9	480	5000	--
25...	93	--	11	268	0	220	5.4	1100	12000	--
FEB										
01...	--	--	--	--	--	--	--	--	--	.3
05...	125	--	16	249	0	200	8.0	1800	19000	--
15...	53	--	12	207	0	170	6.6	700	5100	--
24...	46	--	9.6	169	0	139	17	490	4600	--
MAR										
02...	--	--	--	--	--	--	--	--	--	.4
05...	46	--	9.9	160	0	131	2.6	580	4200	--
15...	46	--	10	170	0	139	6.8	600	4300	--
25...	41	--	11	190	0	160	7.6	670	5000	--
APR										
05...	--	--	--	--	--	--	--	--	--	.4
05...	49	--	10	180	0	148	11	600	4700	--
14...	49	--	11	170	0	139	11	620	5000	--
25...	50	--	10	160	0	131	10	600	4800	--
MAY										
03...	--	--	--	--	--	--	--	--	--	.4
05...	44	--	8.9	150	0	120	9.6	540	4200	--
15...	59	--	9.5	160	0	130	16	550	4400	--
25...	22	--	7.1	100	0	82	8.0	190	1400	--
JUN										
01...	--	--	--	--	--	--	--	--	--	.3
04...	14	--	8.3	170	0	139	6.8	230	980	--
15...	29	--	9.1	160	0	130	10	310	2200	--
25...	31	--	9.2	150	0	123	12	330	2400	--
JUL										
05...	--	--	--	--	--	--	--	--	--	.0
05...	31	--	9.4	130	0	110	10	380	2600	--
15...	39	--	9.8	120	0	98	15	420	3100	--
25...	40	--	10	110	0	90	18	440	3300	--
AUG										
02...	--	--	--	--	--	--	--	--	--	.4
04...	43	--	11	120	0	98	12	440	3600	--
14...	48	--	12	120	0	98	12	450	3800	--
24...	46	--	11	98	0	80	12	400	3500	--
SEP										
04...	36	--	9.3	93	0	76	5.9	360	2900	--
07...	--	--	--	--	--	--	--	--	--	.4
14...	30	--	8.8	120	0	98	2.4	360	2300	--
25...	23	--	8.4	130	0	110	8.3	370	1700	--

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
05...	--	--	--	--	--	--	3.3	.19	--	--
15...	--	10300	--	14.0	417	1.3	--	--	--	--
24...	--	13700	--	18.6	77.7	1.5	--	--	--	--
29...	--	8970	--	12.2	72.7	1.1	--	--	--	--
NOV										
02...	--	--	--	--	--	--	2.9	.13	3	16
05...	--	13600	--	18.5	51.4	.94	--	--	--	--
14...	--	9450	--	12.9	30.6	.84	--	--	--	--
20...	--	13200	--	18.0	42.8	.78	--	--	--	--
DEC										
05...	--	15200	--	20.7	36.9	.74	--	--	--	--
07...	--	--	--	--	--	--	1.5	.84	--	--
15...	--	18100	--	24.6	48.9	.98	--	--	--	--
25...	--	19300	--	26.2	78.2	.99	--	--	--	--
JAN										
05...	--	10900	--	14.8	50.0	.77	--	--	--	--
15...	--	8930	--	12.1	94.0	.61	--	--	--	--
25...	--	20800	--	28.3	118	1.1	--	--	--	--
FEB										
01...	--	--	--	--	--	--	20	.13	4	13
05...	--	34600	--	47.1	84.1	2.4	--	--	--	--
15...	--	10100	--	13.7	115	.85	--	--	--	--
24...	--	8160	--	11.1	205	.67	--	--	--	--
MAR										
02...	--	--	--	--	--	--	1.8	.18	--	--
05...	--	8200	--	11.2	797	.46	--	--	--	--
15...	--	8510	--	11.6	505	.31	--	--	--	--
25...	--	10600	--	14.4	401	.29	--	--	--	--
APR										
05...	--	--	--	--	--	--	2.5	.27	--	--
05...	--	9050	--	12.3	880	.44	--	--	--	--
14...	--	9240	--	12.6	1150	.61	--	--	--	--
25...	--	8990	--	12.2	4950	.38	--	--	--	--
MAY										
03...	--	--	--	--	--	--	2.6	.13	2	8
05...	--	7590	--	10.3	4900	--	--	--	--	--
15...	--	8200	--	11.2	4690	--	--	--	--	--
25...	--	2650	--	3.60	16800	--	--	--	--	--
JUN										
01...	--	--	--	--	--	--	2.2	.19	--	--
04...	--	1950	--	2.65	4910	--	--	--	--	--
15...	--	4320	--	5.88	1140	--	--	--	--	--
25...	--	4410	--	6.00	1110	--	--	--	--	--
JUL										
05...	--	--	--	--	--	--	1.7	.27	--	--
05...	--	5080	--	6.91	1370	--	--	--	--	--
15...	--	5920	--	8.05	448	--	--	--	--	--
25...	--	6260	--	8.51	338	--	--	--	--	--
AUG										
02...	--	--	--	--	--	--	2.7	.34	9	1
04...	--	6420	--	8.73	347	--	--	--	--	--
14...	--	6920	--	9.41	859	--	--	--	--	--
24...	--	3180	--	4.32	2010	--	--	--	--	--
SEP										
04...	--	5090	--	6.92	8950	--	--	--	--	--
07...	--	--	--	--	--	--	<.65	.18	--	--
14...	--	4460	--	6.07	3260	--	--	--	--	--
25...	--	3380	--	4.60	2710	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

ARKANSAS RIVER BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	15.5	5.5	1.5	4.5	8.0	15.0	23.0	27.5	25.5	32.0	26.5
2	24.0	16.0	10.5	3.0	5.5	8.0	16.0	22.5	26.5	26.0	31.0	27.0
3	23.0	14.5	6.0	4.0	8.0	8.0	15.0	23.0	27.5	26.5	28.0	27.0
4	19.0	11.5	10.5	4.0	9.5	8.0	12.0	24.0	28.5	26.0	29.0	26.5
5	18.0	11.0	8.5	4.0	9.5	10.0	14.5	24.0	28.5	27.0	28.5	26.5
6	16.0	15.0	5.0	4.5	12.5	11.0	19.0	24.0	27.0	30.0	29.0	26.0
7	16.0	12.0	6.5	6.0	5.5	14.0	17.0	24.0	26.5	26.0	30.0	26.5
8	17.5	11.5	7.5	1.0	10.5	12.0	22.0	24.0	25.0	26.5	28.5	27.0
9	21.0	14.0	9.0	0.0	14.0	13.5	18.5	24.0	27.0	27.0	29.0	24.5
10	21.0	13.0	3.0	---	13.5	13.0	19.0	24.5	27.0	27.5	28.0	22.0
11	19.0	7.0	2.0	1.5	13.0	12.5	20.5	23.5	27.5	28.5	24.0	23.5
12	21.5	5.5	7.5	4.0	13.0	10.0	18.0	22.5	26.5	28.5	27.0	24.0
13	22.0	5.0	7.0	5.0	9.0	16.0	17.5	23.5	25.0	28.5	28.0	23.0
14	21.0	4.5	10.0	5.0	11.5	17.0	20.5	23.0	27.0	30.0	29.5	22.0
15	16.5	5.0	9.5	2.0	10.5	15.0	20.0	22.5	27.5	31.0	28.0	23.0
16	16.0	5.5	10.0	4.0	9.5	12.5	19.5	24.0	28.0	30.5	29.0	23.0
17	16.0	10.0	11.0	4.5	13.5	13.5	20.0	24.0	28.0	31.0	25.0	23.5
18	11.0	10.5	12.0	5.0	12.5	15.0	19.0	24.0	29.0	30.5	24.5	---
19	11.5	11.0	10.0	5.0	11.0	12.0	21.0	22.5	29.5	30.0	24.0	23.5
20	12.0	11.0	6.5	5.0	13.5	12.0	20.0	22.0	28.5	32.0	26.5	23.0
21	14.0	9.0	5.5	6.5	11.5	12.5	17.5	23.0	28.5	31.0	27.0	23.0
22	14.0	8.0	8.0	4.0	12.0	12.0	16.5	22.5	26.0	28.0	24.5	23.0
23	13.5	10.0	7.5	8.0	10.5	18.0	17.0	22.5	27.0	34.5	27.5	23.0
24	12.5	13.0	9.0	9.0	12.5	15.5	18.0	24.0	28.0	30.0	26.5	23.5
25	12.0	11.0	9.0	10.0	9.0	15.5	19.0	24.5	28.0	29.5	26.0	23.0
26	9.0	9.5	9.0	10.5	8.5	15.5	19.0	24.0	28.0	28.0	28.0	24.5
27	8.0	1.0	10.5	4.0	9.0	16.0	20.5	23.0	28.5	30.0	26.5	23.0
28	10.5	1.0	10.0	2.5	9.0	15.5	21.5	24.5	28.0	33.0	24.0	22.0
29	9.0	0.0	7.5	1.0	---	15.0	22.5	25.0	28.0	---	23.5	22.5
30	11.0	1.0	0.0	1.5	---	14.5	22.5	26.5	26.0	29.0	25.5	24.5
31	13.5	---	3.0	1.5	---	17.0	---	25.5	---	27.0	26.5	---
MONTH	16.0	9.0	7.5	4.5	10.5	13.0	18.5	23.5	27.5	29.0	27.0	24.0
YEAR	MAX	34.5	MIN	0.0	MEAN	17.5						

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15200	22600	22700	10000	20600	13600	14200	14300	7770	6770	11000	6760
2	15700	23300	20000	15600	13500	13400	14800	14900	8530	6790	11100	6620
3	15700	22300	19100	7880	24400	13400	16000	15000	8420	6440	11200	6580
4	15600	24200	26100	18900	55900	13200	15000	9280	3440	8140	11100	8750
5	15600	21800	24000	18400	49000	13500	15100	12700	3430	8680	11100	9000
6	15700	20800	29200	13900	35400	13400	15200	12800	5260	8750	12300	8970
7	15700	24200	26900	20800	44100	13400	14600	14000	6060	8080	12300	8650
8	15400	23800	26900	15500	39600	13000	14400	14200	5230	8000	12400	8630
9	15600	21200	26700	15400	38600	13500	14100	14200	6240	8030	12500	7250
10	15500	23700	33700	---	35800	13800	14300	14800	5950	9550	12100	8380
11	16200	25300	29600	20000	43600	13700	14700	14500	6800	8200	12100	8360
12	15600	23000	33600	4280	23400	14200	14900	14500	7380	8440	12400	7840
13	15600	19100	28400	1990	25000	14000	15100	14600	7350	8440	11900	6910
14	16000	15900	28100	11600	31300	13600	15200	14400	7560	10100	11800	7730
15	17000	16500	28200	14800	16600	14000	15600	13600	7570	10000	11800	8040
16	16700	17000	28800	14600	16700	13500	15200	12700	7680	10600	12000	7930
17	16300	19000	28600	4400	15100	13700	14900	14800	7570	10700	11900	3620
18	16200	26500	28400	14300	14900	13500	15400	14800	7780	10800	12000	---
19	18300	27000	28700	10900	14000	13600	15500	14500	7630	12400	12100	6120
20	18200	21400	29600	6530	13600	14900	15600	14500	7840	13200	12000	6050
21	19100	23400	27700	24300	14200	15000	15600	13100	7720	10800	12000	4580
22	19500	20000	25800	17000	13300	14400	15300	13100	7770	10100	12200	6250
23	22000	23300	23200	30300	12400	14800	15200	12800	7860	9940	11400	5440
24	22100	19300	30400	32300	13600	15300	14900	7600	7860	10500	11300	5180
25	21900	34800	29700	31700	15200	15900	14700	4870	7710	10700	11100	5910
26	21400	34800	28800	20700	13700	15800	14600	3310	7230	10700	9240	6530
27	19600	33600	26700	55900	13900	14200	13700	2770	7240	10700	8320	6600
28	19800	27000	31500	56800	13900	13400	11900	9580	7250	10800	8830	7090
29	15000	22300	26200	28800	---	12500	14100	9600	7080	10900	10100	7510
30	16800	22100	33000	30100	---	12600	14100	9820	5560	11200	9910	6960
31	16500	---	27800	20900	---	13500	---	10000	---	10900	5720	---
MONTH	17300	23300	27700	19600	24300	13900	14800	12100	6960	9660	11200	7040
YEAR	MAX	56800	MIN	1990	MEAN	15600						

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.0	5.5	3.5	4.0	7.0	14.0	22.0	26.0	---	29.0	26.5
2	20.5	13.0	6.0	4.0	5.0	8.0	14.0	21.5	26.0	---	28.5	25.5
3	21.0	---	7.5	4.0	6.5	8.0	12.0	22.5	26.0	---	27.0	25.0
4	19.5	---	8.0	4.0	7.5	7.5	12.5	23.0	27.0	---	27.5	25.5
5	18.0	---	7.0	4.0	8.0	7.5	11.5	23.0	28.0	---	27.0	---
6	16.5	---	6.5	4.5	8.0	8.5	14.5	23.0	27.0	28.5	27.5	---
7	15.0	---	5.0	4.0	6.0	10.0	15.5	23.5	26.0	27.5	27.5	---
8	15.0	---	5.5	2.5	7.0	10.5	17.0	25.0	25.0	27.5	27.5	---
9	16.0	---	6.5	2.0	8.5	11.0	16.5	24.5	25.0	26.5	27.0	---
10	16.5	---	4.5	1.5	12.0	13.0	17.0	23.5	26.0	28.5	28.5	---
11	17.0	7.0	3.5	1.5	12.0	12.5	17.5	23.0	26.5	28.5	24.0	---
12	18.0	6.0	5.0	5.0	11.5	10.0	17.0	23.0	26.5	29.5	26.0	---
13	18.5	6.5	6.0	5.0	12.5	11.0	17.5	22.0	26.5	29.5	26.0	---
14	18.5	6.5	8.5	5.0	13.0	12.5	18.5	22.5	26.5	28.0	28.5	---
15	16.5	7.0	10.0	5.0	12.5	12.0	19.0	22.0	26.5	28.5	27.5	22.5
16	14.5	6.5	9.5	5.0	11.5	12.5	18.0	22.5	27.0	29.5	27.5	22.0
17	13.5	7.0	10.0	4.5	12.0	13.0	19.0	22.0	27.0	28.5	26.0	23.0
18	11.5	8.5	10.5	4.5	11.0	13.0	19.0	23.0	27.5	28.0	25.5	---
19	9.5	9.0	10.0	4.0	10.0	12.5	20.0	23.0	27.5	27.5	24.0	---
20	9.5	10.5	6.0	4.0	10.0	11.0	19.5	22.0	28.0	29.0	24.5	---
21	11.5	9.0	5.5	4.5	10.0	10.5	18.5	21.0	27.0	29.0	26.0	---
22	12.0	8.5	6.0	4.5	11.5	11.5	17.0	21.5	25.5	28.0	26.0	---
23	16.5	8.5	8.0	.5	11.0	13.0	17.0	22.0	25.0	30.5	28.0	---
24	14.5	9.5	7.0	.5	10.5	14.0	17.5	23.0	25.5	29.0	28.0	---
25	12.0	9.5	7.5	1.0	9.5	14.0	18.0	24.0	25.5	30.0	26.5	---
26	11.0	9.5	8.0	1.0	8.0	15.5	19.0	23.5	27.5	27.5	24.5	---
27	8.5	1.5	9.5	1.0	8.0	14.5	20.0	23.0	27.0	27.5	23.5	---
28	9.5	2.5	9.5	3.0	7.5	15.0	21.0	23.5	28.5	29.0	25.0	---
29	10.5	4.0	6.5	1.5	---	16.0	20.5	24.0	28.0	29.5	26.0	---
30	11.5	4.5	2.0	1.5	---	14.0	21.5	25.5	26.5	28.5	26.5	---
31	12.5	---	2.0	1.0	---	13.0	---	25.5	---	27.0	26.5	---
MEAN	14.5	7.5	7.0	3.0	9.5	11.5	17.5	23.0	26.5	28.5	26.5	24.5
WTR YR 1977	MEAN	16.0		MAX	30.5	MIN	.5					

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15400	21900	23400	10100	20600	13600	13500	14400	---	---	10800	7670
2	16000	23400	14800	15600	13600	13500	13600	15200	---	---	11000	6130
3	15500	---	12800	7780	24400	---	15000	17200	---	---	10500	6560
4	15200	---	25200	18700	56000	---	14900	8780	---	---	10400	8480
5	15200	---	30200	18400	49000	---	14900	12900	---	---	10600	---
6	15800	---	23300	13800	35400	---	15500	12700	---	---	11200	---
7	15600	---	31200	20700	44100	---	14600	13400	---	---	12600	---
8	15800	---	28800	15500	39600	---	14200	14100	---	---	11100	---
9	15800	---	27200	15500	38600	---	14200	13800	---	---	11600	---
10	15300	24000	32600	17700	36000	---	14300	15100	---	---	11600	---
11	51300	25600	29100	20100	43600	---	14700	14400	---	---	12200	---
12	15900	23800	34300	4380	23400	---	14800	14200	---	8450	12600	---
13	15500	20900	26900	1990	25100	---	15000	14700	---	8450	11800	---
14	15500	17000	31500	11600	31400	---	15500	15300	---	9880	11400	---
15	16300	17300	29400	14800	16700	13400	14900	15300	---	9950	11900	8130
16	16200	17600	29000	14700	16900	13100	14800	12200	---	10500	12500	7930
17	16400	19100	28600	4400	15200	13100	15400	15700	---	10800	11900	5780
18	16500	26200	28700	14400	15500	12100	15500	15700	7750	10600	12000	---
19	17400	21500	29000	11000	15000	13800	15400	15800	7640	11900	12100	---
20	17700	21100	32300	6630	---	13700	16500	12900	7870	13500	12100	---
21	18600	22300	27500	24300	---	13900	15900	13000	7820	11100	12100	---
22	19200	18900	25200	17000	---	12900	15400	12800	7910	10600	12500	---
23	21100	19500	22800	30300	---	13100	16700	---	7940	10400	11600	---
24	21900	21000	31200	32400	---	14200	15000	---	7830	10600	12500	---
25	21800	29900	29900	31800	---	16900	15000	---	7690	10700	11300	---
26	20700	27800	28100	20800	13800	16100	15700	---	7260	10600	8830	---
27	20000	33900	26200	56100	13800	14200	13900	---	7240	10600	8270	---
28	20900	27700	31300	57000	14000	13200	13700	---	7590	10500	8760	---
29	20500	25800	26100	29000	---	10800	14200	---	7040	10800	11100	---
30	17300	23900	33600	30200	---	12400	14500	---	6850	11300	9650	---
31	15500	---	27900	20900	---	12000	---	---	---	11000	5760	---
MEAN	18400	23000	27700	19600	27400	13500	14900	14100	7570	10600	11100	7240
WTR YR 1977	MEAN	17500		MAX	57000	MIN	1990					

ARKANSAS RIVER BASIN

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

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5800	8300	8900	3800	7800	5200	5100	5500	---	---	4100	2900
2	6100	8900	5600	5900	5200	5100	5200	5800	---	---	4200	2300
3	5900	---	4800	2900	9200	---	5700	6500	---	---	2300	2500
4	5800	---	9500	7100	21000	---	5600	3300	---	---	3900	3200
5	5800	---	11000	7000	19000	---	5600	4900	---	---	2300	---
6	6000	---	8800	5200	13000	---	5900	4800	---	---	4200	---
7	5900	---	12000	7800	17000	---	5500	5100	---	---	4800	---
8	6000	---	11000	5900	15000	---	5400	5300	---	---	4200	---
9	6000	---	10000	5900	15000	---	5400	5200	---	---	4400	---
10	5800	9100	12000	6700	14000	---	5400	5700	---	---	4400	---
11	19000	9700	11000	7600	17000	---	5600	5500	---	---	4600	---
12	6000	9000	13000	1700	8900	---	5600	5400	---	3200	4800	---
13	5900	7900	10000	750	9500	---	5700	5600	---	3200	4500	---
14	5900	6400	12000	4400	12000	---	5900	5800	---	3700	4300	---
15	6200	6600	11000	5600	6300	5100	5600	5800	---	3800	4500	3100
16	6100	6700	11000	5600	6400	5000	5600	4600	---	2300	4700	3000
17	6200	7200	11000	1700	5800	5000	5800	5900	---	4100	4500	2200
18	6300	9900	11000	5500	5900	4600	5900	5900	2900	2300	4500	---
19	6600	8100	11000	4200	5700	5200	5800	6000	2900	4500	4600	---
20	6700	8000	12000	2500	---	5200	6300	4900	3000	5100	4600	---
21	7000	8400	10000	9200	---	5300	6000	4900	3000	4200	4600	---
22	7300	7200	9500	6400	---	4900	5800	4800	3000	2300	4700	---
23	8000	7400	8600	11000	---	5000	6300	---	3000	3900	4400	---
24	8300	8000	12000	12000	---	5400	5700	---	3000	2300	4700	---
25	8300	11000	11000	12000	---	6400	5700	---	2900	4100	4300	---
26	7800	11000	11000	7900	5200	6100	5900	---	2800	2300	3300	---
27	7600	13000	9900	21000	5200	5400	5300	---	2700	2300	3100	---
28	7900	10000	12000	22000	5300	5000	5200	---	2900	2300	3300	---
29	7800	9800	9900	11000	---	4100	5400	---	2700	4100	4200	---
30	6600	9100	13000	11000	---	4700	5500	---	2600	4300	3700	---
31	5900	---	11000	7900	---	4500	---	---	---	4200	2200	---
MEAN	7000	8700	10000	7400	10000	5100	5600	5300	2900	3400	4100	2700
WTR YR 1977	MEAN	6600	MAX	22000	MIN	750						

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	600	830	880	420	780	540	540	570	---	---	450	340
2	620	880	580	610	540	540	540	600	---	---	450	290
3	610	---	510	340	910	---	590	670	---	---	440	300
4	600	---	940	720	2000	---	590	380	---	---	430	370
5	600	---	1100	710	1800	---	590	520	---	---	440	---
6	620	---	870	550	1300	---	610	510	---	---	460	---
7	610	---	1100	790	1600	---	580	540	---	---	510	---
8	620	---	1100	610	1400	---	560	560	---	---	460	---
9	620	---	1000	610	1400	---	560	550	---	---	470	---
10	600	900	1200	680	1300	---	570	590	---	---	470	---
11	1800	950	1100	760	1600	---	580	570	---	---	490	---
12	620	890	1300	230	880	---	580	560	---	370	510	---
13	610	790	1000	150	940	---	590	580	---	370	480	---
14	610	660	1200	470	1200	---	610	600	---	420	470	---
15	630	670	1100	580	650	540	590	600	---	420	480	360
16	630	680	1100	580	660	530	580	490	---	440	500	350
17	640	730	1100	230	600	530	600	610	---	450	480	270
18	640	970	1100	570	610	490	610	610	340	440	490	---
19	670	810	1100	450	590	550	600	620	340	480	490	---
20	680	800	1200	300	---	550	640	520	350	540	490	---
21	710	840	1000	910	---	550	620	520	340	460	490	---
22	730	720	940	660	---	520	600	510	350	440	500	---
23	800	740	860	1100	---	530	650	---	350	430	470	---
24	830	800	1100	1200	---	560	590	---	340	440	500	---
25	820	1100	1100	1200	---	660	590	---	340	440	460	---
26	790	1000	1000	790	550	630	610	---	330	440	380	---
27	760	1200	970	2000	550	560	550	---	320	440	360	---
28	790	1000	1100	2000	560	530	550	---	340	440	380	---
29	780	960	970	1100	---	450	560	---	320	450	460	---
30	670	890	1200	1100	---	500	570	---	310	460	410	---
31	610	---	1000	790	---	490	---	---	---	450	270	---
MEAN	710	860	1000	750	1000	540	590	560	340	440	460	330
WTR YR 1977	MEAN	670	MAX	2000	MIN	150						

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

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	266.00	31.40	28.80	15.40	15.00	197.00	565.00	2260.00	---	---	221.00	4790.00
2	264.00	31.20	13.60	23.90	12.20	854.00	885.00	2940.00	---	---	238.00	4070.00
3	255.00	---	11.70	13.30	21.40	---	369.00	4090.00	---	---	124.00	4570.00
4	251.00	---	28.20	32.60	49.30	---	1390.00	2670.00	---	---	211.00	5850.00
5	235.00	---	26.70	32.10	46.20	---	922.00	3060.00	---	---	124.00	---
6	243.00	---	21.40	25.30	27.40	---	605.00	3180.00	---	---	227.00	---
7	239.00	---	35.60	50.50	45.90	---	624.00	3110.00	---	---	246.00	---
8	227.00	---	32.70	33.50	39.70	---	569.00	3060.00	---	---	215.00	---
9	227.00	---	40.50	33.50	40.50	---	744.00	2250.00	---	---	238.00	---
10	219.00	41.80	19.80	43.40	35.90	---	685.00	2490.00	---	---	238.00	---
11	667.00	55.00	25.50	49.20	55.10	---	454.00	2300.00	---	---	286.00	---
12	227.00	43.70	28.80	11.00	43.30	---	423.00	2030.00	---	916.00	259.00	---
13	223.00	36.30	24.80	4.86	74.40	---	462.00	1980.00	---	786.00	340.00	---
14	223.00	22.50	30.50	49.90	123.00	---	701.00	1890.00	---	529.00	499.00	---
15	251.00	24.90	29.70	59.00	52.70	523.00	756.00	2520.00	---	277.00	510.00	2900.00
16	247.00	28.90	35.60	59.00	104.00	283.00	801.00	1750.00	---	118.00	520.00	3990.00
17	234.00	29.20	41.60	19.30	235.00	1540.00	1130.00	2330.00	---	177.00	705.00	3480.00
18	143.00	37.40	47.50	49.00	239.00	310.00	1620.00	2470.00	501.00	86.90	1010.00	---
19	51.70	24.10	41.60	37.40	277.00	1760.00	1660.00	3000.00	415.00	87.50	1430.00	---
20	43.40	25.90	48.60	22.30	---	309.00	2930.00	3180.00	348.00	138.00	1790.00	---
21	43.50	27.20	37.80	82.00	---	286.00	2530.00	11000.00	575.00	238.00	1700.00	---
22	41.40	21.40	35.90	72.60	---	318.00	2770.00	12600.00	259.00	137.00	1550.00	---
23	34.60	22.00	34.80	134.00	---	175.00	4000.00	---	535.00	221.00	2860.00	---
24	42.60	32.40	45.40	159.00	---	248.00	3260.00	---	348.00	124.00	3030.00	---
25	44.80	41.60	44.50	68.00	---	311.00	3290.00	---	619.00	221.00	3970.00	---
26	42.10	32.70	44.50	44.80	323.00	626.00	3200.00	---	968.00	130.00	3220.00	---
27	53.40	38.60	40.10	119.00	407.00	306.00	3360.00	---	1330.00	118.00	2770.00	---
28	36.30	32.40	48.60	71.30	902.00	1880.00	2390.00	---	1470.00	124.00	2190.00	---
29	48.40	37.00	37.40	21.10	---	686.00	2070.00	---	1570.00	221.00	3190.00	---
30	33.90	34.40	42.10	17.80	---	1520.00	2060.00	---	1440.00	232.00	4590.00	---
31	22.30	---	35.60	12.80	---	377.00	---	---	---	238.00	3690.00	---
MEAN	167.00	32.70	34.20	47.30	144.00	658.00	1570.00	3460.00	798.00	256.00	1360.00	4240.00
WTR YR 1977	MEAN	839.00	MAX	12600.00	MIN	4.86						

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.50	3.14	2.85	1.70	1.50	20.40	59.80	234.00	---	---	24.30	562.00
2	26.80	3.09	1.41	2.47	1.27	90.40	91.90	305.00	---	---	25.50	514.00
3	26.40	---	1.24	1.56	2.11	---	38.20	421.00	---	---	23.80	548.00
4	25.90	---	2.79	3.30	4.70	---	147.00	308.00	---	---	23.20	676.00
5	24.30	---	2.67	3.26	4.37	---	97.20	324.00	---	---	23.80	---
6	25.10	---	2.11	2.67	2.74	---	62.60	337.00	---	---	24.80	---
7	24.70	---	3.27	5.12	4.32	---	65.80	330.00	---	---	26.20	---
8	23.40	---	3.27	3.46	3.70	---	59.00	324.00	---	---	23.60	---
9	23.40	---	4.05	3.46	3.78	---	77.10	238.00	---	---	25.40	---
10	22.70	4.13	1.98	4.41	3.33	---	72.30	258.00	---	---	25.40	---
11	63.20	5.39	2.55	4.92	5.18	---	47.00	239.00	---	---	30.40	---
12	23.40	4.33	2.88	1.49	4.28	---	43.80	210.00	---	106.00	27.50	---
13	23.10	3.63	2.48	.97	7.36	---	47.80	205.00	---	90.90	36.30	---
14	23.10	2.32	3.05	5.33	12.30	---	72.50	196.00	---	60.10	54.60	---
15	25.50	2.53	2.97	6.11	5.44	55.40	79.60	261.00	---	30.60	54.40	337.00
16	25.50	2.94	3.56	6.11	10.70	30.10	83.00	187.00	---	22.60	55.30	465.00
17	24.20	2.96	4.16	2.61	24.30	163.00	117.00	240.00	---	19.40	75.20	427.00
18	14.50	3.67	4.75	5.08	24.70	33.10	168.00	255.00	58.80	16.60	110.00	---
19	5.25	2.41	4.16	4.01	28.70	186.00	172.00	310.00	48.70	9.33	152.00	---
20	4.41	2.59	4.86	2.67	---	32.70	297.00	337.00	40.60	14.60	191.00	---
21	4.41	2.72	3.78	8.11	---	29.70	261.00	1170.00	65.20	26.10	181.00	---
22	4.14	2.14	3.55	7.48	---	33.70	287.00	1340.00	30.20	26.10	165.00	---
23	3.46	2.20	3.48	13.40	---	18.60	412.00	---	62.40	24.40	306.00	---
24	4.26	3.24	4.16	15.90	---	25.70	338.00	---	39.50	23.80	323.00	---
25	4.43	4.16	4.45	6.80	---	32.10	341.00	---	72.50	23.80	425.00	---
26	4.27	2.97	4.05	4.48	34.20	64.60	331.00	---	114.00	24.90	370.00	---
27	5.34	3.56	3.93	11.30	43.10	31.80	349.00	---	157.00	22.60	322.00	---
28	3.63	3.24	4.45	6.48	95.30	199.00	252.00	---	173.00	23.80	252.00	---
29	4.84	3.63	3.67	2.11	---	75.30	215.00	---	187.00	24.30	349.00	---
30	3.44	3.36	3.89	1.78	---	162.00	214.00	---	172.00	24.80	508.00	---
31	2.31	---	3.24	1.28	---	41.00	---	---	---	25.50	453.00	---
MEAN	17.00	3.23	3.35	4.83	14.90	69.70	163.00	365.00	93.90	32.00	151.00	504.00
WTR YR 1977	MEAN	91.10	MAX	1340.00	MIN	.97						

ARKANSAS RIVER BASIN

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

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10500	14900	15900	6880	14000	9260	9190	9810	---	---	7350	5220
2	10900	15900	10100	10600	9260	9190	9260	10400	---	---	7490	4170
3	10600	---	8720	5300	16600	---	10200	11700	---	---	7150	4470
4	10400	---	17200	12700	38100	---	10100	5980	---	---	7080	5770
5	10400	---	20600	12500	33400	---	10100	8780	---	---	7220	---
6	10800	---	15900	9400	24100	---	10600	8650	---	---	7630	---
7	10600	---	21200	14100	30000	---	9940	9130	---	---	8580	---
8	10800	---	19600	10600	27000	---	9670	9600	---	---	7560	---
9	10800	---	18500	10600	26300	---	9670	9400	---	---	7900	---
10	10400	16300	22300	12100	24500	---	9740	10300	---	---	7900	---
11	34900	17400	19800	13700	29700	---	10000	9810	---	---	8310	---
12	10800	16200	23400	2980	15900	---	10100	9670	---	5750	8580	---
13	10600	14200	18300	1360	17100	---	10200	10000	---	5750	8040	---
14	10600	11600	21500	7900	21400	---	10600	10400	---	6730	7760	---
15	11100	11800	20000	10100	11400	9130	10100	10400	---	6780	8100	5540
16	11000	12000	19700	10000	11500	8920	10100	8310	---	7150	8510	5400
17	11200	13000	19500	3000	10400	8920	10500	10700	---	7350	8100	3940
18	11200	17800	19500	9810	10600	8240	10600	10700	5280	7220	8170	---
19	11800	14600	19700	7490	10200	9400	10500	10800	5200	8100	8240	---
20	12100	14400	22000	4520	---	9330	11200	8780	5360	9190	8240	---
21	12700	15200	18700	16500	---	9470	10800	8850	5330	7560	8240	---
22	13100	12900	17200	11600	---	8780	10500	8720	5390	7220	8510	---
23	14400	13300	15500	20600	---	8920	11400	---	5410	7080	7900	---
24	14900	14300	21200	22100	---	9670	10200	---	5330	7220	8510	---
25	14800	20400	20400	21700	---	11500	10200	---	5240	7290	7700	---
26	14100	18900	19100	14200	9400	11000	10700	---	4940	7220	6010	---
27	13600	23100	17800	38200	9400	9670	9470	---	4930	7220	5630	---
28	14200	18900	21300	38800	9530	8990	9330	---	5170	7150	5970	---
29	14000	17600	17800	19700	---	7350	9670	---	4790	7350	7560	---
30	11800	16300	22900	20600	---	8440	9870	---	4660	7700	6570	---
31	10600	---	19000	14200	---	8170	---	---	---	7490	3920	---
MEAN	12600	15700	18800	13300	18600	9180	10200	9590	5160	7230	7560	4930
WTR YR 1977	MEAN	11900	MAX	38800	MIN	1360						

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	482.00	56.30	51.50	27.90	26.80	350.00	1020.00	4030.00	---	---	397.00	8630.00
2	471.00	55.80	24.50	42.90	21.80	1540.00	1580.00	5280.00	---	---	425.00	7390.00
3	458.00	---	21.20	24.30	38.50	---	661.00	7360.00	---	---	386.00	8170.00
4	449.00	---	51.10	58.30	89.50	---	2510.00	4840.00	---	---	382.00	10500.00
5	421.00	---	50.10	57.40	81.20	---	1660.00	5480.00	---	---	390.00	---
6	437.00	---	38.60	45.70	50.80	---	1090.00	5720.00	---	---	412.00	---
7	429.00	---	63.00	91.40	81.00	---	1130.00	5570.00	---	---	440.00	---
8	408.00	---	58.20	60.10	71.40	---	1020.00	5550.00	---	---	388.00	---
9	408.00	---	74.90	60.10	71.00	---	1330.00	4060.00	---	---	427.00	---
10	393.00	74.80	36.70	78.40	62.80	---	1240.00	4510.00	---	---	427.00	---
11	1220.00	98.70	46.00	88.80	96.20	---	810.00	4110.00	---	---	516.00	---
12	408.00	78.70	51.80	19.30	77.30	---	764.00	3630.00	---	1650.00	463.00	---
13	401.00	65.20	45.50	8.81	134.00	---	826.00	3540.00	---	1410.00	608.00	---
14	401.00	40.70	54.60	89.60	220.00	---	1260.00	3400.00	---	963.00	901.00	---
15	450.00	44.60	54.00	106.00	95.40	937.00	1360.00	4520.00	---	494.00	919.00	5190.00
16	445.00	51.80	63.80	105.00	186.00	506.00	1450.00	3160.00	---	367.00	942.00	7170.00
17	423.00	52.60	73.70	34.00	421.00	2750.00	2040.00	4220.00	---	318.00	1270.00	6230.00
18	254.00	67.30	84.20	87.40	429.00	556.00	2920.00	4480.00	912.00	273.00	1830.00	---
19	92.40	43.40	74.50	66.70	496.00	3170.00	3010.00	5390.00	744.00	157.00	2560.00	---
20	78.40	46.70	89.10	40.30	---	554.00	5200.00	5690.00	622.00	248.00	3200.00	---
21	78.90	49.20	70.70	147.00	---	511.00	4550.00	19900.00	1020.00	429.00	3050.00	---
22	74.30	38.30	65.00	132.00	---	569.00	5020.00	23000.00	466.00	429.00	2800.00	---
23	62.20	39.50	62.80	250.00	---	313.00	7230.00	---	964.00	401.00	5140.00	---
24	76.40	57.90	80.10	292.00	---	444.00	5840.00	---	619.00	390.00	5490.00	---
25	79.90	77.10	82.60	123.00	---	559.00	5890.00	---	1120.00	394.00	7110.00	---
26	76.10	56.10	77.40	80.50	584.00	1130.00	5810.00	---	1710.00	409.00	5860.00	---
27	95.50	68.60	72.10	217.00	736.00	548.00	6010.00	---	2420.00	370.00	5030.00	---
28	65.20	61.20	86.30	126.00	1620.00	3370.00	4280.00	---	2620.00	386.00	3970.00	---
29	86.90	66.50	67.30	37.80	---	1230.00	3710.00	---	2790.00	397.00	5740.00	---
30	60.50	61.60	74.20	33.40	---	2730.00	3700.00	---	2580.00	416.00	8140.00	---
31	40.10	---	61.60	23.00	---	684.00	---	---	---	425.00	6580.00	---
MEAN	301.00	58.80	61.50	85.60	259.00	1180.00	2830.00	6250.00	1430.00	516.00	2460.00	7610.00
WTR YR 1977	MEAN	1510.00	MAX	23000.00	MIN	8.81						

07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, OK

LOCATION.--Lat 36°40'13", long 97°18'33", in NW 1/4 SE 1/4 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 (6.4 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) above mean sea level (Corps of Engineers bench mark). 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) 36 years (water years 1942-77), 738 ft³/s (20.90 m³/s), 534,700 acre-ft/yr (659 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, 7,770 ft³/s (220 m³/s) May 23, gage height, 14.50 ft (4.420 m), no peaks above base of 11,000 ft³/s (312 m³/s); minimum daily, 19 ft³/s (0.54 m³/s) Jan. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	67	42	29	46	57	82	303	2070	224	82	579
2	66	60	42	28	44	70	90	205	1920	251	76	697
3	61	50	41	27	42	111	63	192	1490	202	63	704
4	57	46	39	26	38	68	58	187	1320	182	61	735
5	56	42	39	25	37	81	67	200	1190	185	66	772
6	55	42	38	24	34	100	50	262	1060	162	59	794
7	55	40	48	23	34	83	71	249	938	138	54	833
8	57	41	45	23	35	72	66	235	767	137	50	771
9	56	41	43	22	37	67	51	226	687	436	46	680
10	54	40	42	22	36	78	45	210	615	530	44	614
11	52	39	35	20	40	172	43	186	530	346	57	561
12	50	38	40	19	55	97	45	167	459	233	101	487
13	48	39	39	19	50	71	56	169	394	195	168	437
14	48	40	40	22	44	139	54	160	320	162	546	458
15	45	39	39	23	38	110	52	149	278	128	647	557
16	43	40	39	21	37	73	57	144	247	107	438	1280
17	44	40	39	25	35	61	79	229	228	79	287	1180
18	45	41	38	23	35	60	76	228	197	74	431	831
19	45	41	37	28	32	47	78	191	173	61	543	765
20	47	39	35	35	37	79	132	224	158	55	1050	745
21	48	38	49	40	45	60	282	2210	141	52	815	732
22	45	38	50	56	55	90	207	5680	133	67	456	678
23	47	38	42	70	47	61	207	7410	164	56	1170	657
24	49	38	41	94	78	49	190	7110	211	54	1750	558
25	47	40	40	102	133	44	357	5560	222	54	1120	546
26	55	39	39	105	100	45	321	3050	353	53	1590	455
27	48	36	39	63	83	45	243	2960	219	53	1830	395
28	47	43	38	49	64	77	200	2840	188	55	860	356
29	54	58	39	48	---	75	363	2390	194	56	608	315
30	65	58	32	47	---	60	470	2030	230	56	469	279
31	63	---	30	47	---	89	---	2350	---	64	450	---
TOTAL	1628	1291	1239	1205	1391	2391	4155	47706	17096	4507	15987	19451
MEAN	52.5	43.0	40.0	38.9	49.7	77.1	139	1539	570	145	516	648
MAX	76	67	50	105	133	172	470	7410	2070	530	1830	1280
MIN	43	36	30	19	32	44	43	144	133	52	44	279
AC-FT	3230	2560	2460	2390	2760	4740	8240	94620	33910	8940	31710	38580
CAL YR 1976	TOTAL	107719	MEAN 294	MAX 5750	MIN 30	AC-FT 213700						
WTR YR 1977	TOTAL	118047	MEAN 323	MAX 7410	MIN 19	AC-FT 234100						

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
05...	--	--	1925	56	5860	8.3	--	--	--	--
15...	--	--	1900	44	7180	8.2	--	--	--	--
19...	1028	9740	1330	45	6800	8.6	8.0	8	11.6	99
25...	--	--	1825	46	6190	8.3	--	--	--	--
NOV										
06...	--	--	1715	42	4190	8.3	--	--	--	--
15...	--	--	1730	40	4270	8.1	--	--	--	--
17...	1028	9740	1130	40	3500	8.4	6.0	2	11.7	96
28...	--	--	1730	38	3950	8.1	--	--	--	--
DEC										
02...	--	--	1745	42	3920	8.1	--	--	--	--
05...	--	--	1730	40	3700	8.0	--	--	--	--
15...	--	--	1645	39	3500	8.0	--	--	--	--
20...	1028	9740	1500	33	3500	8.2	4.0	5	12.2	94
JAN										
20...	1028	9740	0830	35	3500	8.0	.0	1	16.0	112
25...	--	--	1800	79	2300	8.5	--	--	--	--
27...	--	--	1800	63	2560	8.0	--	--	--	--
31...	--	--	1800	47	2910	8.3	--	--	--	--
FEB										
02...	--	--	1500	45	2980	8.2	--	--	--	--
14...	--	--	1730	45	2920	8.4	--	--	--	--
15...	1028	9740	1715	41	2600	8.4	3.5	3	13.8	106
23...	--	--	1830	47	6420	8.0	--	--	--	--
MAR										
07...	--	--	1830	68	10600	7.8	--	--	--	--
15...	--	--	1830	61	12000	7.6	--	--	--	--
16...	1028	9740	1620	44	12500	8.5	17.5	32	13.2	140
30...	--	--	1900	36	5460	8.2	--	--	--	--
APR										
06...	--	--	1900	33	7710	7.6	--	--	--	--
14...	--	--	1830	35	8230	7.6	--	--	--	--
19...	1028	9740	1500	49	7000	8.6	27.0	41	12.2	156
24...	--	--	2000	128	9800	7.2	--	--	--	--
MAY										
05...	--	--	1830	144	11800	7.3	--	--	--	--
10...	1028	9740	1330	149	13000	8.5	24.0	62	9.9	121
15...	--	--	1900	94	12600	7.1	--	--	--	--
25...	--	--	1810	5320	4080	7.2	--	--	--	--
JUN										
04...	--	--	2200	1300	7740	7.5	--	--	--	--
13...	--	--	1730	309	5560	7.5	--	--	--	--
15...	1028	9740	1700	201	5500	8.4	31.0	39	9.2	126
24...	--	--	2215	142	4110	7.3	--	--	--	--
JUL										
05...	--	--	1830	128	6650	7.5	--	--	--	--
16...	--	--	1900	107	6780	7.5	--	--	--	--
20...	1028	9740	0915	37	6700	8.4	25.0	27	7.4	91

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JUL										
25...	--	--	2130	35	6020	7.5	--	--	--	--
AUG										
06...	--	--	2100	36	5040	7.5	--	--	--	--
17...	1028	9740	0800	198	1100	7.7	26.5	210	7.1	89
17...	--	--	2030	294	1260	7.4	--	--	--	--
25...	--	--	1800	903	5830	7.4	--	--	--	--
SEP										
05...	--	--	2000	739	7270	7.2	--	--	--	--
15...	--	--	1630	556	5580	7.2	--	--	--	--
22...	1028	9740	1345	619	3500	8.5	24.5	87	8.0	99
25...	--	--	1930	462	5940	7.3	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT										
05...	--	440	230	--	110	--	40	--	1100	84
15...	--	470	240	--	110	--	47	--	1400	86
19...	40	--	--	--	--	--	--	--	--	--
25...	--	480	230	--	120	--	43	--	1200	84
NOV										
06...	--	340	110	--	79	--	35	--	730	82
15...	--	370	96	--	88	--	36	--	770	82
17...	20	--	--	--	--	--	--	--	--	--
28...	--	340	79	--	72	--	38	--	690	82
DEC										
02...	--	360	71	--	86	--	36	--	670	80
05...	--	330	72	--	74	--	35	--	640	81
15...	--	330	65	--	74	--	35	--	600	80
20...	8	--	--	--	--	--	--	--	--	--
JAN										
20...	14	--	--	--	--	--	--	--	--	--
25...	--	230	31	--	52	--	25	--	390	78
27...	--	240	3	--	65	--	20	--	440	79
31...	--	340	48	--	83	--	33	--	480	75
FEB										
02...	--	300	50	--	65	--	33	--	510	79
14...	--	300	50	--	70	--	31	--	490	78
15...	14	--	--	--	--	--	--	--	--	--
23...	--	460	220	--	110	--	45	--	1200	85
MAR										
07...	--	620	450	--	160	--	53	--	2100	88
15...	--	680	530	--	180	--	57	--	2400	88
16...	47	--	--	--	--	--	--	--	--	--
30...	--	400	180	--	99	--	37	--	1000	84
APR										
06...	--	520	300	--	130	--	47	--	1500	86
14...	--	530	320	--	130	--	49	--	1600	87
19...	48	--	--	--	--	--	--	--	--	--
24...	--	580	420	--	150	--	49	--	2000	88
MAY										
05...	--	650	490	--	170	--	55	--	2400	89
10...	45	--	--	--	--	--	--	--	--	--
15...	--	680	520	--	170	--	61	--	2600	89
25...	--	250	170	--	64	--	21	--	760	87
JUN										
04...	--	420	300	--	110	--	36	--	1600	89
13...	--	420	250	--	110	--	34	--	1100	85
15...	42	--	--	--	--	--	--	--	--	--
24...	--	370	200	--	95	--	33	--	780	81
JUL										
05...	--	450	320	--	120	--	37	--	1300	86
16...	--	460	300	--	120	--	39	--	1300	86
20...	39	--	--	--	--	--	--	--	--	--
25...	--	390	200	--	92	--	38	--	1100	86
AUG										
06...	--	420	210	--	100	--	42	--	960	83
17...	45	--	--	--	--	--	--	--	--	--
17...	--	150	55	--	40	--	13	--	190	72
25...	--	310	230	--	80	--	27	--	1100	88
SEP										
05...	--	460	370	--	130	--	32	--	1400	87
15...	--	390	290	--	110	--	29	--	1000	84
22...	55	--	--	--	--	--	--	--	--	--
25...	--	450	330	--	130	--	30	--	1100	84

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
05...	23	--	6.6	261	0	214	2.1	290	1700	--
15...	28	--	6.7	282	0	231	2.8	330	2100	--
19...	--	--	--	--	--	--	--	--	--	.4
25...	24	--	5.9	303	0	249	2.4	300	1800	--
NOV										
06...	17	--	4.3	279	0	229	2.2	200	1100	--
15...	17	--	3.8	331	0	271	4.2	220	1100	--
17...	--	--	--	--	--	--	--	--	--	.4
28...	16	--	3.8	314	0	258	4.0	210	1000	--
DEC										
02...	15	--	3.7	356	0	292	4.5	200	990	--
05...	15	--	3.5	313	0	257	5.0	190	930	--
15...	14	--	3.4	322	0	264	5.2	180	870	--
20...	--	--	--	--	--	--	--	--	--	.4
JAN										
20...	--	--	--	--	--	--	--	--	--	.5
25...	11	--	2.3	234	6	202	1.2	110	560	--
27...	12	--	2.7	295	0	242	4.7	130	620	--
31...	11	--	2.9	360	0	295	2.9	140	710	--
FEB										
02...	13	--	2.9	302	0	248	3.0	140	720	--
14...	12	--	2.9	302	3	253	2.0	140	700	--
15...	--	--	--	--	--	--	--	--	--	.4
23...	24	--	4.5	290	0	238	4.6	290	1900	--
MAR										
07...	37	--	8.2	210	0	172	5.3	470	3200	--
15...	40	--	9.1	190	0	156	7.6	500	3700	--
16...	--	--	--	--	--	--	--	--	--	.4
30...	22	--	5.5	270	0	221	2.7	230	1500	--
APR										
06...	29	--	6.6	260	0	213	10	330	2300	--
14...	30	--	7.0	250	0	205	10	340	2400	--
19...	--	--	--	--	--	--	--	--	--	.4
24...	36	--	8.7	190	0	160	19	390	3000	--
MAY										
05...	41	--	8.7	200	0	160	16	460	3800	--
10...	--	--	--	--	--	--	--	--	--	.4
15...	44	--	8.9	190	0	160	24	490	4100	--
25...	21	--	7.0	97	0	80	9.8	140	1200	--
JUN										
04...	34	--	9.0	150	0	120	7.6	320	2400	--
13...	24	--	8.4	200	0	164	10	270	1600	--
15...	--	--	--	--	--	--	--	--	--	.3
24...	18	--	9.9	210	0	172	17	170	1200	--
JUL										
05...	27	--	8.7	160	0	131	8.1	350	1900	--
16...	26	--	9.9	190	0	156	9.6	320	2000	--
20...	--	--	--	--	--	--	--	--	--	.4
25...	24	--	7.9	230	0	189	12	250	1700	--
AUG										
06...	20	--	5.9	260	0	210	13	310	1400	--
17...	--	--	--	--	--	--	--	--	--	.3
17...	6.7	--	6.8	120	0	98	7.6	57	290	--
25...	27	--	8.9	100	0	82	6.4	210	1700	--
SEP										
05...	29	--	8.8	110	0	90	11	370	2200	--
15...	22	--	7.8	130	0	110	13	270	1600	--
22...	--	--	--	--	--	--	--	--	--	.3
25...	23	--	8.6	140	0	110	11	330	1700	--

ARKANSAS RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
05...	--	3340	--	4.54	505	.88	--	--	--	--
15...	--	4140	--	5.63	492	.57	--	--	--	--
19...	--	--	--	--	--	--	3.0	.14	--	--
25...	--	3550	--	4.83	441	.36	--	--	--	--
NOV										
06...	--	2300	--	3.13	261	.30	--	--	--	--
15...	--	2350	--	3.20	254	.28	--	--	--	--
17...	--	--	2350	--	--	--	.40	.09	<1	2
28...	--	2140	--	2.91	220	.23	--	--	--	--
DEC										
02...	--	2210	--	3.01	251	.08	--	--	--	--
05...	--	2060	--	2.80	222	.17	--	--	--	--
15...	--	1960	--	2.67	206	.42	--	--	--	--
20...	--	--	--	--	--	--	.90	.07	--	--
JAN										
20...	--	--	--	--	--	--	.50	.65	--	--
25...	--	1270	--	1.73	271	.13	--	--	--	--
27...	--	1400	--	1.90	238	.27	--	--	--	--
31...	--	1640	--	2.23	208	.15	--	--	--	--
FEB										
02...	--	1650	--	2.24	200	.22	--	--	--	--
14...	--	1620	--	2.20	197	.29	--	--	--	--
15...	--	--	--	--	--	--	1.5	.16	2	3
23...	--	3690	--	5.02	468	.36	--	--	--	--
MAR										
07...	--	6350	--	8.64	1170	.31	--	--	--	--
15...	--	7120	--	9.68	1170	.23	--	--	--	--
16...	--	--	--	--	--	--	2.5	.29	--	--
30...	--	3110	--	4.23	302	.09	--	--	--	--
APR										
06...	--	4450	--	6.05	396	.28	--	--	--	--
14...	--	4740	--	6.45	448	.10	--	--	--	--
19...	--	--	--	--	--	--	1.7	.40	--	--
24...	--	5750	--	7.82	1990	.57	--	--	--	--
MAY										
05...	--	6850	--	9.32	2660	--	--	--	--	--
10...	--	--	--	--	--	--	3.0	.25	5	4
15...	--	7610	--	10.4	1930	--	--	--	--	--
25...	--	2290	--	3.11	32900	--	--	--	--	--
JUN										
04...	--	4450	--	6.05	15600	--	--	--	--	--
13...	--	3130	--	4.26	2610	--	--	--	--	--
15...	--	--	--	--	--	--	2.1	.21	--	--
24...	--	2320	--	3.16	889	--	--	--	--	--
JUL										
05...	--	3820	--	5.20	1320	--	--	--	--	--
16...	--	3900	--	5.30	1130	--	--	--	--	--
20...	--	--	--	--	--	--	2.2	.24	--	--
25...	--	3420	--	4.65	323	--	--	--	--	--
AUG										
06...	--	2850	--	3.88	277	--	--	--	--	--
17...	--	--	--	--	--	--	3.7	.85	42	3
17...	--	676	--	.92	537	--	--	--	--	--
25...	--	3260	--	4.43	7950	--	--	--	--	--
SEP										
05...	--	4140	--	5.63	8260	--	--	--	--	--
15...	--	3130	--	4.26	4700	--	--	--	--	--
22...	--	--	--	--	--	--	2.4	.33	--	--
25...	--	3350	--	4.56	4180	--	--	--	--	--

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	13.0	---	---	---	---	---	24.0	26.0	30.0	31.0	25.0
2	---	14.5	4.0	---	4.0	9.0	---	---	27.0	32.0	33.0	24.0
3	22.5	13.0	5.5	---	7.0	9.5	---	---	28.0	32.0	31.0	24.0
4	20.0	10.0	---	---	---	---	---	27.0	28.0	31.0	30.0	25.0
5	17.0	---	5.5	---	---	---	13.5	25.5	30.5	32.0	29.0	23.0
6	13.0	13.0	---	---	---	---	19.0	---	26.0	31.0	29.0	24.0
7	13.0	---	---	---	5.0	15.0	---	---	27.0	31.0	30.0	25.0
8	---	---	5.0	---	---	---	---	---	26.0	31.0	30.0	---
9	---	12.0	6.5	---	---	15.0	---	22.0	27.0	29.0	30.0	---
10	---	---	---	---	13.5	---	20.0	---	28.0	31.0	31.0	23.0
11	19.5	---	---	---	---	---	---	25.0	29.0	30.0	30.0	24.0
12	20.0	---	4.0	---	---	---	20.0	26.5	28.0	28.0	29.0	26.0
13	20.0	---	---	---	---	---	18.0	---	29.0	28.0	27.0	22.5
14	20.0	---	---	---	10.0	17.0	19.5	---	---	30.0	28.0	19.0
15	15.5	4.0	6.0	---	6.0	16.0	---	26.0	29.0	---	29.0	22.0
16	13.0	3.5	---	---	---	13.5	---	26.0	29.0	31.0	29.0	22.0
17	12.0	7.0	7.5	---	10.0	15.5	21.5	27.0	30.0	31.0	26.0	25.0
18	9.0	10.0	8.0	---	11.0	16.5	21.5	27.0	33.0	30.0	---	24.0
19	7.5	---	---	---	---	---	24.5	26.0	31.0	30.0	23.0	23.0
20	---	9.5	---	---	---	---	23.0	25.0	---	30.0	22.0	22.0
21	13.0	6.5	1.0	---	---	---	17.5	20.0	27.0	30.0	26.0	24.0
22	13.0	7.5	---	---	13.5	---	---	20.0	27.0	29.0	24.0	24.0
23	18.5	---	---	---	8.5	---	19.0	22.0	28.0	34.0	27.0	23.0
24	12.5	---	5.5	---	---	---	20.0	23.0	27.0	34.0	26.0	22.0
25	10.5	---	---	2.0	---	---	---	25.0	30.0	31.0	26.0	24.0
26	9.0	---	5.0	2.5	---	---	22.0	25.0	30.0	26.0	29.0	24.0
27	9.0	---	6.0	5.0	7.0	---	24.0	24.0	32.0	27.0	---	24.0
28	10.5	0.0	4.5	0.0	9.5	19.0	25.5	24.0	30.0	30.0	24.0	21.0
29	---	1.0	4.0	1.0	---	17.0	24.0	26.5	32.0	31.0	24.0	22.0
30	9.0	8.0	---	1.0	---	15.0	23.0	26.0	29.0	29.0	30.0	21.0
31	11.5	---	---	2.0	---	15.0	---	24.0	---	27.0	---	---
MONTH	---	---	---	---	---	---	---	---	28.5	30.0	28.0	23.5

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	4020	---	---	---	---	---	4790	8250	7020	5540	7590
2	---	3450	3920	---	2980	6480	---	---	7250	6590	5080	7290
3	5050	3610	3860	---	2980	6420	---	---	7180	6380	5650	7280
4	5560	3970	---	---	---	---	---	9610	7740	6040	4780	7240
5	5860	---	3700	---	---	---	8110	11800	7880	6650	4130	7270
6	6190	4190	---	---	---	---	7710	---	6670	6680	5040	7630
7	6370	---	---	---	3000	10600	---	---	4130	6170	5420	7620
8	---	---	3870	---	---	---	---	---	3670	6150	5830	8180
9	---	4170	3850	---	---	8880	---	11600	5340	2000	5920	7880
10	---	---	---	---	3430	---	9910	---	5950	3700	6280	7860
11	6730	---	---	---	---	---	---	12400	5280	4690	997	6830
12	6870	---	3540	---	---	---	8620	12000	5290	7630	3180	6810
13	6870	---	---	---	---	---	8430	---	5560	7650	3220	7650
14	7020	---	---	---	2920	10300	8230	---	---	7870	1000	7580
15	7180	4270	3500	---	3070	12000	---	12600	6070	7050	1460	5580
16	7280	4220	---	---	---	11200	---	12600	1200	6780	1180	2000
17	7290	3930	3510	---	3270	10100	6010	8700	1200	6690	1260	6330
18	7360	4220	---	---	3580	8950	6410	9140	5220	6850	---	6330
19	7360	---	---	---	---	---	7020	10300	6300	6580	1150	6160
20	---	3920	---	---	---	---	8360	9210	---	6480	1150	4920
21	7420	3990	---	---	---	---	3360	2150	6340	6390	1130	5710
22	7480	4030	---	---	4920	---	---	1270	6180	5820	1690	947
23	7240	---	---	---	6420	---	8080	1740	5430	5500	2740	5190
24	6410	---	---	---	---	---	9800	2410	4110	5950	2750	5210
25	6190	---	---	2300	---	---	---	4080	4380	6020	1660	5940
26	5760	---	---	2440	---	---	7050	5800	3160	6040	2240	5430
27	3660	---	---	2560	10100	---	8710	4360	4000	6120	2200	6100
28	4150	3950	---	2700	8520	4880	10800	2960	4340	6450	5830	5780
29	---	4000	---	2800	---	4810	7420	2650	6000	6300	5940	5970
30	3930	3840	---	2870	---	5460	6110	6180	7090	6440	6300	6980
31	4120	---	---	2910	---	7910	---	5740	---	6250	5280	---
MONTH	---	---	---	---	---	---	---	---	5410	6220	3530	6310

ARKANSAS RIVER BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	1.5	3.0	---	14.5	23.0	25.5	27.5	28.0	27.5
2			---	1.5	3.5	---	16.0	22.5	27.0	28.5	29.0	27.5
3			---	1.5	5.0	---	15.5	23.5	27.5	29.0	30.0	27.5
4			---	1.5	6.5	---	13.5	24.5	29.0	30.0	27.5	26.5
5			---	1.5	7.0	---	12.5	24.0	29.5	30.5	27.5	25.5
6			---	1.5	6.5	---	17.0	24.5	28.0	29.5	28.5	26.0
7			---	2.0	7.0	---	19.5	26.5	26.5	28.0	29.5	27.0
8			---	2.0	5.0	---	20.5	28.0	26.5	27.0	29.5	27.5
9			---	2.0	7.5	---	20.5	26.5	27.5	28.0	29.0	25.5
10			---	2.5	9.5	---	20.0	24.0	28.0	29.0	30.0	23.0
11			---	2.5	10.0	---	19.5	24.0	28.5	29.5	25.0	23.0
12			---	2.5	11.0	---	20.0	24.5	28.0	30.0	24.5	24.5
13			---	2.5	12.0	---	19.5	25.0	28.5	29.5	25.5	23.5
14			---	2.0	11.0	---	19.5	---	29.5	29.0	26.5	20.0
15			---	2.0	7.0	---	21.0	27.0	29.5	30.0	28.5	20.0
16			7.5	2.0	---	14.5	20.5	26.5	27.5	31.0	29.0	21.0
17			6.0	2.5	---	15.0	21.5	28.5	28.5	30.0	26.0	23.5
18			7.0	2.5	---	15.5	21.5	28.0	28.5	29.5	24.0	25.0
19			7.5	2.5	---	13.5	23.0	26.5	28.5	30.0	22.0	23.5
20			8.5	2.5	---	12.0	22.5	24.0	29.5	29.5	22.5	22.5
21			2.5	2.0	---	11.5	19.5	19.5	28.5	30.0	24.5	23.0
22			1.5	2.0	---	12.0	17.0	10.0	26.0	29.0	27.5	24.5
23			2.5	2.0	---	14.5	17.5	17.5	26.0	31.0	25.0	24.0
24			3.0	2.0	---	15.0	19.5	21.0	26.0	32.0	26.0	23.0
25			4.5	2.0	---	14.0	19.0	24.0	26.5	32.0	28.0	23.5
26			5.0	2.5	---	17.0	20.0	25.0	27.0	27.5	28.0	24.0
27			5.0	3.0	---	17.5	21.5	24.5	30.0	26.0	27.0	25.5
28			6.0	5.0	---	18.5	23.0	24.5	29.5	29.5	25.0	23.0
29			5.5	3.0	---	17.0	23.0	26.0	28.5	31.0	23.0	22.0
30			4.0	2.0	---	16.0	22.5	27.0	28.5	31.0	25.5	23.0
31			2.0	2.0	---	15.0	---	25.5	---	27.5	27.5	---
MEAN			5.0	2.0	7.5	15.0	19.5	24.0	28.0	29.5	26.5	24.0
WTR YR 1977	MEAN	19.5		MAX	32.0		MIN	1.5				

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	2560	3060	---	8700	---	7990	6960	---	7230
2			---	2840	2910	---	9540	---	7140	6300	---	7250
3			---	3120	2990	---	9760	---	6870	6040	5850	7040
4			---	3290	2910	---	9570	---	7930	5900	4610	7160
5			---	3430	3160	---	---	---	7640	6380	3820	6920
6			---	3610	3680	---	---	---	6920	6310	5070	7090
7			---	3600	3250	---	---	---	4390	5380	5510	7540
8			---	3530	3110	---	---	---	3570	5140	5930	8280
9			---	3440	3350	---	---	---	5190	3380	5890	7220
10			---	3430	3540	---	---	---	5730	2940	6270	7830
11			---	3500	2530	---	---	12400	5170	4250	2530	6880
12			---	3520	2170	---	---	11900	5450	7260	2950	6880
13			---	3560	2570	---	---	11700	5470	7010	3620	7450
14			---	3570	2760	---	---	11300	5780	7920	1870	7650
15			---	3570	3190	---	---	---	5970	7280	1380	5630
16			---	3520	---	11900	---	---	1230	6830	1330	2690
17			3490	3510	---	10100	---	10200	1180	6680	1330	6200
18			1140	3520	---	9400	---	9340	5080	6870	1550	5990
19			1180	3490	---	9090	---	9860	6010	6580	1270	6120
20			1060	3500	---	7840	---	8920	6340	6610	1290	4990
21			1130	3500	---	6880	---	2400	6510	6550	1020	5680
22			700	3410	---	7330	---	1200	6280	---	1170	887
23			1060	3350	---	7190	---	1780	5210	---	3730	5000
24			1270	3210	---	7150	---	1850	4270	---	2430	5230
25			370	2730	---	6650	---	4080	4300	---	1610	5930
26			824	2300	---	6310	---	5980	2840	---	2990	4570
27			2120	2270	---	5510	---	4970	3900	---	2060	6180
28			1540	2680	---	4750	---	3120	4410	---	5280	5760
29			3030	3010	---	4890	---	2450	5950	---	6170	5890
30			---	2730	---	5810	---	5980	6980	---	6250	6950
31			2460	2670	---	8070	---	6200	---	---	4710	---
MEAN			1530	3220	3010	7430	9390	6610	5390	6120	3430	6200
WTR YR 1977	MEAN	4900		MAX	12400		MIN	370				

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

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	590	760	---	2600	---	2400	2100	---	2200
2			---	680	710	---	2900	---	2100	1800	---	2200
3			---	780	730	---	3000	---	400	1800	1700	2100
4			---	830	710	---	2900	---	2400	1700	1300	2100
5			---	880	790	---	---	---	2300	1900	1000	2100
6			---	940	960	---	---	---	2100	1800	1400	2100
7			---	940	820	---	---	---	1200	1500	1600	2300
8			---	910	770	---	---	---	930	1500	1700	2500
9			---	880	850	---	---	---	1500	860	1700	2200
10			---	880	920	---	---	---	1700	720	1800	2400
11			---	900	580	---	---	3900	1500	1200	580	400
12			---	910	460	---	---	3700	1600	2200	720	400
13			---	920	590	---	---	3700	1600	2100	940	2200
14			---	930	660	---	---	3500	1700	2400	370	2300
15			---	930	800	---	---	---	1700	2200	280	1600
16			---	910	---	3700	---	---	250	400	270	630
17			900	910	---	3100	---	3200	240	400	270	1800
18			230	910	---	2900	---	2900	1400	400	310	1700
19			240	900	---	2800	---	3000	1700	1900	250	1800
20			210	900	---	2400	---	2700	1900	1900	260	1400
21			230	900	---	400	---	540	1900	1900	200	1600
22			140	870	---	2200	---	240	1800	---	230	180
23			210	850	---	2100	---	360	1500	---	980	1400
24			250	810	---	2100	---	370	1200	---	550	1500
25			74	650	---	400	---	1100	1200	---	320	1700
26			170	500	---	1800	---	1700	680	---	730	1300
27			440	490	---	1600	---	1400	1000	---	420	1800
28			310	630	---	1300	---	780	1200	---	1500	1700
29			750	740	---	1400	---	550	1700	---	1800	1700
30			---	650	---	1700	---	1700	2100	---	1800	2100
31			560	630	---	2400	---	1800	---	---	1300	---
MEAN			340	810	740	2000	2900	2000	1500	1600	910	1700
WTR YR 1977	MEAN	1300		MAX	3900	MIN	74					

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	46.20	94.40	---	576.00	---	13400.00	1270.00	---	3440.00
2			---	51.40	84.30	---	705.00	---	10900.00	1220.00	---	4140.00
3			---	56.90	82.80	---	510.00	---	1610.00	982.00	289.00	3990.00
4			---	58.30	72.80	---	454.00	---	8550.00	835.00	214.00	4170.00
5			---	59.40	78.90	---	---	---	7390.00	949.00	178.00	4380.00
6			---	60.90	88.10	---	---	---	6010.00	787.00	223.00	4500.00
7			---	58.40	75.30	---	---	---	3040.00	559.00	233.00	5170.00
8			---	56.50	72.80	---	---	---	1930.00	555.00	229.00	5200.00
9			---	52.30	84.90	---	---	---	2780.00	1010.00	211.00	4040.00
10			---	52.30	89.40	---	---	---	2820.00	1030.00	214.00	3980.00
11			---	48.60	62.60	---	---	1960.00	2150.00	1120.00	89.30	606.00
12			---	46.70	68.30	---	---	1670.00	1980.00	1380.00	196.00	526.00
13			---	47.20	79.60	---	---	1690.00	1700.00	1110.00	426.00	2600.00
14			---	55.20	78.40	---	---	1510.00	1470.00	1050.00	545.00	2840.00
15			---	57.80	82.10	---	---	---	1280.00	760.00	489.00	2410.00
16			---	51.60	---	729.00	---	---	167.00	116.00	319.00	2180.00
17			94.80	61.40	---	511.00	---	1980.00	148.00	85.30	209.00	5730.00
18			23.60	56.50	---	470.00	---	1790.00	745.00	79.90	361.00	3810.00
19			24.00	68.00	---	355.00	---	1550.00	794.00	313.00	367.00	3720.00
20			19.80	85.00	---	512.00	---	1630.00	811.00	282.00	737.00	2820.00
21			30.40	97.20	---	64.80	---	3220.00	723.00	267.00	440.00	3160.00
22			18.90	132.00	---	535.00	---	3680.00	646.00	---	283.00	330.00
23			23.80	161.00	---	346.00	---	7200.00	664.00	---	3100.00	2480.00
24			27.70	206.00	---	278.00	---	7100.00	684.00	---	2600.00	2260.00
25			7.99	179.00	---	47.50	---	16500.00	719.00	---	968.00	2510.00
26			17.90	142.00	---	219.00	---	14000.00	648.00	---	3130.00	1600.00
27			46.30	83.30	---	194.00	---	11200.00	591.00	---	2080.00	1920.00
28			31.80	83.30	---	270.00	---	5980.00	609.70	---	3480.00	1630.00
29			79.00	95.90	---	283.00	---	3550.00	890.00	---	2950.00	1450.00
30			---	82.50	---	275.00	---	9320.00	1300.00	---	2280.00	1580.00
31			45.40	79.90	---	577.00	---	11400.00	---	---	1580.00	---
MEAN			35.10	79.80	79.60	354.00	561.00	5630.00	2570.00	750.00	980.00	2970.00
WTR YR 1977	MEAN	1580.00		MAX	16500.00	MIN	7.99					

ARKANSAS RIVER BASIN

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

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	140	160	---	370	---	350	310	---	320
2			---	150	150	---	410	---	310	280	---	320
3			---	160	160	---	420	---	300	270	270	310
4			---	170	150	---	410	---	350	270	220	320
5			---	170	160	---	---	---	330	290	190	310
6			---	180	180	---	---	---	310	280	240	310
7			---	180	170	---	---	---	210	250	250	330
8			---	180	160	---	---	---	180	240	270	360
9			---	170	170	---	---	---	240	170	270	320
10			---	170	180	---	---	---	260	150	280	340
11			---	180	140	---	---	520	240	200	140	300
12			---	180	120	---	---	500	250	320	150	300
13			---	180	140	---	---	490	250	310	180	330
14			---	180	150	---	---	470	260	340	110	330
15			---	180	160	---	---	---	270	320	94	260
16			---	180	---	500	---	---	88	300	92	140
17			170	180	---	430	---	430	86	300	92	280
18			85	180	---	400	---	400	240	300	100	270
19			86	170	---	390	---	420	270	290	90	280
20			82	180	---	340	---	380	280	290	90	230
21			84	180	---	300	---	130	290	290	80	260
22			68	170	---	320	---	87	280	---	86	75
23			82	170	---	320	---	110	240	---	180	230
24			90	160	---	320	---	110	200	---	130	240
25			55	150	---	300	---	200	210	---	100	270
26			73	130	---	280	---	270	150	---	160	220
27			120	130	---	250	---	230	190	---	120	280
28			100	140	---	220	---	160	210	---	240	260
29			160	160	---	230	---	130	270	---	280	270
30			---	150	---	260	---	270	310	---	280	310
31			140	140	---	350	---	280	---	---	220	---
MEAN			100	170	160	330	400	290	250	270	170	280
WTR YR 1977	MEAN	230		MAX	520	MIN	55					

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	11.00	19.90	---	81.90	---	1960.00	187.00	---	500.00
2			---	11.30	17.80	---	99.60	---	1610.00	190.00	---	602.00
3			---	11.70	18.10	---	71.40	---	1210.00	147.00	45.90	589.00
4			---	11.90	15.40	---	64.20	---	1250.00	133.00	36.20	635.00
5			---	11.50	16.00	---	---	---	1060.00	145.00	33.90	646.00
6			---	11.70	16.50	---	---	---	887.00	122.00	38.20	665.00
7			---	11.20	15.60	---	---	---	532.00	93.10	36.40	742.00
8			---	11.20	15.10	---	---	---	373.00	88.80	36.40	749.00
9			---	10.10	17.00	---	---	---	445.00	200.00	33.50	588.00
10			---	10.10	17.50	---	---	---	432.00	215.00	33.30	564.00
11			---	9.72	15.10	---	---	261.00	343.00	187.00	21.50	454.00
12			---	9.23	17.80	---	---	225.00	310.00	201.00	40.90	394.00
13			---	9.23	18.90	---	---	224.00	266.00	163.00	81.60	389.00
14			---	10.70	17.80	---	---	203.00	225.00	149.00	162.00	408.00
15			---	11.20	16.40	---	---	---	203.00	111.00	164.00	391.00
16			---	10.20	---	98.50	---	---	58.70	86.70	109.00	484.00
17			17.90	12.20	---	70.80	---	266.00	52.90	64.00	71.30	892.00
18			8.72	11.20	---	64.80	---	246.00	128.00	59.90	116.00	606.00
19			8.59	12.90	---	49.50	---	217.00	126.00	47.80	132.00	578.00
20			7.75	17.00	---	72.50	---	230.00	119.00	43.10	255.00	463.00
21			11.10	19.40	---	48.60	---	776.00	110.00	40.70	176.00	514.00
22			9.18	25.70	---	77.80	---	1330.00	101.00	---	106.00	137.00
23			9.30	32.10	---	52.70	---	2200.00	106.00	---	569.00	408.00
24			9.96	40.60	---	42.30	---	2110.00	114.00	---	614.00	362.00
25			5.94	41.30	---	35.60	---	3000.00	126.00	---	302.00	398.00
26			7.69	36.90	---	34.00	---	2220.00	143.00	---	687.00	270.00
27			12.60	22.10	---	30.40	---	1840.00	112.00	---	593.00	299.00
28			10.30	18.50	---	45.70	---	1230.00	107.00	---	557.00	250.00
29			16.80	20.70	---	46.60	---	839.00	141.00	---	460.00	230.00
30			---	19.00	---	42.10	---	1480.00	193.00	---	355.00	234.00
31			11.30	17.80	---	84.10	---	1780.00	---	---	267.00	---
MEAN			10.50	16.80	17.00	56.00	79.30	1090.00	428.00	127.00	211.00	481.00
WTR YR 1977	MEAN	282.00		MAX	3000.00	MIN	5.94					

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

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	1360	1660	---	5070	---	4650	4020	---	4190
2			---	1530	1570	---	5580	---	4130	3620	---	4200
3			---	1700	1620	---	5720	---	3970	3470	3350	4070
4			---	1800	1570	---	5600	---	4610	3380	2600	4140
5			---	1890	1720	---	---	---	4430	3670	2120	4000
6			---	2000	2040	---	---	---	4000	3630	2880	4100
7			---	1990	1780	---	---	---	2470	3070	3150	4370
8			---	1950	1690	---	---	---	1970	2920	3400	4820
9			---	1890	1840	---	---	---	2950	1860	3380	4180
10			---	1890	1950	---	---	---	3280	1590	3610	4550
11			---	1930	1340	---	---	7310	2940	2380	1340	3970
12			---	1940	1130	---	---	7010	3110	4200	1600	3970
13			---	1970	1370	---	---	6890	3120	4050	2000	4320
14			---	1970	1480	---	---	6650	3310	4600	944	4440
15			---	1970	1740	---	---	---	3420	4220	648	3220
16			---	1940	---	7010	---	---	557	3940	617	1440
17			1920	1940	---	5920	---	5980	527	3850	617	3560
18			502	1940	---	5500	---	5460	2890	3970	750	3440
19			527	1920	---	5310	---	5780	3450	3790	581	3510
20			454	1930	---	4550	---	5210	3650	3810	593	2830
21			496	1930	---	3970	---	1260	3750	3770	430	3250
22			236	1880	---	4250	---	539	3610	---	521	349
23			454	1840	---	4160	---	890	2960	---	2070	2840
24			581	1750	---	4140	---	932	2400	---	1280	2980
25			37	1460	---	3830	---	2280	2410	---	787	3400
26			311	1200	---	3630	---	3430	1530	---	1620	2580
27			1100	1190	---	3150	---	2820	2170	---	1060	3550
28			744	1430	---	2690	---	1700	2480	---	3010	3300
29			1650	1630	---	2770	---	1290	3410	---	3540	3380
30			---	1460	---	3330	---	3430	4030	---	3590	4020
31			1300	1430	---	4690	---	3560	---	---	2660	---
MEAN			737	1760	1630	4310	5490	3810	3070	3510	1890	3570
WTR YR 1977	MEAN	2780		MAX	7310		MIN	37				

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	106.00	206.00	---	1120.00	---	26000.00	2430.00	---	6550.00
2			---	116.00	187.00	---	1360.00	---	21400.00	2450.00	---	7900.00
3			---	124.00	184.00	---	973.00	---	16000.00	1890.00	570.00	7740.00
4			---	126.00	161.00	---	877.00	---	16400.00	1660.00	428.00	8220.00
5			---	128.00	172.00	---	---	---	14200.00	1830.00	378.00	8340.00
6			---	130.00	187.00	---	---	---	11400.00	1590.00	459.00	8790.00
7			---	124.00	163.00	---	---	---	6260.00	1140.00	459.00	9830.00
8			---	121.00	160.00	---	---	---	4080.00	1080.00	459.00	10000.00
9			---	112.00	184.00	---	---	---	5470.00	2190.00	420.00	7670.00
10			---	112.00	190.00	---	---	---	5450.00	2280.00	429.00	7540.00
11			---	104.00	145.00	---	---	3670.00	4210.00	2220.00	206.00	6010.00
12			---	99.50	168.00	---	---	3160.00	3850.00	2640.00	436.00	5220.00
13			---	101.00	185.00	---	---	3140.00	3320.00	2130.00	907.00	5100.00
14			---	117.00	176.00	---	---	2870.00	2860.00	2010.00	1390.00	5490.00
15			---	122.00	179.00	---	---	---	2570.00	1460.00	1130.00	4840.00
16			---	110.00	---	1380.00	---	---	371.00	1140.00	730.00	4980.00
17			202.00	131.00	---	975.00	---	3700.00	324.00	821.00	478.00	11300.00
18			51.50	120.00	---	891.00	---	3360.00	1540.00	793.00	873.00	7720.00
19			52.60	145.00	---	674.00	---	2980.00	1610.00	624.00	852.00	7250.00
20			42.90	182.00	---	971.00	---	3150.00	1560.00	566.00	1680.00	5690.00
21			65.60	208.00	---	643.00	---	7520.00	1430.00	529.00	946.00	6420.00
22			31.90	284.00	---	1030.00	---	8270.00	1300.00	---	641.00	639.00
23			51.50	348.00	---	685.00	---	17800.00	1310.00	---	6540.00	5040.00
24			64.30	444.00	---	548.00	---	17900.00	1370.00	---	6050.00	4490.00
25			4.00	402.00	---	455.00	---	34200.00	1440.00	---	2380.00	5010.00
26			32.70	340.00	---	441.00	---	28200.00	1460.00	---	6950.00	3170.00
27			116.00	202.00	---	383.00	---	22500.00	1280.00	---	5240.00	3790.00
28			76.30	189.00	---	559.00	---	13000.00	1260.00	---	6990.00	3170.00
29			174.00	211.00	---	561.00	---	8320.00	1790.00	---	5810.00	2870.00
30			---	185.00	---	539.00	---	18800.00	2500.00	---	4550.00	3030.00
31			105.00	181.00	---	1130.00	---	22600.00	---	---	3230.00	---
MEAN			76.40	175.00	176.00	742.00	1080.00	11800.00	5470.00	1590.00	2120.00	6130.00
WTR YR 1977	MEAN	3320.00		MAX	34200.00		MIN	4.00				

ARKANSAS RIVER BASIN

07151900 CHIKASKIA RIVER NEAR BRAMAN, OK

LOCATION.--Lat 35°53'34", long 94°57'23", on west line of SW 1/4 sec.27, T.29 N., R.2 W., Kay County, Hydrologic Unit 11060005, at county road bridge, 1.3 miles (2.1 km) downstream from Bluff Creek, 4.7 miles (7.6 km) northwest of Braman, and at mile 43.8 (70.5 km).

DRAINAGE AREA.--1,510 mi² (3,911 km²).

PERIOD OF RECORD.--October 1976 to September 1977 (discontinued).

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
19...	1028	9740	1700	600	8.9	7.0	14	12.2	102	29	229
NOV											
17...	1028	9740	0845	620	8.2	3.5	4	10.0	77	--	198
DEC											
20...	1028	9740	1400	700	8.0	2.5	4	13.9	104	4	241
JAN											
19...	1028	9740	1620	850	8.2	1.0	1	14.2	103	7	280
FEB											
15...	1028	9740	1315	625	8.4	3.0	13	10.2	77	28	254
MAR											
15...	1028	9740	1230	650	8.4	12.0	11	9.5	90	15	237
APR											
19...	1028	9740	1200	920	7.8	20.0	24	5.8	65	22	281
MAY											
10...	1028	9740	1000	660	8.1	23.0	25	6.7	80	16	236
JUN											
16...	1028	9740	0845	740	8.5	27.0	9	6.4	82	12	268
JUL											
19...	1028	9740	1530	710	8.6	30.0	18	8.6	116	22	242
AUG											
16...	1028	9740	1500	500	8.3	32.0	32	9.4	130	14	164
SEP											
22...	1028	9740	1530	600	8.3	26.0	25	8.0	101	10	262

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
19...	46	26	50	6.9	--	78	.4	459	2.0	<.12	--
NOV											
17...	24	14	44	7.3	--	103	--	--	.70	.10	4
DEC											
20...	71	19	38	3.9	--	65	.3	391	1.0	.05	--
JAN											
19...	85	27	61	3.1	82	161	.4	489	.80	.03	--
FEB											
15...	63	28	53	6.6	86	83	.3	451	1.4	.17	3
MAR											
15...	59	19	58	2.2	61	54	.4	376	1.6	.12	--
APR											
19...	70	27	84	5.2	64	115	.4	509	1.5	.47	--
MAY											
10...	64	20	47	5.2	56	62	.3	379	1.4	.15	6
JUN											
16...	74	21	51	6.3	73	61	.3	417	1.3	.15	--
JUL											
19...	65	18	50	6.0	83	57	.3	386	2.1	.22	--
AUG											
16...	42	11	35	5.0	46	34	.3	304	1.7	.21	7
SEP											
22...	75	17	50	5.0	51	47	.3	403	1.0	.20	--

ARKANSAS RIVER BASIN

07151900 CHIKASKIA RIVER NEAR BRAMAN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 19...	--	--	--	200	--	39	--	--	--	--	--
NOV 17...	1	35	6	<50	19	<5	<.5	10	<1	2	15
DEC 20...	--	--	--	120	--	<5	--	--	--	--	--
JAN 19...	--	--	--	200	--	28	--	--	--	--	--
FEB 15...	1	24	8	520	17	90	<.5	8	--	1	8
MAR 15...	--	--	--	590	--	70	--	--	--	--	--
APR 19...	--	--	--	360	--	80	--	--	--	--	--
MAY 10...	2	2	7	200	14	90	.9	5	<1	<1	4
JUN 16...	--	--	--	240	--	80	--	--	--	--	--
JUL 19...	--	--	--	270	--	110	--	--	--	--	--
AUG 16...	<1	9	4	160	10	60	<.5	6	<1	<2	6
SEP 22...	--	--	--	1300	--	20	--	--	--	--	--

ARKANSAS RIVER BASIN

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK

LOCATION.--Lat 36°48'31", long 97°16'39", in NE 1/4 NW 1/4 sec.23, T.27 N., R.1 W., Kay County, Hydrologic Unit 11060005, near left bank on downstream side of pier of St. Louis-San Francisco Railway Co. bridge at northeast edge of Blackwell, 0.2 mi (0.32 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) above mean sea level (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.--42 years, 484 ft³/s (13.7 m³/s), 350,700 acre-ft/yr (432 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85,000 ft³/s (2,410 m³/s), June 22, 1942, gage height, 33.3 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.--Peak discharge, above base of 8,000 ft³/s (227 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	1615	8,090 229	24.59 7.495	Aug. 24	0800	8,480 240	25.10 7.650
May 24	1830	11,000 312	27.85 8.489	Sept. 3	1400	*14,600 413	29.89 9.110

Minimum discharge, 6.3 ft³/s (0.18 m³/s) July 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	105	40	26	90	126	149	682	3990	101	72	564
2	43	80	48	25	114	114	134	1180	968	85	124	3150
3	34	70	63	24	148	85	100	487	588	73	104	11800
4	29	59	93	27	156	83	90	192	623	70	62	4130
5	30	46	112	43	143	78	77	155	447	56	51	1200
6	31	40	123	62	137	82	73	147	347	51	42	950
7	32	42	110	70	131	85	71	140	276	53	29	718
8	32	61	62	57	105	81	65	130	242	56	17	592
9	32	43	34	46	98	78	56	124	223	64	15	512
10	31	42	53	62	100	90	47	110	207	74	14	451
11	31	44	91	53	102	105	40	96	173	59	43	437
12	30	43	100	46	128	129	37	87	182	52	155	547
13	29	44	62	43	121	80	45	79	198	47	66	755
14	28	43	70	40	114	88	69	77	125	39	71	3450
15	27	43	123	43	96	93	98	73	118	42	55	2230
16	26	45	156	50	87	77	166	73	116	42	43	936
17	26	49	141	55	90	64	207	108	107	39	111	1720
18	26	56	130	48	104	60	191	105	98	28	1540	1400
19	35	66	131	47	106	55	359	101	98	8.1	1240	733
20	43	81	142	50	104	41	302	184	93	7.8	4190	547
21	35	80	114	53	98	37	197	1780	88	8.1	3080	456
22	38	72	63	58	98	38	169	7060	67	8.2	566	395
23	39	67	36	92	128	37	1900	5830	110	8.1	3720	354
24	38	71	44	116	112	35	702	9670	106	6.9	7260	333
25	37	69	95	134	114	36	245	7290	181	18	1830	308
26	38	81	153	138	119	36	189	1500	145	17	636	353
27	45	60	155	150	121	38	162	1390	223	36	412	328
28	50	59	155	148	123	95	150	1560	192	60	338	278
29	70	51	141	105	---	139	141	5550	134	33	812	252
30	100	44	118	99	---	142	512	6830	117	23	895	210
31	90	---	71	103	---	146	---	4610	---	49	723	---
TOTAL	1239	1756	3009	2113	3187	2473	6743	57400	10582	1314.2	28316	40089
MEAN	40.0	58.5	97.1	68.2	114	79.8	225	1852	353	42.4	913	1336
MAX	100	105	155	150	156	146	1900	9670	3990	101	7260	11800
MIN	26	40	34	24	87	35	37	73	67	6.9	14	210
AC-FT	2460	3480	5970	4190	6320	4910	13370	113900	20990	2610	56160	79520

CAL YR 1976 TOTAL 89980.0 MEAN 246 MAX 9200 MIN 12 AC-FT 178500
WTR YR 1977 TOTAL 158221.2 MEAN 433 MAX 11800 MIN 6.9 AC-FT 313800

ARKANSAS RIVER BASIN

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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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
20...	1028	9740	0845	1650	8.2	7.0	5	12.4	106	14	573
NOV											
17...	1028	9740	1030	1350	8.0	4.5	2	11.0	87	13	346
DEC											
20...	1028	9740	1230	1200	7.5	2.0	4	12.2	90	5	388
JAN											
19...	1028	9740	1720	1100	8.1	1.0	2	13.7	99	11	319
FEB											
15...	1028	9740	1515	875	8.1	1.5	3	14.0	102	10	313
MAR											
15...	1028	9740	1505	975	8.0	15.0	10	9.9	100	14	340
APR											
19...	1028	9740	1320	750	8.1	21.0	48	8.6	99	19	267
MAY											
10...	1028	9740	1105	940	8.1	22.0	27	7.9	93	21	300
JUN											
16...	1028	9740	0800	950	8.1	25.0	25	7.4	91	18	328
JUL											
19...	1028	9740	1630	2500	8.3	30.0	16	8.4	114	19	675
AUG											
16...	1028	9740	1600	1500	8.1	30.0	26	9.4	127	8	536
SEP											
22...	1028	9740	1630	600	8.2	25.0	45	8.4	104	6	285
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG)	TOTAL SODIUM (NA) (MG/L)	TOTAL PU- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
20...	125	38	156	4.8	--	360	.3	1205	1.0	<.12	--
NOV											
17...	61	19	105	4.3	--	224	.4	922	.70	.04	2
DEC											
20...	108	29	82	3.0	--	181	.3	767	.60	.03	--
JAN											
19...	94	30	100	2.7	84	166	.3	635	.70	<.03	--
FEB											
15...	94	28	77	2.8	61	140	.2	627	1.1	.12	3
MAR											
15...	89	26	78	3.6	97	135	.3	574	.70	.12	--
APR											
19...	72	24	56	3.9	69	76	.3	420	1.7	.24	--
MAY											
10...	83	24	69	7.1	88	103	.3	518	2.3	.19	4
JUN											
16...	90	25	69	7.4	82	120	.3	567	1.3	.18	--
JUL											
19...	214	47	189	7.8	247	440	.3	1469	1.6	.17	--
AUG											
16...	126	34	125	7.8	183	290	.3	1025	1.5	.24	4
SEP											
22...	80	19	59	5.8	54	73	.3	459	.81	.32	--

ARKANSAS RIVER BASIN

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	100	--	111	--	--	--	--	--
NOV 17...	4	35	6	60	17	69	.6	8	1	1	15
DEC 20...	--	--	--	110	--	28	--	--	--	--	--
JAN 19...	--	--	--	200	--	86	--	--	--	--	--
FEB 15...	2	26	8	<100	12	70	<.5	9	--	5	10
MAR 15...	--	--	--	300	--	250	--	--	--	--	--
APR 19...	--	--	--	760	--	260	--	--	--	--	--
MAY 10...	2	10	8	200	9	180	.8	8	1	<1	14
JUN 16...	--	--	--	310	--	170	--	--	--	--	--
JUL 19...	--	--	--	390	--	330	--	--	--	--	--
AUG 16...	1	11	8	360	5	180	<.5	13	<1	4	16
SEP 22...	--	--	--	3200	--	90	--	--	--	--	--

07152500 ARKANSAS RIVER AT RALSTON, OK

LOCATION.--Lat 36°30'09", long 96°43'22", in NW 1/4 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) above mean sea level. 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. 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, 30,100 ft³/s (852 m³/s) May 26, gage height, 10.04 ft (3.060 m); minimum daily, 250 ft³/s (7.08 m³/s) Jan. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	732	485	412	400	548	882	693	1780	21800	15400	1160	9390
2	641	474	396	390	496	810	672	2410	19600	13700	1100	9260
3	584	481	419	380	482	640	656	2600	16200	13200	1070	10200
4	553	902	419	365	480	567	659	2570	14600	12800	1040	15500
5	562	1510	418	350	444	551	642	2250	12100	11500	1070	20000
6	562	1650	422	340	448	631	613	1860	12000	10700	1060	13500
7	557	1690	429	330	471	640	578	1630	10600	10400	1030	16400
8	586	1680	435	320	458	643	551	1530	9490	10300	1000	19100
9	653	1680	434	310	458	607	547	1490	8920	10200	981	17600
10	632	1650	413	300	460	612	546	1450	8670	10400	971	11800
11	584	1620	412	290	472	592	523	1390	8500	10300	998	8920
12	562	1560	455	280	678	595	514	1330	8240	9830	1150	8610
13	548	1520	557	270	695	958	554	1170	8170	9410	2400	8480
14	542	1010	528	250	614	924	644	1080	6960	8070	2760	8370
15	522	614	681	260	575	704	709	1090	5570	5660	3410	9430
16	508	536	876	270	614	686	717	1020	5180	4310	4530	13400
17	506	493	923	280	924	679	840	1140	5000	4090	6260	12200
18	506	460	932	300	999	651	833	1330	4900	3960	5780	10700
19	500	466	684	470	977	614	778	1380	4900	3850	5950	10100
20	500	448	539	500	892	611	789	2100	4990	3770	8990	9320
21	492	430	492	800	841	600	971	19500	4600	3680	9700	8790
22	489	436	483	1010	841	613	1280	12900	4240	3210	12400	8460
23	467	430	475	971	841	593	1600	19200	4830	2240	12100	8250
24	430	418	452	963	841	589	1400	23300	8110	2070	12200	7590
25	420	412	460	964	831	595	1620	27000	16300	2020	17600	5650
26	413	412	469	1020	841	609	1900	28800	19700	1820	15900	5370
27	408	412	464	793	913	678	1450	20100	21600	1420	12100	5330
28	407	391	423	608	956	952	1280	17600	21700	1280	12400	5350
29	426	386	427	591	---	866	1580	16900	21800	1210	11100	4930
30	472	391	420	556	---	742	1320	18600	20000	1160	10500	4930
31	498	---	410	584	---	702	---	21800	---	1160	10500	---
TOTAL	16262	25047	15759	15515	19090	21136	27459	258300	339270	203120	189210	306930
MEAN	525	835	508	500	682	682	915	8332	11310	6552	6104	10230
MAX	732	1690	932	1020	999	958	1900	28800	21800	15400	17600	20000
MIN	407	386	396	250	444	551	514	1020	4240	1160	971	4930
AC-FT	32260	49680	31260	30770	37870	41920	54460	512300	672900	402900	375300	608800
CAL YR 1976 TOTAL	916577			MEAN 2504	MAX 27800	MIN 386	AC-FT 1818000					
WTR YR 1977 TOTAL	1437098			MEAN 3937	MAX 28800	MIN 250	AC-FT 2850000					

ARKANSAS RIVER BASIN

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, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,570 micromhos Apr. 28; minimum daily, 360 micromhos May 21.

WATER TEMPERATURE: Maximum daily, 31.0°C July 16, 23, 24, Aug. 2; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
05...	--	--	1200	567	1350	8.2	--	--	--	--
15...	--	--	1200	522	1720	8.3	--	--	--	--
19...	1028	9740	1100	508	1500	8.5	9.0	6	11.8	104
25...	--	--	1650	418	1840	8.4	--	--	--	--
NOV										
05...	--	--	0730	1470	1230	8.3	--	--	--	--
15...	--	--	0730	614	1340	8.3	--	--	--	--
16...	1028	9740	1530	536	1450	8.8	5.5	2	11.1	90
26...	--	--	0800	412	1530	8.2	--	--	--	--
DEC										
05...	--	--	0915	418	1500	8.2	--	--	--	--
15...	--	--	0730	649	1430	8.1	--	--	--	--
20...	1028	9740	1015	551	1500	7.9	1.5	4	13.3	96
25...	--	--	0830	454	1430	8.2	--	--	--	--
JAN										
05...	--	--	0730	350	1450	8.4	--	--	--	--
15...	--	--	1215	1020	1460	8.4	--	--	--	--
19...	1028	9740	1128	944	2000	8.6	.0	2	15.8	110
25...	--	--	0730	880	1660	8.3	--	--	--	--
FEB										
05...	--	--	0745	442	1860	8.2	--	--	--	--
15...	--	--	0730	575	1560	8.3	--	--	--	--
16...	1028	9740	0910	614	1400	8.4	.0	3	16.0	113
24...	--	--	0730	841	1520	8.3	--	--	--	--
MAR										
05...	--	--	0730	551	1980	8.3	--	--	--	--
15...	--	--	0730	731	1700	8.1	--	--	--	--
16...	1028	9740	1000	649	1900	8.4	13.0	10	11.9	114
25...	--	--	0730	582	2210	7.9	--	--	--	--
APR										
05...	--	--	0730	649	2270	7.9	--	--	--	--
15...	--	--	0730	731	2020	7.7	--	--	--	--
20...	1028	9740	1055	800	1900	8.5	20.0	22	9.4	106
25...	--	--	0730	1620	1720	7.6	--	--	--	--
MAY										
05...	--	--	0730	2390	1370	7.5	--	--	--	--
11...	1028	9740	0905	1400	2900	8.4	19.5	34	8.3	92
15...	--	--	0900	1110	2850	7.7	--	--	--	--
25...	--	--	0730	26000	1200	7.5	--	--	--	--
JUN										
05...	--	--	1000	12700	1190	7.6	--	--	--	--
14...	--	--	0730	7696	923	7.9	--	--	--	--
15...	1028	9740	1430	5490	1000	8.2	29.5	38	9.1	120
25...	--	--	0730	14300	672	7.8	--	--	--	--
JUL										
05...	--	--	0730	11900	550	7.8	--	--	--	--
15...	--	--	0730	6560	608	7.8	--	--	--	--
19...	1028	9740	1130	3880	750	8.4	27.5	44	7.7	99

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JUL										
25...	--	--	0730	2490	1220	8.0	--	--	--	--
AUG										
04...	--	--	0745	1030	1200	7.7	--	--	--	--
14...	--	--	0930	2730	708	7.6	--	--	--	--
16...	1028	9740	1130	3920	852	7.9	28.0	175	7.4	96
25...	--	--	0730	17600	622	7.7	--	--	--	--
SEP										
06...	--	--	0730	14000	764	7.9	--	--	--	--
15...	--	--	1215	9250	901	8.1	--	--	--	--
22...	1028	9740	1130	8440	500	8.2	24.5	85	8.2	100
26...	--	--	0730	5380	1230	8.2	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT										
05...	--	250	90	--	75	--	14	--	180	61
15...	--	270	100	--	78	--	19	--	240	65
19...	13	--	--	--	--	--	--	--	--	--
25...	--	280	110	--	81	--	20	--	260	66
NOV										
05...	--	240	75	--	69	--	16	--	150	57
15...	--	260	80	--	74	--	18	--	170	58
16...	11	--	--	--	--	--	--	--	--	--
26...	--	290	110	--	83	--	21	--	200	59
DEC										
05...	--	280	94	--	79	--	21	--	190	59
15...	--	260	80	--	73	--	19	--	180	59
20...	4	--	--	--	--	--	--	--	--	--
25...	--	280	95	--	82	--	19	--	170	56
JAN										
05...	--	290	100	--	85	--	20	--	180	56
15...	--	280	92	--	82	--	19	--	180	57
19...	16	--	--	--	--	--	--	--	--	--
25...	--	310	110	--	90	--	21	--	210	59
FEB										
05...	--	380	150	--	110	--	26	--	250	58
15...	--	330	130	--	94	--	22	--	200	57
16...	19	--	--	--	--	--	--	--	--	--
24...	--	300	110	--	86	--	20	--	200	59
MAR										
05...	--	320	130	--	91	--	22	--	280	65
15...	--	290	130	--	83	--	19	--	230	63
16...	26	--	--	--	--	--	--	--	--	--
25...	--	320	130	--	89	--	23	--	330	69
APR										
05...	--	340	150	--	96	--	25	--	340	68
15...	--	370	170	--	110	--	23	--	270	61
20...	35	--	--	--	--	--	--	--	--	--
25...	--	300	120	--	87	--	21	--	240	63
MAY										
05...	--	220	93	--	65	--	15	--	190	64
11...	24	--	--	--	--	--	--	--	--	--
15...	--	330	160	--	94	--	24	--	480	75
25...	--	200	70	--	59	--	13	--	160	63
JUN										
05...	--	190	66	--	56	--	12	--	160	64
14...	--	170	51	--	50	--	10	--	120	60
15...	20	--	--	--	--	--	--	--	--	--
25...	--	150	38	--	46	--	9.1	--	73	50
JUL										
05...	--	130	32	--	40	--	7.3	--	59	48
15...	--	130	27	--	41	--	7.6	--	68	51
19...	19	--	--	--	--	--	--	--	--	--
25...	--	230	71	--	66	--	15	--	170	61
AUG										
04...	--	210	78	--	59	--	15	--	160	62
14...	--	150	34	--	44	--	9.4	--	82	53
16...	27	--	--	--	--	--	--	--	--	--
25...	--	140	34	--	42	--	8.8	--	69	50
SEP										
06...	--	140	41	--	42	--	8.3	--	95	58
15...	--	160	54	--	48	--	9.8	--	120	61
22...	18	--	--	--	--	--	--	--	--	--
26...	--	170	66	--	51	--	11	--	180	68

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
05...	5.0	--	5.4	189	0	155	1.9	87	270	--
15...	6.3	--	6.1	206	0	169	1.7	100	360	--
19...	--	--	--	--	--	--	--	--	--	.4
25...	6.7	--	6.0	193	10	175	1.4	130	400	--
NOV										
05...	4.2	--	6.0	199	0	163	1.6	78	230	--
15...	4.6	--	5.8	218	0	179	1.7	85	260	--
16...	--	--	--	--	--	--	--	--	--	.4
26...	5.1	--	5.6	230	0	189	2.3	120	310	--
DEC										
05...	4.9	--	5.5	231	0	189	2.3	100	300	--
15...	4.9	--	5.8	220	0	180	2.8	98	280	--
20...	--	--	--	--	--	--	--	--	--	.3
25...	4.4	--	5.5	229	0	188	2.3	99	280	--
JAN										
05...	4.6	--	5.8	219	8	193	1.5	100	300	--
15...	4.7	--	5.8	221	6	191	1.5	100	290	--
19...	--	--	--	--	--	--	--	--	--	.4
25...	5.2	--	5.3	243	0	199	1.9	120	340	--
FEB										
05...	5.6	--	5.6	278	0	230	2.8	150	390	--
15...	4.8	--	5.0	244	0	200	2.0	120	310	--
16...	--	--	--	--	--	--	--	--	--	.4
24...	5.0	--	5.7	231	0	189	1.9	110	300	--
MAR										
05...	6.8	--	5.8	230	0	190	1.8	160	440	--
15...	5.9	--	6.0	190	0	160	2.4	130	370	--
16...	--	--	--	--	--	--	--	--	--	.4
25...	8.1	--	6.2	230	0	190	4.6	130	510	--
APR										
05...	8.0	--	5.7	230	0	189	4.6	140	510	--
15...	6.1	--	5.4	240	0	197	7.7	99	460	--
20...	--	--	--	--	--	--	--	--	--	.4
25...	6.0	--	5.5	230	0	189	9.2	110	370	--
MAY										
05...	5.5	--	5.5	160	0	130	8.1	88	300	--
11...	--	--	--	--	--	--	--	--	--	.4
15...	11	--	5.8	210	0	170	6.7	120	740	--
25...	4.9	--	5.4	160	0	130	8.1	76	250	--
JUN										
05...	5.1	--	5.4	150	0	120	6.0	74	260	--
14...	4.1	--	5.2	140	0	110	2.8	55	180	--
15...	--	--	--	--	--	--	--	--	--	.3
25...	2.6	--	5.1	140	0	110	3.6	43	110	--
JUL										
05...	2.3	--	5.5	120	0	98	3.0	39	92	--
15...	2.6	--	6.2	130	0	107	3.3	40	99	--
19...	--	--	--	--	--	--	--	--	--	.2
25...	4.9	--	6.1	190	0	160	3.0	75	260	--
AUG										
04...	4.8	--	6.1	160	0	130	5.1	63	240	--
14...	2.9	--	6.3	140	0	110	5.6	36	120	--
16...	--	--	--	--	--	--	--	--	--	.3
25...	2.5	--	6.2	130	0	110	4.2	39	110	--
SEP										
06...	3.5	--	6.2	120	0	98	2.4	40	140	--
15...	4.1	--	5.8	130	0	110	1.7	53	180	--
22...	--	--	--	--	--	--	--	--	--	.3
26...	6.0	--	6.3	130	0	107	1.3	67	260	--

ARKANSAS RIVER BASIN

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07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
05...	--	767	--	1.04	1170	.63	--	--	--	--
15...	--	941	--	1.28	1330	.43	--	--	--	--
19...	--	--	--	--	--	--	1.0	.18	--	--
25...	--	1010	--	1.37	1140	.25	--	--	--	--
NOV										
05...	--	672	--	.91	2670	1.5	--	--	--	--
15...	--	731	--	.99	1210	.42	--	--	--	--
16...	--	--	--	--	--	--	6.4	.16	4	3
26...	--	836	--	1.14	930	.27	--	.17	--	--
DEC										
05...	--	825	--	1.12	931	.14	--	--	--	--
15...	--	786	--	1.07	1380	.17	--	--	--	--
20...	--	--	--	--	--	--	1.0	.13	--	--
25...	--	799	--	1.09	979	.09	--	--	--	--
JAN										
05...	--	813	--	1.11	768	.58	--	--	--	--
15...	--	803	--	1.09	2210	.65	--	--	--	--
19...	--	--	--	--	--	--	1.0	.72	--	--
25...	--	927	--	1.26	2200	1.1	--	--	--	--
FEB										
05...	--	1060	--	1.44	1270	1.7	--	--	--	--
15...	--	877	--	1.19	1360	.74	--	--	--	--
16...	--	--	--	--	--	--	1.5	.36	2	2
24...	--	851	--	1.16	1930	.64	--	--	--	--
MAR										
05...	--	1090	--	1.48	1620	.57	--	--	--	--
15...	--	947	--	1.29	1870	.81	--	--	--	--
16...	--	--	--	--	--	--	2.3	.23	--	--
25...	--	1220	--	1.66	1920	.43	--	--	--	--
APR										
05...	--	1270	--	1.73	2230	.47	--	--	--	--
15...	--	1120	--	1.52	2210	.46	--	--	--	--
20...	--	--	--	--	--	--	2.0	.37	--	--
25...	--	960	--	1.31	4200	1.0	--	--	--	--
MAY										
05...	--	755	--	1.03	4870	--	--	--	--	--
11...	--	--	--	--	--	--	1.8	.30	5	3
15...	--	1590	--	2.16	4770	--	--	--	--	--
25...	--	654	--	.89	45900	--	--	--	--	--
JUN										
05...	--	666	--	.91	22800	--	--	--	--	--
14...	--	493	--	.67	10200	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
25...	--	368	--	.50	14200	--	--	--	--	--
JUL										
05...	--	305	--	.41	9800	--	--	--	--	--
15...	--	343	--	.47	6080	--	--	--	--	--
19...	--	--	--	--	--	--	1.7	.29	--	--
25...	--	682	--	.93	4590	--	--	--	--	--
AUG										
04...	--	659	--	.90	1830	--	--	--	--	--
14...	--	389	--	.53	2870	--	--	--	--	--
16...	--	--	--	--	--	--	2.4	.50	22	2
25...	--	342	--	.47	16300	--	--	--	--	--
SEP										
06...	--	417	--	.57	15800	--	--	--	--	--
15...	--	489	--	.67	12200	--	--	--	--	--
22...	--	--	--	--	--	--	1.7	.32	--	--
26...	--	668	--	.91	9700	--	--	--	--	--

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.5	7.5	2.0	0.5	0.0	5.0	11.5	20.5	23.0	25.0	24.5	26.0
2	18.5	9.0	0.0	5.0	3.0	6.5	11.0	20.5	24.0	25.5	25.5	26.0
3	20.0	11.0	6.0	0.5	3.5	5.5	11.5	19.5	---	26.0	27.0	26.0
4	19.0	8.5	2.5	0.0	6.0	5.0	10.5	21.5	---	26.0	25.5	26.0
5	15.0	6.0	3.0	0.0	1.5	4.0	7.0	21.0	---	26.0	25.5	25.5
6	12.5	7.0	5.0	0.0	4.0	6.0	10.0	20.0	---	26.5	26.0	25.0
7	11.5	8.5	0.0	0.0	0.5	6.5	13.0	21.5	22.5	26.5	26.5	26.0
8	9.0	7.0	0.0	0.5	3.0	8.5	15.0	24.0	23.5	27.0	26.5	26.0
9	11.0	8.0	5.0	0.0	4.0	9.0	16.0	23.0	28.5	26.5	26.0	25.5
10	13.0	9.0	5.0	0.0	6.0	11.0	15.5	19.5	25.0	27.0	27.0	23.5
11	15.0	7.0	2.0	0.0	8.0	12.0	15.5	19.5	25.5	27.5	25.5	---
12	15.5	3.0	5.0	0.0	9.5	8.0	15.5	---	26.5	27.0	24.0	23.5
13	21.5	3.0	---	0.0	7.5	6.5	17.0	---	25.0	28.0	25.0	24.0
14	15.5	4.0	5.0	0.0	7.5	10.0	16.0	20.5	26.5	26.5	25.5	21.5
15	16.5	3.0	3.0	0.0	6.0	12.0	18.0	21.0	26.5	27.5	25.5	21.0
16	10.0	3.5	3.0	0.5	2.0	10.0	18.5	28.0	26.5	28.0	27.0	22.0
17	8.5	3.5	3.5	0.5	2.5	11.5	18.0	21.0	26.0	28.0	27.0	22.5
18	8.5	10.0	3.0	0.0	5.5	10.0	18.0	22.5	26.5	27.5	24.0	24.0
19	7.5	10.0	7.0	0.0	6.0	11.0	17.0	22.5	26.5	27.5	23.5	23.0
20	5.0	---	1.0	0.0	5.0	8.0	19.0	21.0	27.0	27.0	24.0	22.0
21	6.5	6.5	0.0	0.0	6.0	8.0	17.0	18.0	27.0	28.0	25.0	21.5
22	9.0	6.5	0.0	0.0	10.0	6.0	15.0	19.5	25.0	30.0	25.5	23.0
23	14.0	8.0	0.0	0.0	10.0	9.0	15.0	20.0	25.0	28.0	26.0	24.0
24	14.0	10.0	1.0	0.0	6.0	12.0	16.0	21.0	25.5	29.0	27.0	22.0
25	12.5	---	3.0	0.0	8.0	11.0	15.0	22.0	24.5	28.0	26.5	21.5
26	8.0	12.5	3.0	0.0	4.5	14.0	14.5	23.0	26.5	27.5	26.5	22.5
27	9.0	4.0	5.0	0.0	3.0	15.5	16.5	22.0	26.0	24.0	26.0	25.0
28	7.5	0.0	2.5	0.0	3.5	13.0	18.0	23.0	26.0	25.0	24.5	23.5
29	9.0	0.5	3.0	0.0	---	12.0	20.0	23.0	25.0	27.0	22.5	22.0
30	7.5	0.0	0.0	0.0	---	11.5	21.0	25.0	26.0	28.0	24.5	23.0
31	12.0	---	0.0	0.5	---	10.0	---	23.5	---	26.5	25.5	---
MONTH	12.0	6.5	2.5	0.5	5.0	9.5	15.5	21.5	25.5	27.0	25.5	23.5
YEAR	MAX	30.0	MIN	0.0	MEAN	14.5						

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1490	1670	1520	1650	1810	2220	1890	2390	1160	567	1170	794
2	1420	1640	1520	1630	1800	2360	1810	3060	1120	585	1130	816
3	1560	1640	1500	1540	1830	2340	1790	1160	1420	592	1100	880
4	1390	1660	1480	1500	1820	2170	2040	1630	1110	560	1200	1210
5	1350	1230	1500	1450	1860	1980	2270	1370	1190	550	1140	569
6	1370	1180	1520	1400	1880	2100	2390	1600	1170	546	1240	764
7	1440	1150	1570	1410	1890	1960	2150	1930	1180	545	1080	804
8	1520	1160	1570	1410	1840	1960	2140	2340	1200	543	1010	623
9	1510	1150	1540	1520	1800	2200	2160	2920	1020	544	983	636
10	1480	1140	1550	1540	1770	2380	2070	3070	1080	548	977	816
11	1550	1140	1540	1590	1750	2390	2150	2740	977	629	963	---
12	1630	1140	1470	1650	1540	2330	2220	2830	1080	578	937	1140
13	1700	1150	1400	1640	1540	2500	2150	2880	1010	545	697	1150
14	1710	1180	1400	1540	1550	1560	2120	2950	923	548	708	1000
15	1720	1340	1430	1460	1560	1700	2020	2850	1260	608	813	901
16	1730	1410	1300	1470	1640	1840	2010	2910	957	768	775	760
17	1710	1450	1280	1540	1480	2200	1860	2670	1000	763	594	717
18	1710	1470	1280	1670	1460	2710	1870	2680	1000	774	648	705
19	1680	1490	1330	1760	1470	2700	1960	2400	985	733	637	781
20	1660	---	1470	1730	1460	2400	1930	896	968	694	800	851
21	1680	1590	1560	1760	1480	2310	1820	360	933	671	612	1000
22	1680	1600	1580	1710	1500	2200	1850	733	1380	645	586	878
23	1710	1580	1450	1660	1510	2110	1740	501	1140	832	607	926
24	1760	1550	1420	1690	1520	2080	1820	766	852	1240	663	997
25	1840	---	1430	1660	1520	2210	1720	1200	672	1220	622	1280
26	1850	1530	1420	1680	1530	2340	1540	1320	667	1200	601	1230
27	1880	1590	1410	1740	1560	2250	1860	1380	666	1140	660	1090
28	1940	1640	1440	1770	1700	1880	3570	1510	662	1210	899	1060
29	1830	1620	1480	1850	---	1790	2070	1320	577	1180	640	1020
30	1780	1610	1510	1830	---	1880	2470	1090	601	1200	719	982
31	1710	---	1660	1870	---	1890	---	955	---	1170	902	---
MONTH	1640	1420	1470	1620	1650	2160	2050	1880	999	772	842	910
YEAR	MAX	3570	MIN	360	MEAN	1450						

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	10.5	---	---	---	7.0	12.5	21.0	23.0	26.0	24.0	29.0
2	23.0	12.0	---	---	---	6.5	13.5	20.5	24.0	27.5	31.0	29.0
3	22.0	12.5	---	---	---	7.5	13.5	21.5	24.0	28.0	---	29.0
4	21.0	7.0	---	---	---	7.0	12.5	23.0	25.5	28.0	25.5	27.5
5	17.5	6.0	---	---	---	7.0	10.5	22.5	26.0	28.0	25.5	26.5
6	15.0	9.5	---	---	---	8.0	14.0	22.0	24.5	29.0	26.5	28.0
7	14.0	9.0	---	---	---	9.5	17.0	24.0	23.0	29.0	27.0	28.5
8	14.5	7.0	---	---	---	11.0	18.0	25.5	24.0	28.5	27.0	28.5
9	13.0	8.0	---	---	---	11.5	18.5	24.5	24.5	29.0	27.0	27.5
10	15.0	---	---	---	---	12.5	17.5	22.0	25.5	29.5	28.0	25.5
11	17.0	6.5	---	---	8.5	12.0	17.0	23.0	26.0	29.5	25.0	24.5
12	18.0	3.0	---	---	9.0	8.0	17.0	22.0	26.0	29.0	23.5	26.5
13	20.0	3.0	---	---	9.5	8.5	17.5	21.5	25.5	29.0	24.0	26.0
14	17.5	4.0	---	---	9.0	12.5	18.5	22.0	27.0	29.0	25.5	23.0
15	19.5	3.0	---	---	---	14.0	19.5	22.5	28.0	30.0	26.5	22.5
16	12.0	5.0	4.5	---	3.5	12.5	19.0	23.5	26.5	31.0	28.0	24.0
17	---	---	5.0	---	5.0	12.5	19.0	22.5	26.5	30.0	26.0	25.0
18	---	---	5.5	---	7.5	13.0	18.5	23.5	26.5	30.0	24.0	26.5
19	9.0	9.0	6.5	---	7.5	12.0	19.5	22.5	26.0	29.5	22.5	26.0
20	8.5	9.5	2.5	---	7.5	10.5	20.0	20.5	27.5	29.5	23.0	24.5
21	6.5	7.5	0.5	---	8.5	9.5	18.0	18.0	27.0	30.0	25.0	24.5
22	6.0	5.0	1.0	---	11.5	9.5	16.0	19.5	25.0	30.0	26.0	26.5
23	15.0	---	1.5	---	10.0	12.0	16.5	20.0	25.0	31.0	27.0	26.0
24	14.5	10.5	3.0	---	8.0	12.5	17.5	20.5	24.5	31.0	27.5	25.0
25	10.5	9.5	4.0	---	8.5	12.0	17.5	21.5	28.0	30.0	27.5	26.0
26	9.0	12.0	3.5	---	5.0	14.5	18.0	22.0	25.5	24.5	27.0	26.5
27	10.0	---	4.5	---	5.0	15.5	19.0	22.5	26.5	23.5	26.5	26.0
28	---	---	3.5	---	6.0	15.0	20.5	22.0	26.0	---	24.5	22.0
29	---	---	3.0	---	---	15.0	22.0	22.5	25.5	---	24.5	21.0
30	8.5	---	---	---	---	14.0	21.0	24.0	27.0	27.0	27.5	22.5
31	9.0	---	---	---	---	13.0	---	23.0	---	24.0	28.5	---
MEAN	14.5	7.5	3.5	---	7.5	11.0	17.5	22.0	25.5	28.5	26.0	26.0
WTR YR 1977	MEAN	18.5	---	MAX	31.0	---	MIN	0.5	---	---	---	---

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1500	1720	---	---	---	2270	1860	2400	1160	532	1170	791
2	1640	1750	---	---	---	2340	1810	2090	1160	595	1160	827
3	1480	1720	---	---	---	2310	1810	1260	1340	593	1170	925
4	1440	1600	---	---	---	2170	2040	1520	1110	544	1190	900
5	1420	1220	---	---	---	2080	2560	1400	1190	542	1140	594
6	1420	1240	---	---	---	2100	2340	---	1170	549	1210	774
7	1450	1170	---	---	---	1960	2190	1980	1220	548	1060	720
8	1500	1150	---	---	---	1960	2080	2390	1210	550	1010	629
9	1610	1150	---	---	---	2240	2260	3020	1140	553	987	658
10	1480	1150	---	---	1760	2380	2130	3080	1000	561	966	856
11	1550	1100	---	---	1700	2360	2150	2890	986	629	959	1060
12	1540	1150	---	---	1510	2310	2280	2830	1100	565	933	1110
13	1700	1160	---	---	1520	2370	2160	2940	1030	535	723	1160
14	1750	1190	---	---	---	1580	2120	3070	956	572	745	973
15	1660	1350	---	---	---	1750	2010	2850	1130	640	820	973
16	1740	1380	1310	---	1590	1910	1980	2950	971	772	794	735
17	1470	1380	1300	---	1440	2380	1860	2690	1020	773	616	716
18	1460	1440	1290	---	1450	2740	1930	2310	1000	777	653	722
19	1650	1650	1340	---	1400	2590	2020	2360	973	758	626	793
20	1610	1760	1490	---	1450	2560	2060	946	980	694	679	888
21	1660	1600	1580	---	1490	2310	1800	363	928	681	614	1020
22	1630	1560	1560	---	1600	2210	1790	656	1520	649	603	902
23	1660	1610	1470	1670	1470	2090	1840	569	1110	966	617	937
24	1720	1750	1490	1690	1630	2140	1710	807	804	1240	676	1020
25	1700	1620	1420	1680	1410	2220	1680	1260	792	1210	632	1320
26	1780	1540	1410	1700	1540	2400	1590	1340	677	---	670	1200
27	1940	---	1410	1760	1580	2240	2090	1410	687	---	665	1120
28	1950	---	---	---	1740	1890	3340	1400	669	---	712	1050
29	1810	---	---	---	---	1830	2480	1250	571	---	643	1020
30	1860	---	---	---	---	1890	2460	1040	627	1200	768	982
31	1680	---	---	---	---	1900	---	996	---	1240	858	---
MEAN	1630	1430	1420	1700	1550	2180	2080	1870	1010	721	841	913
WTR YR 1977	MEAN	1430	---	MAX	3340	---	MIN	363	---	---	---	---

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	320	370	---	---	---	520	410	550	230	68	230	140
2	350	380	---	---	---	530	400	470	230	85	230	140
3	310	370	---	---	---	530	400	260	280	84	230	170
4	300	340	---	---	---	490	460	320	220	71	240	160
5	300	250	---	---	---	470	590	290	240	71	230	84
6	300	250	---	---	---	470	530	---	230	73	240	130
7	310	230	---	---	---	440	500	440	250	72	200	120
8	320	230	---	---	---	440	470	550	240	73	190	93
9	350	230	---	---	---	510	510	710	230	74	190	100
10	310	230	---	---	390	550	480	730	190	76	180	150
11	330	210	---	---	370	540	490	680	190	93	180	200
12	330	230	---	---	320	530	520	660	210	77	170	220
13	370	230	---	---	320	540	490	690	200	69	120	230
14	380	240	---	---	---	340	480	720	180	79	120	180
15	360	260	---	---	---	380	450	670	220	96	140	180
16	380	290	270	---	340	420	440	690	180	130	140	120
17	310	290	270	---	300	550	410	630	190	130	90	120
18	310	300	260	---	310	640	430	530	190	130	99	120
19	360	360	280	---	290	600	450	540	180	130	93	140
20	350	390	320	---	310	590	460	180	180	110	110	160
21	360	340	340	---	320	530	400	25	170	110	89	190
22	350	330	330	---	340	500	390	100	320	98	87	160
23	360	350	310	360	310	470	410	78	220	180	90	170
24	370	380	320	370	350	480	370	140	140	250	110	190
25	370	350	300	360	290	500	360	260	140	240	94	270
26	390	330	290	370	330	550	340	280	110	---	100	240
27	430	---	290	390	340	510	470	290	110	---	100	220
28	430	---	---	---	380	420	790	290	100	---	110	200
29	400	---	---	---	---	400	570	250	78	---	97	190
30	410	---	---	---	---	420	570	200	93	240	130	180
31	360	---	---	---	---	420	---	190	---	250	150	---
MEAN	350	300	300	370	330	490	470	410	190	120	150	170
WTR YR 1977	MEAN	300	MAX	790	MIN	25						

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	110	---	---	---	140	120	150	76	39	77	55
2	100	110	---	---	---	150	110	130	76	43	76	57
3	95	110	---	---	---	140	110	82	87	43	77	62
4	93	100	---	---	---	140	130	97	73	40	78	61
5	91	80	---	---	---	130	160	90	78	40	75	43
6	91	81	---	---	---	130	150	---	77	40	79	54
7	93	77	---	---	---	120	140	120	80	40	70	50
8	96	76	---	---	---	120	130	150	79	40	67	45
9	100	76	---	---	---	140	140	180	75	41	66	47
10	95	76	---	---	110	150	130	190	67	41	65	58
11	99	73	---	---	110	150	130	180	66	45	64	70
12	98	76	---	---	97	140	140	170	73	41	63	73
13	110	76	---	---	97	150	130	180	69	40	51	76
14	110	78	---	---	---	100	130	190	64	42	52	65
15	110	87	---	---	---	110	130	170	74	46	56	65
16	110	89	85	---	100	120	120	180	65	53	55	51
17	94	89	84	---	93	150	120	170	68	54	44	50
18	94	93	84	---	93	170	120	140	67	54	46	51
19	100	100	87	---	90	160	130	150	65	53	45	55
20	100	110	95	---	93	160	130	64	66	49	48	60
21	110	100	100	---	95	140	110	30	63	48	44	68
22	100	100	100	---	100	140	110	47	97	46	44	61
23	110	100	94	110	94	130	120	42	73	65	44	63
24	110	110	95	110	100	130	110	55	55	81	48	68
25	110	100	91	110	91	140	110	62	55	79	45	86
26	110	98	91	110	98	150	100	87	48	---	47	78
27	120	---	91	110	100	140	130	91	48	---	47	74
28	120	---	---	---	110	120	200	90	47	---	50	70
29	110	---	---	---	---	120	150	81	42	---	46	68
30	120	---	---	---	---	120	150	69	45	78	53	66
31	110	---	---	---	---	120	---	67	---	81	58	---
MEAN	100	91	91	110	98	140	130	120	67	50	57	62
WTR YR 1977	MEAN	92	MAX	200	MIN	30						

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	632	485	---	---	---	1240	767	2640	13500	2830	720	3550
2	606	486	---	---	---	1160	726	3060	12200	3140	683	3500
3	489	481	---	---	---	916	708	1830	12200	2990	664	4680
4	448	828	---	---	---	750	818	2220	8670	2450	674	6700
5	455	1020	---	---	---	699	1020	1760	7840	2200	664	4540
6	455	1110	---	---	---	801	877	---	7450	2110	687	4740
7	466	1050	---	---	---	760	780	1940	7150	2020	556	5310
8	506	1040	---	---	---	764	699	2270	6150	2030	513	4800
9	617	1040	---	---	---	836	753	2860	5540	2040	503	4750
10	529	1020	---	---	484	909	708	2860	4450	2130	472	4780
11	520	919	---	---	472	863	692	2550	4360	2590	485	4820
12	501	969	---	---	586	851	722	2370	4670	2040	528	5110
13	547	944	---	---	600	1400	733	2180	4410	1750	778	5270
14	556	654	---	---	---	848	835	2100	3380	1720	894	4070
15	507	464	---	---	---	722	861	1970	3310	1470	1290	4580
16	521	420	639	---	564	778	852	1900	2520	1510	1710	4340
17	424	386	673	---	748	1010	930	1940	2570	1440	1520	3950
18	424	373	654	---	836	1120	967	1900	2510	1390	1540	3470
19	486	453	517	---	765	995	945	2010	2380	1350	1490	3820
20	472	472	466	---	747	973	980	1020	2430	1120	2670	4030
21	478	395	452	---	727	859	1050	1320	2110	1090	2330	4510
22	462	388	430	---	772	828	1350	3480	3660	849	2910	3650
23	454	406	398	944	704	753	1770	4040	2870	1090	2940	3790
24	430	429	391	962	795	763	1400	8810	3070	1400	3620	3890
25	420	389	373	937	651	803	1570	19000	6160	1310	4470	4120
26	435	367	367	1020	749	904	1740	21800	5850	---	4290	3480
27	474	---	363	835	838	934	1840	15700	6420	---	3270	3170
28	473	---	---	---	981	1080	2730	13800	5860	---	3680	2890
29	460	---	---	---	---	935	2430	11400	4590	---	2910	2530
30	523	---	---	---	---	841	2030	10000	5020	752	3690	2400
31	484	---	---	---	---	796	---	11200	---	783	4250	---
MEAN	492	653	477	940	707	900	1140	5400	5440	1760	1850	4170
WTR YR 1977	MEAN	2240	MAX	21800	MIN	363						

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	144	---	---	---	333	225	721	4470	1620	241	1390
2	173	141	---	---	---	328	200	846	4020	1590	226	1430
3	150	143	---	---	---	242	195	576	3810	1530	222	1710
4	139	244	---	---	---	214	231	673	2880	1380	219	2550
5	138	326	---	---	---	193	277	547	2550	1240	217	2320
6	138	361	---	---	---	221	248	---	2490	1160	226	1970
7	140	351	---	---	---	207	218	528	2290	1120	195	2210
8	152	345	---	---	---	208	193	620	2020	1110	181	2320
9	176	345	---	---	---	229	207	724	1810	1130	175	2230
10	162	339	---	---	137	248	192	744	1570	1150	170	1850
11	156	319	---	---	140	240	184	676	1510	1250	172	1690
12	149	320	---	---	178	225	194	610	1620	1090	196	1700
13	163	312	---	---	182	388	194	569	1520	1020	330	1740
14	161	213	---	---	---	249	226	554	1200	915	388	1470
15	155	144	---	---	---	209	249	500	1110	703	516	1650
16	151	129	201	---	166	222	232	496	909	617	673	1850
17	128	118	209	---	232	275	272	523	918	596	744	1650
18	128	116	211	---	251	299	270	503	886	577	718	1470
19	135	126	161	---	237	265	273	559	860	551	723	1500
20	135	133	138	---	224	264	277	363	889	499	1170	1510
21	146	116	133	---	216	227	288	1580	782	477	1150	1610
22	132	118	130	---	227	232	380	1640	1110	399	1470	1390
23	139	116	121	288	213	208	518	2180	952	393	1440	1400
24	128	124	116	286	227	207	416	3460	1200	453	1580	1390
25	125	111	113	286	204	225	481	5980	2420	431	2140	1310
26	123	109	115	303	223	247	513	6770	2550	---	2020	1130
27	132	---	114	236	247	256	509	4940	2800	---	1540	1060
28	132	---	---	---	284	308	691	4280	2750	---	1670	1010
29	127	---	---	---	---	281	640	3700	2470	---	1380	905
30	153	---	---	---	---	240	535	3470	2430	244	1500	879
31	148	---	---	---	---	227	---	3940	---	254	1640	---
MEAN	145	206	147	280	211	249	318	1780	1960	870	814	1610
WTR YR 1977	MEAN	810	MAX	6770	MIN	109						

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	831	955	---	---	---	1260	1030	1340	641	289	646	434
2	910	971	---	---	---	1300	1010	1160	641	324	641	454
3	820	955	---	---	---	1290	1010	697	742	323	646	509
4	798	887	---	---	---	1210	1130	843	613	296	658	495
5	786	674	---	---	---	1160	1430	775	658	295	630	324
6	786	686	---	---	---	1170	1300	---	646	298	669	425
7	803	646	---	---	---	1090	1220	1100	674	296	585	394
8	831	635	---	---	---	1090	1160	1330	669	299	557	343
9	893	635	---	---	---	1250	1260	1680	630	301	544	360
10	820	635	---	---	977	1320	1180	1720	551	305	532	470
11	859	607	---	---	943	1310	1200	1610	543	343	528	585
12	854	635	---	---	837	1290	1270	1580	607	307	514	613
13	943	641	---	---	843	1320	1200	1640	568	291	396	641
14	971	658	---	---	---	876	1180	1710	526	311	408	536
15	921	747	---	---	---	971	1120	1590	624	349	450	536
16	966	764	725	---	882	1060	1100	1640	535	423	436	403
17	815	764	719	---	798	1320	1030	1500	562	424	336	392
18	809	798	714	---	803	1530	1070	1290	551	426	357	395
19	915	915	742	---	775	1440	1120	1310	536	416	342	435
20	893	977	826	---	803	1430	1150	521	540	380	371	488
21	921	887	876	---	826	1290	999	194	511	372	335	562
22	904	865	865	---	887	1230	994	358	843	354	329	496
23	921	893	815	927	815	1160	1020	310	613	532	337	516
24	955	971	826	938	904	1190	949	443	441	686	370	562
25	943	899	786	932	781	1230	932	697	435	669	345	730
26	988	854	781	943	854	1340	882	742	370	---	366	663
27	1080	---	781	977	876	1250	1160	781	376	---	363	618
28	1080	---	---	---	966	1050	1860	775	366	---	390	579
29	1010	---	---	---	---	1020	1380	691	311	---	351	562
30	1030	---	---	---	---	1050	1370	574	342	663	421	541
31	932	---	---	---	---	1060	---	549	---	686	472	---
MEAN	903	791	788	943	857	1210	1160	1040	556	395	462	502
WTR YR 1977	MEAN	791	MAX	1860	MIN	194						

DISSOLVED SOLIDS (IONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1640	1250	---	---	---	3000	1930	6440	37700	12000	2620	11000
2	1570	1240	---	---	---	2840	1830	7550	33900	12000	1900	11400
3	1290	1240	---	---	---	2230	1790	4890	32500	11500	1870	14000
4	1190	2160	---	---	---	1850	2010	5850	24200	10200	1850	20700
5	1190	2750	---	---	---	1730	2480	4710	21500	9160	1820	17500
6	1190	3060	---	---	---	1990	2150	---	20900	8610	1910	15500
7	1210	2950	---	---	---	1880	1900	4840	19300	8370	1630	17400
8	1310	2880	---	---	---	1890	1730	5490	17100	8320	1500	17700
9	1570	2880	---	---	---	2050	1860	6760	15200	8290	1440	17100
10	1400	2630	---	---	1210	2160	1740	6730	12900	8560	1390	15000
11	1350	2660	---	---	1200	2090	1690	6040	12500	9540	1420	14100
12	1300	2670	---	---	1530	2070	1760	5670	13500	8150	1600	14300
13	1400	2630	---	---	1580	3410	1790	5180	12500	7390	2570	14700
14	1420	1790	---	---	---	2190	2050	4990	9880	6780	3040	12100
15	1300	1240	---	---	---	1850	2140	4680	9380	5330	4140	13600
16	1320	1110	1710	---	1460	1960	2130	4520	7480	4920	5330	14600
17	1110	1020	1790	---	1990	2420	2340	4620	7590	4680	5680	12900
18	1110	991	1800	---	2170	2690	2410	4630	7290	4550	5570	11400
19	1240	1150	1370	---	2040	2340	2350	4880	7090	4320	5490	11900
20	1210	1180	1200	---	1930	2360	2450	2950	7280	3870	9010	12300
21	1220	1030	1160	---	1880	2090	2620	10200	6350	3700	8770	13300
22	1190	1020	1130	---	2010	2040	3440	12500	9650	3070	11000	11300
23	1160	1040	1050	2430	1850	1860	4410	16100	7990	3220	11000	11500
24	1110	1100	1010	2440	2050	1890	3590	27900	9660	3830	12200	11500
25	1070	1000	976	2430	1750	1980	4080	50800	19100	3650	16400	11100
26	1100	950	989	2600	1940	2200	4520	57700	19700	---	15700	9610
27	1190	---	978	2090	2160	2290	4540	42400	21900	---	11900	8890
28	1190	---	---	---	2490	2700	6430	36800	21400	---	13100	8360
29	1160	---	---	---	---	2380	5890	31500	18300	---	10500	7480
30	1310	---	---	---	---	2100	4880	28800	18500	2080	11900	7200
31	1250	---	---	---	---	2010	---	32300	---	2150	13400	---
MEAN	1270	1760	1260	2400	1840	2210	2830	14900	16100	6600	6360	13000
WTR YR 1977	MEAN	6640	MAX	57700	MIN	950						

ARKANSAS RIVER BASIN

07153000 BLACK BEAR CREEK AT PAWNEE, OK

LOCATION.--Lat 36°20'37", long 96°47'57", on east line of SE 1/4 NE 1/4 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).

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) above mean sea level (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 fair.

AVERAGE DISCHARGE.--33 years, 178 ft³/s (5.041 m³/s), 129,000 acre-ft/yr (159 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, 4,970 ft³/s (141 m³/s) May 23 at 2300, gage height, 13.75 ft (4.191 m) from flood mark, no other peak above base of 4,000 ft³/s (113 m³/s); minimum 0.50 ft³/s (0.014 m³/s) Oct. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	11	2.8	4.6	5.6	4.8	12	170	1230	997	2.1	2.1
2	24	8.8	2.9	4.3	5.7	4.8	9.0	85	603	322	26	1.4
3	19	8.0	2.9	4.3	5.4	4.7	8.0	46	342	134	34	1.1
4	16	7.7	3.2	4.3	5.1	4.6	7.0	26	237	60	14	1.1
5	16	6.9	3.6	4.3	5.2	4.5	6.3	18	176	34	6.4	1.3
6	14	6.1	3.6	4.3	5.2	4.4	4.2	16	133	21	4.4	1.5
7	31	4.9	3.6	4.3	5.1	4.3	3.9	67	98	15	3.1	1.6
8	23	4.0	3.8	4.1	5.7	10	3.4	76	77	11	2.5	1.5
9	13	3.6	3.6	4.1	8.0	12	3.1	50	67	7.0	2.2	1.2
10	10	3.5	3.8	4.1	5.6	13	3.0	20	58	225	2.0	1.2
11	8.6	3.3	4.1	4.1	6.2	17	3.2	15	43	111	2.0	4.1
12	6.9	3.0	4.8	3.8	8.6	10	3.0	10	34	56	1.9	16
13	5.7	2.8	5.8	4.1	5.6	12	2.9	8.0	26	36	4.8	33
14	4.4	2.4	6.6	4.1	24	26	3.1	15	21	23	25	31
15	3.3	2.2	6.0	4.1	24	20	3.5	20	19	18	140	26
16	1.8	2.0	5.8	4.1	18	12	8.3	800	16	13	118	67
17	1.2	2.0	5.8	4.1	14	10	18	600	15	10	41	175
18	.99	1.9	5.3	4.1	10	46	19	400	13	8.9	18	129
19	.97	2.3	5.3	4.1	8.0	18	13	500	12	7.5	19	48
20	.71	2.7	5.3	4.1	7.0	12	38	800	10	6.5	21	26
21	.68	2.8	4.8	3.8	6.6	10	77	1500	8.8	5.3	12	15
22	.74	3.0	4.8	3.9	6.0	9.0	147	3700	8.1	4.7	7.3	12
23	1.9	2.8	4.6	4.9	5.8	8.0	74	4500	8.1	3.8	8.9	11
24	2.5	2.8	4.3	5.1	5.6	7.0	31	4130	7.8	14	11	9.9
25	2.4	2.7	4.3	5.2	5.4	6.5	16	2090	19	17	12	8.7
26	2.1	2.8	4.1	5.1	5.2	6.0	10	999	59	7.4	7.2	7.2
27	1.9	2.8	3.8	5.4	5.0	5.5	8.5	705	145	4.2	4.4	5.8
28	1.9	2.6	4.6	5.6	4.9	66	5.9	1260	87	3.1	27	4.0
29	3.8	2.6	4.8	5.5	---	63	4.8	711	428	2.5	19	5.8
30	20	2.5	4.6	5.3	---	40	108	410	145	2.3	7.9	3.0
31	19	---	4.6	5.4	---	20	---	455	---	2.2	3.2	---
TOTAL	288.49	116.5	137.9	138.6	226.5	491.1	654.1	24202.0	4145.8	2182.4	607.3	653.5
MEAN	9.31	3.88	4.45	4.47	8.09	15.8	21.8	781	138	70.4	19.6	21.8
MAX	31	11	6.6	5.6	24	66	147	4500	1230	997	140	175
MIN	.68	1.9	2.8	3.8	4.9	4.3	2.9	8.0	7.8	2.2	1.9	1.1
AC-FT	572	231	274	275	449	974	1300	48000	8220	4330	1200	1300
CAL YR 1976	TOTAL	9183.66	MEAN	25.1	MAX	887	MIN	.14	AC-FT	18220		
WTR YR 1977	TOTAL	33844.19	MEAN	92.7	MAX	4500	MIN	.68	AC-FT	67130		

LOCATION.--Lat 36°55'36", long 102°57'31", in SE 1/4 sec.4, T.5 N., R.1 E., Cimarron County, Hydrologic Unit 11040001, near right bank on downstream side of pier of county road bridge, 1.5 mi (2.41 km) upstream from North Carrizo Creek, 1.7 mi (2.74 km) northeast of Kenton, 2.2 mi (3.54 km) downstream from Carrizozo Creek, and at mile 594.0 (955.7 km).

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

GAGE.--Water-stage recorder. Datum of gage is 4,262.08 ft (1,299.082 m) above mean sea level, (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.

AVERAGE DISCHARGE.--27 years, (water years 1951-77), 23.4 ft³/s (0.663 m³/s), 16,950 acre-ft/yr (20.9 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		GAGE HEIGHT		DATE	TIME	DISCHARGE		GAGE HEIGHT	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)			(ft ³ /s)	(m ³ /s)	(ft)	(m)
Apr. 12	0445	2,190	62.0	11.12	3.389	May 25	0730	*37,900	1070	21.62	6.590
Apr. 19	2230	17,600	498	18.29	5.575	Aug. 6	0615	3,870	110	12.64	3.853
May 14	1000	22,400	634	19.26	5.870	Aug. 13	0100	2,150	60.9	11.07	3.374

No flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.00	.05	.07	.02	.04	.00	4.6	34	.00	1.2	458
2	.00	.00	.05	.06	.03	.04	.00	3.5	25	.00	63	101
3	.00	.00	.05	.04	.02	.03	.00	2.5	23	.00	18	48
4	.00	.00	.06	.03	.04	.03	.00	1.8	18	.00	3.5	281
5	.00	.00	.05	.02	.04	.04	.00	1.0	16	.00	193	65
6	.00	.00	.03	.03	.03	.04	.00	.48	9.0	25	1470	60
7	.00	.00	.03	.04	.03	.04	.00	.30	7.0	36	134	17
8	.00	.00	.03	.04	.04	.04	.00	.22	6.0	.24	45	1.8
9	.00	.00	.05	.04	.04	.04	.00	.13	4.9	.00	25	.83
10	.00	.00	.05	.05	.03	.02	.00	.10	3.5	.00	111	.39
11	.00	.00	.05	.05	.04	.72	1.9	.22	2.5	.00	45	32
12	.00	.00	.03	.03	.02	16	661	.21	1.0	.00	104	46
13	.00	.00	.03	.02	.03	3.8	30	.24	.65	.00	471	9.5
14	.00	.00	.03	.02	.04	2.0	.83	5700	.13	.00	67	1.8
15	.00	.00	.03	.02	.06	3.2	.39	358	.05	.00	30	.83
16	.00	.00	.05	.03	.06	1.4	.13	32	.03	.00	16	3.5
17	.00	.00	.05	.03	.05	.92	.10	3.5	.00	.00	434	1.8
18	.00	.00	.05	.03	.04	.67	.08	3.0	.00	.00	88	1.0
19	.00	.00	.05	.03	.04	.39	2040	2.5	.00	.00	66	.83
20	.00	.00	.05	.08	.05	.18	618	1.8	28	.37	86	1.0
21	.00	.00	.05	.13	.06	.08	28	438	3.8	.30	48	.74
22	.00	.00	.05	.08	.04	.03	9.5	60	.22	393	390	.57
23	.00	.00	.05	.02	.02	.00	5.2	51	.00	68	83	.39
24	.00	.00	.04	.02	.02	.00	3.2	285	5.6	6.2	49	.65
25	.00	.00	.04	.02	.05	.00	.91	7050	34	.31	44	.74
26	.00	.03	.04	.06	.08	.00	.22	312	5.0	204	33	.48
27	.00	.14	.04	.03	.06	.00	.10	94	1.2	473	27	.39
28	.00	.05	.04	.02	.04	.00	.08	63	.16	58	24	.39
29	.00	.03	.02	.09	---	.00	.10	51	.00	8.5	19	.48
30	.00	.05	.02	.06	---	.00	47	45	.00	2.2	38	.39
31	.00	---	.05	.03	---	.00	---	38	---	1.8	182	---
TOTAL	.05	.30	1.33	1.32	1.12	29.75	3466.74	14603.10	228.74	1276.92	4407.7	1136.50
MEAN	.002	.010	.043	.043	.040	.96	116	471	7.62	41.2	142	37.9
MAX	.05	.14	.08	.13	.08	16	2040	7050	34	473	1470	458
MIN	.00	.00	.02	.02	.02	.00	.00	.10	.00	.00	1.2	.39
AC=FT	.10	.6	2.6	2.6	2.2	59	6880	28970	454	2530	8740	2250
CAL YR 1976	TOTAL	4319.02	MEAN	11.8	MAX	1650	MIN	.00	AC=FT	8570		
WTR YR 1977	TOTAL	25153.57	MEAN	68.9	MAX	7050	MIN	.00	AC=FT	49890		

ARKANSAS RIVER BASIN

07154500 CIMARRON RIVER NEAR KENTON, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952-63, June to September 1977 (discontinued).

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
JUN 23...	1028	9740	0800	1480	8.1	19.5	32	9.2	101	22	408
JUL 28...	1028	9740	0810	350	7.7	21.0	98	8.7	96	73	102
AUG 18...	1028	9740	1000	780	8.2	19.5	10	8.7	97	75	239
SEP 15...	1028	9740	0815	1200	8.4	13.0	13	10.4	98	11	299

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
JUN 23...	76	51	--	8.7	561	44	.3	1126	1.1	.07	--
JUL 28...	80	15	27	7.7	78	9.0	.3	248	3.5	1.0	--
AUG 18...	69	26	--	9.7	184	11	.4	490	2.3	.61	22
SEP 15...	48	42	118	7.7	311	24	.4	844	<.63	.23	--

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
JUN 23...	--	--	--	410	--	160	--	--	--	--	--
JUL 28...	--	--	--	3000	--	930	--	--	--	--	--
AUG 18...	3	48	27	2800	20	380	<.5	30	3	4	75
SEP 15...	--	--	--	1760	--	80	--	--	--	--	--

ARKANSAS RIVER BASIN

85

07156900 CIMARRON RIVER NEAR FORGAN, OK

LOCATION.--Lat 37°00'45", long 100°29'39", in SE 1/4 SE 1/4 sec.8, T.35 S., R.24 E., Mead County, Hydro-logic Unit 11040006, Kans., 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 fair. Extensive diversion for irrigation above station.

AVERAGE DISCHARGE.--12 years, 86.0 ft³/s (2.436 m³/s), 62,310 acre-ft/yr (76.8 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 (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
May 16	1915	3,490	98.8	4.71	1.436	May 27	2315	*6,990	198	5.59	1.704

Minimum daily discharge, 23 ft³/s (0.65 m³/s) Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	64	50	62	66	91	73	50	250	42	42	121
2	50	73	53	62	65	83	70	850	130	41	39	31
3	38	63	70	62	84	78	88	300	90	57	37	29
4	41	60	56	62	87	69	117	150	75	35	34	91
5	36	63	60	60	75	81	70	90	68	35	30	43
6	29	61	51	60	65	83	66	70	64	38	27	34
7	35	56	43	60	64	76	66	62	60	43	23	32
8	45	54	44	60	64	71	66	58	58	96	103	31
9	65	56	53	60	60	79	53	55	56	52	121	29
10	76	57	58	60	62	61	49	54	56	43	138	31
11	75	65	45	60	57	45	49	137	55	43	64	42
12	62	63	62	60	60	29	57	175	54	48	51	35
13	55	57	63	60	63	50	54	171	52	37	45	113
14	45	44	73	60	58	64	70	135	55	35	43	67
15	41	49	69	60	48	67	119	71	53	41	38	48
16	36	53	74	60	47	47	175	1350	53	43	35	41
17	43	50	64	60	46	55	147	878	53	39	51	32
18	52	49	62	60	55	62	80	395	52	35	64	29
19	49	34	82	60	65	57	60	274	49	30	69	26
20	52	51	78	60	81	51	209	362	51	30	56	25
21	45	56	86	59	92	51	164	554	45	30	121	24
22	45	44	81	59	93	64	624	806	45	34	73	24
23	52	47	50	59	94	69	397	449	48	32	91	29
24	57	44	50	62	83	55	220	540	46	29	69	32
25	66	47	61	68	90	61	120	508	41	29	59	34
26	76	49	65	59	93	56	80	433	62	52	56	34
27	97	47	66	72	107	69	60	3410	51	51	52	37
28	90	47	62	72	107	97	56	1320	46	56	52	39
29	84	50	63	74	---	71	54	400	43	273	49	41
30	62	50	62	62	---	81	52	250	42	168	46	42
31	61	---	62	59	---	85	---	400	---	53	157	---
TOTAL	1711	1603	1914	1913	2031	2058	3565	14757	1903	1590	1937	1286
MEAN	55.2	53.4	61.9	61.7	72.5	66.4	119	476	63.4	51.3	62.5	42.9
MAX	97	73	86	74	107	97	624	3410	250	273	157	121
MIN	29	34	43	59	46	29	49	50	41	29	23	24
AC-FT	3390	3180	3800	3790	4030	4080	7070	29270	3770	3150	3840	2550

CAL YR 1976 TOTAL 35401 MEAN 96.7 MAX 7420 MIN 19 AC-FT 70220
WTR YR 1977 TOTAL 36272 MEAN 99.4 MAX 3410 MIN 23 AC-FT 71950

ARKANSAS RIVER BASIN

07157000 CIMARRON RIVER NEAR MOCANE, OK

LOCATION.--Lat 36°58'31", long 100°18'49", on west line of NW 1/4 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, April to September 1977.

REMARKS.--No flow was observed in July.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER DAY)
APR 13...	--	--	3000	17.5	84	500	200	760	1750	--
MAY 12...	0900	46	2200	20.0	99	400	170	600	1490	185
JUN 15...	1100	52	1700	23.0	84	440	200	650	1550	218
AUG 03...	0930	58	1000	29.0	63	190	120	290	812	127
SEP 01...	1200	288	1270	24.0	45	180	74	310	699	544

ARKANSAS RIVER BASIN

87

07157950 CIMARRON RIVER NEAR BUFFALO, OK

LOCATION.--Lat 36°55'28", long 99°23'56", in NW 1/4 SW 1/4 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 (9.7 km) upstream from Keno Creek, 7 mi (11.3 km) upstream from bridge on U.S. Highway 64, 14 mi (22.5 km) northeast of Buffalo, and at mile 296.0 (476.3 km).

DRAINAGE AREA.--11,930 mi² (30,900 km²), of which 4,813 mi² (12,466 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 1,650 ft (502.9 m), from river profile map.

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

AVERAGE DISCHARGE.--17 years, 154 ft³/s (4.361 m³/s), 111,600 acre-ft/yr (138 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s (748 m³/s) Sept. 26, 1973, gage height, 5.57 ft (1.698 m); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,300 ft³/s (93.5 m³/s) at 2200 May 28, gage height, 3.56 ft (1.085 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 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	38	30	25	110	54	15	64	647	30	29	116
2	9.1	36	29	30	130	53	13	199	531	23	30	180
3	7.2	32	34	27	189	53	13	335	395	18	28	210
4	5.4	30	98	24	199	48	13	612	256	15	24	177
5	4.7	29	78	25	207	43	12	213	164	12	20	133
6	6.2	28	62	25	141	41	13	105	108	8.7	15	112
7	6.7	29	41	23	106	38	15	57	76	6.2	6.4	107
8	6.0	30	42	21	93	36	19	41	53	6.6	.47	85
9	4.9	32	48	20	94	34	17	38	38	7.0	.00	70
10	4.9	30	64	17	90	33	14	1100	26	7.0	.00	54
11	4.0	30	38	20	89	31	11	200	17	7.0	.23	46
12	1.9	30	37	22	89	27	12	120	9.0	7.0	12	41
13	2.4	29	43	23	84	24	14	94	16	5.2	76	49
14	2.3	31	70	27	85	23	14	83	20	2.2	216	60
15	.93	33	57	25	87	20	24	67	12	.63	138	85
16	.46	34	50	22	87	19	17	54	7.7	.00	81	129
17	.75	35	50	24	84	19	27	932	4.3	.00	64	200
18	1.0	36	51	22	82	17	21	728	2.5	.00	60	220
19	.98	37	49	23	81	15	38	205	1.5	.00	44	191
20	1.0	37	46	25	81	13	82	270	.90	.00	48	148
21	1.3	38	24	27	86	13	74	327	.50	.00	69	116
22	1.5	38	28	30	89	12	133	572	.15	.00	80	90
23	2.1	37	28	28	95	12	253	489	1.0	.00	83	74
24	1.6	37	71	53	85	13	253	1220	34	.00	77	60
25	1.4	39	73	97	86	13	141	515	413	.00	69	48
26	6.7	40	58	140	83	14	94	788	799	.00	61	39
27	22	41	54	165	77	22	63	623	377	.03	46	35
28	20	46	54	100	67	30	36	1620	156	1.4	68	30
29	34	37	54	90	---	22	68	2360	59	1.9	146	27
30	46	30	30	110	---	21	69	1040	40	1.8	149	25
31	39	---	20	120	---	17	---	728	---	15	143	---
TOTAL	257.42	1029	1511	1430	2876	830	1588	15799	4264.55	175.66	1883.10	2957
MEAN	8.30	34.3	48.7	46.1	103	26.8	52.9	510	142	5.67	60.7	98.6
MAX	46	46	98	165	207	54	253	2360	799	30	216	220
MIN	.46	28	20	17	67	12	11	38	.15	.00	.00	25
AC-FT	511	2040	3000	2840	5700	1650	3150	31340	8460	348	3740	5870
CAL YR 1976	TOTAL	45954.75	MEAN	126	MAX	4730	MIN	.00	AC-FT	91150		
WTR YR 1977	TOTAL	34600.73	MEAN	94.8	MAX	2360	MIN	.00	AC-FT	68630		

ARKANSAS RIVER BASIN

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

WATER-QUALITY RECORDS

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, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 99,100 micromhos July 26; minimum daily, 1,220 micromhos June 13.

WATER TEMPERATURE: Maximum daily, 37.0°C July 29; minimum daily, 0.5°C Jan. 28, 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
05...	--	--	1350	5.0	20100	8.2	--	--	--	--
15...	--	--	1800	.75	20600	8.0	--	--	--	--
25...	--	--	1720	1.5	18400	7.9	--	--	--	--
27...	--	--	0900	23	24000	8.2	7.0	2	12.6	109
27...	1028	9740	0901	23	24000	8.2	7.0	--	12.6	109
NOV										
05...	--	--	1515	29	7380	8.3	--	--	--	--
15...	--	--	1015	33	6210	8.3	--	--	--	--
23...	--	--	0900	37	4800	8.5	7.0	65	11.0	92
23...	1028	9740	0901	37	4800	8.5	7.0	--	11.0	92
27...	--	--	1200	36	12000	8.2	--	--	--	--
DEC										
05...	--	--	1635	74	4480	8.3	--	--	--	--
15...	--	--	1600	58	5880	8.1	--	--	--	--
25...	--	--	1405	71	7290	8.1	--	--	--	--
28...	--	--	0900	53	7900	8.6	.5	280	13.7	98
28...	1028	9740	0901	53	7900	8.6	.5	--	13.7	98
JAN										
07...	--	--	1345	22	11100	8.2	--	--	--	--
25...	--	--	1135	79	5720	8.3	--	--	--	--
26...	--	--	1300	127	5600	8.3	2.0	20	12.3	91
26...	1028	9740	1301	127	5600	8.3	2.0	--	12.3	91
FEB										
05...	--	--	1100	248	3660	7.9	--	--	--	--
15...	--	--	1620	87	4960	8.2	--	--	--	--
23...	--	--	0930	108	11500	8.4	5.0	290	13.6	103
23...	1028	9740	0931	108	11500	8.4	5.0	--	13.6	103
24...	--	--	1400	85	4710	8.3	--	--	--	--
MAR										
05...	--	--	1130	44	8420	8.2	--	--	--	--
15...	--	--	1440	19	11200	8.0	--	--	--	--
23...	--	--	0910	12	8750	8.2	7.0	6	12.4	108
23...	1028	9740	0911	12	8750	8.2	7.0	--	12.4	108
28...	--	--	1445	27	67000	7.6	--	--	--	--
APR										
05...	--	--	1440	13	14000	8.0	--	--	--	--
14...	--	--	1700	16	22400	8.2	--	--	--	--
23...	--	--	1420	363	5630	7.5	--	--	--	--
26...	--	--	1505	87	3380	8.1	20.5	320	9.3	109
26...	1028	9740	1506	87	3380	8.1	20.5	--	9.3	109
MAY										
04...	--	--	1800	460	6080	7.4	--	--	--	--
15...	--	--	1035	69	4200	7.6	--	--	--	--
25...	--	--	0750	515	2550	8.2	17.0	700	8.8	97
25...	1028	9740	0751	515	2550	8.2	17.0	--	8.8	97
25...	--	--	1830	391	3040	7.6	--	--	--	--

ARKANSAS RIVER BASIN

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	
JUN											
05...	--	--	1230	162	4900	7.9	--	--	--	--	
15...	--	--	1130	12	2720	7.9	--	--	--	--	
21...	--	--	1300	.50	7700	8.4	24.0	25	8.5	106	
24...	1028	9740	0900	21	10800	7.7	18.0	--	7.1	79	
25...	--	--	1745	504	6020	7.7	--	--	--	--	
JUL											
05...	--	--	1625	11	11500	7.7	--	--	--	--	
15...	--	--	1415	.75	20200	8.1	--	--	--	--	
28...	--	--	1520	1.5	>8000	8.6	33.0	8	10.6	156	
28...	1028	9740	1521	1.5	>8000	8.6	33.0	--	10.6	156	
AUG											
05...	--	--	1800	19	3990	7.7	--	--	--	--	
15...	--	--	1200	131	5120	7.8	--	--	--	--	
16...	--	--	1430	77	6700	8.4	31.0	460	7.2	103	
19...	1028	9740	0830	44	23000	8.1	19.0	--	8.6	98	
24...	--	--	1200	77	4280	7.6	--	--	--	--	
SEP											
06...	--	--	1700	115	5400	7.6	--	--	--	--	
13...	--	--	0900	47	48000	8.0	18.5	2400	8.0	91	
15...	--	--	1520	91	5960	7.6	--	--	--	--	
15...	1028	9740	1615	94	6500	8.0	20.5	--	7.8	92	
25...	--	--	1415	47	15500	7.8	--	--	--	--	
DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)
OCT											
27...	--	--	0900	--	--	--	--	--	--	--	--
27...	1028	9740	0901	--	--	--	--	--	--	--	--
NOV											
23...	--	--	0900	7	4	3	<10	<9	1	10	10
23...	1028	9740	0901	--	--	--	--	--	--	--	--
DEC											
28...	--	--	0900	--	--	--	--	--	--	--	--
28...	1028	9740	0901	--	--	--	--	--	--	--	--
JAN											
26...	--	--	1300	--	--	--	--	--	--	--	--
26...	1028	9740	1301	--	--	--	--	--	--	--	--
FEB											
23...	--	--	0930	13	10	3	10	9	1	0	0
23...	1028	9740	0931	--	--	--	--	--	--	--	--
MAR											
23...	--	--	0910	--	--	--	--	--	--	--	--
23...	1028	9740	0911	--	--	--	--	--	--	--	--
APR											
26...	--	--	1505	--	--	--	--	--	--	--	--
26...	1028	9740	1506	--	--	--	--	--	--	--	--
MAY											
25...	--	--	0750	29	25	4	<10	<10	0	40	40
25...	1028	9740	0751	--	--	--	--	--	--	--	--
JUN											
21...	--	--	1300	--	--	--	--	--	--	--	--
24...	1028	9740	0900	--	--	--	--	--	--	--	--
JUL											
28...	--	--	1520	--	--	--	--	--	--	--	--
28...	1028	9740	1521	--	--	--	--	--	--	--	--
AUG											
16...	--	--	1430	6	2	4	10	0	24	20	20
19...	1028	9740	0830	--	--	--	--	--	--	--	--
SEP											
13...	--	--	0900	--	--	--	--	--	--	--	--
15...	1028	9740	1615	--	--	--	--	--	--	--	--

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDE COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDE COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE LEAD (PB) (UG/L)
OCT											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	300	--	--	--
NOV											
23...	0	<50	<50	0	10	5	5	3100	50	<100	<98
23...	--	--	--	--	--	--	--	--	--	--	--
DEC											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	2300	--	--	--
JAN											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	2200	--	--	--
FEB											
23...	0	<50	<49	1	20	16	4	8700	40	<100	<98
23...	--	--	--	--	--	--	--	--	--	--	--
MAR											
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	340	--	--	--
APR											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	1520	--	--	--
MAY											
25...	0	<50	<50	0	40	37	3	27000	130	<100	<99
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	1800	--	--	--
JUL											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	310	--	--	--
AUG											
16...	0	<50	<47	3	50	17	33	12000	670	<100	<84
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
13...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	130000	--	--	--

DATE	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDE MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDE MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDE SELE- NIUM (SE) (UG/L)
OCT										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	111	--	--	--	--	--	--	--	--
NOV										
23...	2	60	40	20	--	--	.9	--	3	0
23...	--	--	--	--	--	--	--	14	--	--
DEC										
28...	--	--	--	--	--	--	--	--	--	--
28...	--	246	--	--	--	--	--	--	--	--
JAN										
26...	--	--	--	--	--	--	--	--	--	--
26...	--	150	--	--	--	--	--	--	--	--
FEB										
23...	2	330	310	20	.4	--	.0	--	4	1
23...	--	--	--	--	--	--	--	35	--	--
MAR										
23...	--	--	--	--	--	--	--	--	--	--
23...	--	80	--	--	--	--	--	--	--	--
APR										
26...	--	--	--	--	--	--	--	--	--	--
26...	--	2500	--	--	--	--	--	--	--	--
MAY										
25...	1	740	730	10	.1	.1	.0	--	4	2
25...	--	--	--	--	--	--	--	21	--	--
JUN										
21...	--	--	--	--	--	--	--	--	--	--
24...	--	340	--	--	--	--	--	--	--	--
JUL										
28...	--	--	--	--	--	--	--	--	--	--
28...	--	50	--	--	--	--	--	--	--	--
AUG										
16...	16	330	50	280	.2	.1	.1	--	2	2
19...	--	--	--	--	--	--	--	380	--	--
SEP										
13...	--	--	--	--	--	--	--	--	--	--
15...	--	290	--	--	--	--	--	--	--	--

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDE D ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)	SUS- PENDE D SED- IMENT (MG/L)	SUS- PENDE D SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT										
27...	--	--	--	--	--	--	2400	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
NOV										
23...	3	--	30	0	30	4.9	2800	352	35	100
23...	--	7	--	--	--	--	--	--	--	--
DEC										
28...	--	--	--	--	--	--	880	725	104	100
28...	--	--	--	--	--	--	--	--	--	--
JAN										
26...	--	--	--	--	--	--	2300	521	179	99
26...	--	--	--	--	--	--	--	--	--	--
FEB										
23...	3	--	90	70	20	13	3200	847	247	98
23...	--	12	--	--	--	--	--	--	--	--
MAR										
23...	--	--	--	--	--	--	--	349	11	97
23...	--	--	--	--	--	--	--	--	--	--
APR										
26...	--	--	--	--	--	--	--	12800	3010	100
26...	--	--	--	--	--	--	--	--	--	--
MAY										
25...	2	--	220	210	10	19	3000	4950	6880	100
25...	--	12	--	--	--	--	--	--	--	--
JUN										
21...	--	--	--	--	--	--	18000	132	.18	98
24...	--	--	--	--	--	--	--	--	--	--
JUL										
28...	--	--	--	--	--	--	89000	102	.41	95
28...	--	--	--	--	--	--	--	--	--	--
AUG										
16...	0	--	100	0	160	13	2100	537	112	100
19...	--	8	--	--	--	--	--	--	--	--
SEP										
13...	--	--	--	--	--	--	120000	4680	594	99
15...	--	--	--	--	--	--	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI- FORM (7UM-MF COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT										
05...	--	--	--	1100	940	300	83	4300	89	57
15...	--	--	--	1200	1000	330	85	4300	89	55
25...	--	--	--	1100	980	310	81	3700	88	48
27...	--	200	81100	1100	970	300	88	5200	91	68
27...	--	--	--	--	--	--	--	--	--	--
NOV										
05...	--	--	--	610	450	150	57	1300	82	23
15...	--	--	--	580	410	150	50	1100	80	20
23...	--	240	90000	530	330	130	49	830	77	16
23...	23	--	--	--	--	--	--	--	--	--
27...	--	--	--	640	460	160	59	2400	89	41
DEC										
05...	--	--	--	400	200	99	38	760	80	16
15...	--	--	--	480	280	120	43	1100	83	22
25...	--	--	--	520	320	130	48	1300	84	25
28...	--	45	--	510	310	130	46	1500	86	29
28...	28	--	--	--	--	--	--	--	--	--
JAN										
07...	--	--	--	900	700	230	78	6100	94	89
25...	--	--	--	400	220	100	37	1100	85	24
26...	--	28	38	420	240	110	35	990	84	21
26...	50	--	--	--	--	--	--	--	--	--
FEB										
05...	--	--	--	360	180	90	33	610	78	14
15...	--	--	--	480	280	120	43	860	79	17
23...	--	82200	5200	600	400	150	54	2300	89	41
23...	60	--	--	--	--	--	--	--	--	--
24...	--	--	--	450	250	110	42	800	79	16
MAR										
05...	--	--	--	590	410	150	53	1600	85	29
15...	--	--	--	660	480	170	57	2200	88	37
23...	--	28	170	610	410	160	50	1400	83	25
23...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	1500	1300	370	130	19000	97	216

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI- FORM (COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
APR										
05...	--	--	--	750	570	200	60	2900	89	46
14...	--	--	--	780	620	200	69	5200	93	81
23...	--	--	--	490	290	120	47	1000	81	20
26...	--	200	7800	380	220	96	35	560	75	12
26...	367	--	--	--	--	--	--	--	--	--
MAY										
04...	--	--	--	460	250	120	38	1100	84	22
15...	--	--	--	470	280	120	41	730	77	15
25...	--	8200	3600	230	100	62	19	450	80	13
25...	260	--	--	--	--	--	--	--	--	--
25...	--	--	--	290	140	78	24	540	79	14
JUN										
05...	--	--	--	510	330	130	46	860	78	17
15...	--	--	--	370	190	100	30	430	71	9.7
21...	--	8150	520	640	480	170	52	1500	83	26
24...	52	--	--	--	--	--	--	--	--	--
25...	--	--	--	320	190	91	22	1200	89	29
JUL										
05...	--	--	--	750	580	210	55	2300	87	37
15...	--	--	--	1100	920	290	82	4300	90	57
28...	--	--	3400	600	490	160	48	2000	88	36
28...	34	--	--	--	--	--	--	--	--	--
AUG										
05...	--	--	--	640	430	150	64	330	52	5.7
15...	--	--	--	280	180	77	22	1000	88	26
16...	--	1000	990	420	320	120	30	1100	85	23
19...	81	--	--	--	--	--	--	--	--	--
24...	--	--	--	470	270	120	42	790	78	16
SEP										
06...	--	--	--	450	280	110	42	1000	83	21
13...	--	1500	1000	990	870	240	94	9400	95	130
15...	--	--	--	530	330	130	50	1100	82	21
15...	661	--	--	--	--	--	--	--	--	--
25...	--	--	--	770	590	190	71	3300	90	52

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)
OCT										
05...	13	189	0	155	1.9	850	6400	--	--	12400
15...	12	155	0	127	2.5	1000	6000	--	--	12800
25...	11	152	0	125	3.1	940	5500	--	--	11400
27...	10	178	0	146	1.8	830	8100	.4	12	15700
27...	--	--	--	--	--	--	--	--	--	--
NOV										
05...	7.5	190	0	156	1.5	430	2100	--	--	4290
15...	6.6	212	0	174	1.7	360	1700	--	--	3620
23...	6.8	235	0	193	1.2	320	1300	.8	14	2870
23...	--	--	--	--	--	--	--	--	--	--
27...	8.1	221	0	181	2.2	400	3800	--	--	7040
DEC										
05...	7.2	244	0	200	2.0	230	1200	--	--	2530
15...	6.8	246	0	202	3.1	260	1700	--	--	3340
25...	8.0	251	0	206	3.2	300	2100	--	--	4200
28...	7.0	252	0	207	1.0	300	2200	.8	18	4630
28...	--	--	--	--	--	--	--	--	--	--
JAN										
07...	11	238	0	195	2.4	570	9600	--	--	16900
25...	5.9	223	0	183	1.8	210	1800	--	--	3250
26...	5.5	223	0	183	1.8	230	1600	.6	17	3190
26...	--	--	--	--	--	--	--	--	--	--
FEB										
05...	5.8	215	0	176	4.3	160	1000	--	--	2080
15...	6.9	235	0	193	2.4	240	1400	--	--	2850
23...	8.2	241	0	200	1.5	330	3700	.8	16	6690
23...	--	--	--	--	--	--	--	--	--	--
24...	7.4	240	0	197	1.9	230	1300	--	--	2660
MAR										
05...	7.9	220	0	180	2.2	380	2500	--	--	4820
15...	8.3	220	0	180	3.5	450	3500	--	--	6580
23...	6.4	241	0	198	2.4	400	2200	.8	15	4530
23...	--	--	--	--	--	--	--	--	--	--
28...	20	210	0	170	8.4	910	29000	--	--	49200
APR										
05...	8.0	220	0	180	3.5	470	4500	--	--	8470
14...	9.6	200	0	164	2.0	510	7900	--	--	14000
23...	9.3	250	0	205	13	280	1600	--	--	3260
26...	10	200	0	164	2.5	210	900	1.1	15	1930
26...	--	--	--	--	--	--	--	--	--	--
MAY										
04...	10	250	0	210	16	190	1800	--	--	3510
15...	8.7	230	0	190	9.2	240	1200	--	--	2430
25...	9.2	160	0	130	7.6	120	650	.6	14	1400
25...	--	--	--	--	--	--	--	--	--	--
25...	9.4	190	0	160	7.6	120	840	--	--	1690
JUN										
05...	9.8	230	0	190	4.6	270	1300	--	--	2850
15...	9.5	220	0	180	4.4	180	670	--	--	1520
21...	10	200	0	160	1.3	420	2300	--	21	4580
24...	--	--	--	--	--	--	--	--	--	--
25...	10	160	0	130	5.1	150	1800	--	--	3340
JUL										
05...	10	210	0	170	6.7	450	3600	--	--	6930
15...	13	170	0	140	2.2	740	7000	--	--	12600
28...	10	130	0	110	.5	460	3200	.6	13	6170
28...	--	--	--	--	--	--	--	--	--	--
AUG										
05...	9.9	250	0	210	8.0	310	950	--	--	2380
15...	9.9	130	0	110	3.3	140	1500	--	--	2840
16...	12	130	0	110	.8	210	1600	.6	15	3690
19...	--	--	--	--	--	--	--	--	--	--
24...	11	250	0	210	10	220	1200	--	--	2500
SEP										
06...	10	210	0	170	8.4	200	1500	--	--	3090
13...	16	140	0	115	2.2	--	--	--	7.9	31300
15...	9.9	240	0	200	9.6	240	1700	--	--	3430
15...	--	--	--	--	--	--	--	--	--	--
25...	12	210	0	170	5.3	460	5200	--	--	9280

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
OCT									
05...	--	16.9	167	--	.07	--	--	--	--
15...	--	17.4	25.9	--	.26	--	--	--	--
25...	--	15.5	46.2	--	.01	--	--	--	--
27...	14600	21.4	975	.03	--	.72	.75	3.3	.02
27...	--	--	--	--	--	.72	--	--	--
NOV									
05...	--	5.83	336	--	.24	--	--	--	--
15...	--	4.92	323	--	.69	--	--	--	--
23...	2770	3.90	287	.43	.43	.45	.88	3.9	.17
23...	--	--	--	--	--	1.2	--	--	--
27...	--	9.57	684	--	.76	--	--	--	--
DEC									
05...	--	3.44	505	--	2.7	--	--	--	--
15...	--	4.54	523	--	1.4	--	--	--	--
25...	--	5.71	805	--	1.3	--	--	--	--
28...	4330	6.30	663	.97	.97	1.6	2.6	11	.37
28...	--	--	--	--	--	1.4	--	--	--
JAN									
07...	--	23.0	1000	--	.77	--	--	--	--
25...	--	4.42	693	--	1.2	--	--	--	--
26...	3100	4.34	1090	.87	.87	.23	1.1	4.9	.09
26...	--	--	--	--	--	.90	--	--	--
FEB									
05...	--	2.83	1390	--	1.4	--	--	--	--
15...	--	3.88	669	--	.83	--	--	--	--
23...	6680	9.10	1950	.40	.40	1.2	1.6	7.1	.33
23...	--	--	--	--	--	2.2	--	--	--
24...	--	3.62	610	--	.83	--	--	--	--
MAR									
05...	--	6.56	573	--	.16	--	--	--	--
15...	--	8.95	338	--	.01	--	--	--	--
23...	4350	6.16	147	.04	.04	.08	.12	.53	.04
23...	--	--	--	--	--	1.0	--	--	--
28...	--	66.9	3590	--	.02	--	--	--	--
APR									
05...	--	11.5	297	--	.03	--	--	--	--
14...	--	19.0	605	--	.04	--	--	--	--
23...	--	4.43	3200	--	1.1	--	--	--	--
26...	1930	2.62	453	.99	--	1.8	2.8	12	.37
26...	--	--	--	--	--	20	--	--	--
MAY									
04...	--	4.77	4360	--	--	--	--	--	--
15...	--	3.30	453	--	--	--	--	--	--
25...	1400	1.90	1950	.56	--	3.0	3.6	16	.65
25...	--	--	--	--	--	10	--	--	--
25...	--	2.30	1780	--	--	--	--	--	--
JUN									
05...	--	3.88	1250	--	--	--	--	--	--
15...	--	2.07	49.2	--	--	--	--	--	--
21...	4570	6.23	6.18	.01	--	1.1	1.1	4.9	.14
24...	--	--	--	--	--	2.2	--	--	--
25...	--	4.54	4550	--	--	--	--	--	--
JUL									
05...	--	9.42	206	--	--	--	--	--	--
15...	--	17.1	25.5	--	--	--	--	--	--
28...	5960	8.39	25.0	.01	--	1.1	1.1	4.9	.04
28...	--	--	--	--	--	2.7	--	--	--
AUG									
05...	--	3.24	122	--	--	--	--	--	--
15...	--	3.86	1010	--	--	--	--	--	--
16...	3150	5.02	767	.49	--	1.7	2.2	9.7	.42
19...	--	--	--	--	--	1.4	--	--	--
24...	--	3.40	520	--	--	--	--	--	--
SEP									
06...	--	4.20	959	--	--	--	--	--	--
13...	--	42.6	3970	.30	--	--	--	--	3.3
15...	--	4.66	843	--	--	--	--	--	--
15...	--	--	--	--	--	5.3	--	--	--
25...	--	12.6	1180	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	ATRA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)
NOV 23...	0900	ND	--	ND	--	ND	--	ND	--	ND	--	ND
FEB 23...	0930	--	--	ND	--	--	--	--	--	--	--	--
MAY 25...	0750	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND
SEP 13...	0900	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)
NOV 23...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND
FEB 23...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 25...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 13...	--	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)
NOV 23...	--	ND	--	ND	--	ND	ND	--	ND	--	ND	--
FEB 23...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 25...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 13...	--	.01	--	ND	--	ND	ND	--	ND	--	ND	--

DATE	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL COUL- SON CUND. (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)
NOV 23...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--
FEB 23...	--	--	--	--	ND	--	ND	--	ND	--	ND	--
MAY 25...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
SEP 13...	ND	--	ND	--	ND	--	ND	--	ND	--	ND	--

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 27,76 0900	NOV 23,76 0900	DEC 28,76 0900	JAN 27,77 1300	MAY 25,77 0750					
TOTAL CELLS/ML	2400	2800	880	2300	3000					
DIVERSITY: DIVISION	0.2	0.0	0.8	1.0	0.8					
..CLASS	0.2	0.0	0.8	1.0	0.8					
...ORDER	0.7	0.2	1.0	1.5	0.8					
...FAMILY	1.2	1.8	2.3	1.5	0.9					
....GENUS	1.3	2.0	2.4	1.5	0.9					
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										
...CHLOROCUCCALES										
...CHARACIACEAE										
...SCHROEDERIA	--	-	--	-	--	-	21	1	--	-
...COELASTRACEAE										
...COELASTRUM	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
...GOLENKINIA	--	-	--	-	--	-	--	-	--	-
...MICRACTINIUM	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
...ANKISTRUESMUS	60	2	--	-	--	-	--	-	--	-
...CHODATELLA	--	-	--	-	--	-	--	-	--	-
...CLUSTERIOPSIS	--	-	--	-	--	-	--	-	86	3
...DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-
...OOCYSTIS	--	-	--	-	--	-	--	-	--	-
...TREUBARIA	--	-	--	-	--	-	--	-	--	-
...WESTELLA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
...ACTINASTRUM	--	-	--	-	--	-	--	-	--	-
...CRUCIGENIA	--	-	--	-	--	-	--	-	340	11
...SCENEDESMUS	--	-	--	-	--	-	85	4	--	-
...TETRASPORALES										
...PALMELLACEAE										
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-
...VULVICALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	--	-	--	-	--	-	1300#	58	--	-
CHRYSPHYTA										
..BACILLARIOPHYCEAE										
...PENNALES										
...NAVICULACEAE										
...ENTOMONEIS	120	5	--	-	--	-	--	-	--	-
...CENTRALES										
...COSCINODISCACEAE										
...CYCLOTELLA	240	10	110	4	29	3	740#	32	--	-
...MELUSIRA	60	2	--	-	--	-	--	-	--	-
...PENNALES										
...ACHNANTHACEAE										
...CUCULINEIS	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE										
...DIATOMA	--	-	500#	18	170#	19	--	-	--	-
...FRAGILARIACEAE										
...FRAGILARIA	--	-	--	-	57	6	--	-	--	-
...MERIDIIONACEAE										
...MERIDION	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
...CALONEIS	--	-	--	-	29	3	--	-	--	-
...NAVICULA	120	5	920#	33	260#	29	85	4	--	-
...STAURONEIS	--	-	110	4	--	-	--	-	--	-
...NITZSCHACEAE										
...NITZSCHIA	1800#	75	1100#	39	110	13	21	1	--	-
...SURIPELLACEAE										
...SURIPELLA	--	-	56	2	--	-	--	-	--	-
CHRYSPHYCEAE										
...CHRYSDOMONADALES										
...CHROMULINACEAE										
...CHRYSUCCUS	--	-	--	-	--	-	21	1	--	-
...UCHROMONADACEAE										
...DINIIBRYON	--	-	--	-	--	-	--	-	--	-

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

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 27,76 0900		NOV 23,76 0900		DEC 28,76 0900		JAN 27,77 1300		MAY 25,77 0750	
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										
..CHROCOCCALES										
..CHROCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-
....COCCOCHLORIS	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES										
..NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-
....CYLINDRUSPERMUM	--	-	--	-	--	-	--	-	2500#	83
..OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	230#	26	--	-	--	-
....PHORMIDIUM	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)										
..EUGLENOPHYCEAE										
..EUGLENALES										
..EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	--	-	--	-
....TRACHELUMONAS	--	-	--	-	--	-	--	-	86	3

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

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

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued
 PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUN 21,77 1300	JUL 28,77 1520	AUG 16,77 1430	SEP 13,77 0900
TOTAL CELLS/ML	18000	89000	2100	120000
DIVERSITY: DIVISION	1.1	1.1	1.2	1.5
..CLASS	1.2	1.1	1.2	1.5
...ORDER	1.5	1.5	1.7	2.2
...FAMILY	2.7	2.3	2.8	2.2
....GENUS	3.3	2.9	3.2	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	420	2	--	-	14	1	--	-
...COELASTRACEAE								
...COELASTRUM	500	3	--	-	550#	26	--	-
...MICRACTINIACEAE								
...GOLENKINIA	170	1	*	0	--	-	--	-
...MICRACTINIUM	840	5	--	-	--	-	--	-
...DUCYSTACEAE								
...ANKISTRODESMUS	1300	7	3000	3	96	5	--	-
...CHIODATELLA	--	-	2000	2	--	-	--	-
...CLUSTERIOPSIS	--	-	--	-	--	-	--	-
...DICTYOSPHAERIUM	4200#	24	980	1	160	8	--	-
...KIRCHNERIELLA	250	1	1400	2	110	5	2100	2
...DUCYSTIS	--	-	2000	2	--	-	--	-
...TREUBARIA	--	-	--	-	14	1	--	-
...WESTELLA	--	-	1600	2	--	-	--	-
...SCENEDESMACEAE								
...ACTINASTRUM	1300	8	3200	4	--	-	--	-
...CRUCIGENIA	--	-	--	-	160	8	--	-
...SCENEDESMUS	3400#	19	3500	4	82	4	--	-
...TETRASPURALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	--	-	--	-	290	14	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	340	2	1800	2	--	-	39000#	31
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...PENNALES								
...NAVICULACEAE								
...CENTOMUNEIS	--	-	--	-	--	-	--	-
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	1700	10	4900	6	--	-	8400	7
...MELUSIRA	--	-	--	-	--	-	--	-
...PENNALES								
...ACHNANTHACEAE								
...COCCONEIS	--	-	--	-	--	-	2100	2
...DIATOMACEAE								
...DIATOMA	--	-	--	-	41	2	--	-
...FRAGILARIACEAE								
...FRAGILARIA	--	-	--	-	--	-	--	-
...MERIDIOMACEAE								
...MERIDIUM	--	-	--	-	14	1	--	-
...NAVICULACEAE								
...CALONEIS	--	-	--	-	--	-	--	-
...NAVICULA	--	-	--	-	55	3	--	-
...STAUROIDEIS	--	-	--	-	--	-	--	-
...NITZSCHACEAE								
...NITZSCHIA	590	3	980	1	55	3	700	1
...SIPHIRELLACEAE								
...SIPHIRELLA	--	-	--	-	--	-	--	-
CHRYSTOPHYCEAE								
...CHRYSOMONADALES								
...CHROMULINACEAE								
...CHRYSOCOCCLUS	--	-	--	-	--	-	--	-
...CHROMONADACEAE								
...DINOBRYON	*	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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07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUN 21,77 1300		JUL 28,77 1520		AUG 16,77 1430		SEP 13,77 0900	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROCOCCALES								
...CHROCOCCACEAE								
....AGMENELLUM	--	-	3200	4	--	-	--	-
....ANACYSTIS	1900	11	790	1	--	-	37000#	30
...COCCOCHLORIS	--	-	--	-	--	-	11000	9
...HORMOGONIALES								
...NOSTOCACEAE								
....ANABAENA	--	-	3200	4	--	-	--	-
....APHANIZOMENON	--	-	32000#	36	--	-	--	-
....CYLINDROSPERMUM	--	-	--	-	--	-	--	-
...OSCILLATORIA	670	4	24000#	27	440#	21	2100	2
...PHORMIDIUM	--	-	--	-	--	-	16000	13
EUGLENOPHYTA (EUGLENIDS)								
..EUGLENOPHYCEAE								
...EUGENALES								
...EUGENACEAE								
....EUGLENA	--	-	--	-	--	-	2800	2
....TRACHELOMUNAS	--	-	--	-	41	2	3500	3

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

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

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.0	13.0	4.0	---	2.0	5.5	17.0	27.0	29.0	---	30.5	28.0
2	---	18.0	9.0	---	4.5	12.0	18.0	26.0	29.5	32.0	34.0	---
3	24.0	14.0	9.0	---	7.0	9.0	18.0	19.0	29.0	28.5	28.5	---
4	---	---	5.0	---	6.0	9.0	14.5	24.0	30.0	27.0	23.5	---
5	27.0	16.0	6.0	---	1.0	4.0	18.0	18.0	28.0	31.0	30.0	---
6	17.5	19.0	3.0	2.0	8.0	14.0	20.5	26.5	26.5	33.0	---	31.0
7	13.0	15.0	5.0	2.0	6.0	16.0	13.0	27.0	30.0	34.0	---	25.5
8	14.0	10.0	4.0	---	9.0	19.0	23.0	22.0	29.5	28.0	---	30.0
9	23.0	18.0	8.5	---	11.0	16.0	14.0	27.0	26.0	33.5	---	20.0
10	27.0	15.0	1.0	---	12.0	18.0	17.0	18.0	30.5	34.0	---	25.0
11	20.0	---	4.0	---	9.0	15.0	13.0	27.0	28.0	34.0	---	30.0
12	23.0	6.0	5.0	---	13.0	7.0	17.0	25.0	30.0	35.0	21.0	29.0
13	25.0	7.5	6.0	---	15.0	16.0	21.0	18.0	25.0	32.0	22.5	22.0
14	25.0	9.0	8.0	---	10.0	17.0	20.0	21.0	32.0	33.5	25.0	25.0
15	16.0	3.0	7.0	---	11.0	17.5	21.0	19.0	27.0	34.0	29.0	24.5
16	17.0	4.0	8.5	---	11.0	10.5	21.5	25.0	31.0	34.0	31.0	26.5
17	15.0	7.0	7.0	2.0	14.0	16.0	17.0	26.0	31.0	33.0	28.0	25.0
18	12.0	14.0	1.5	---	7.0	18.0	22.0	22.5	32.0	24.0	25.0	24.0
19	11.0	13.0	9.0	3.0	9.5	11.5	25.0	21.0	34.0	32.5	22.0	16.0
20	16.0	10.0	3.0	---	14.0	9.0	26.5	---	32.0	34.0	30.0	26.0
21	13.0	12.0	4.5	3.0	8.0	7.0	13.0	20.0	30.0	30.5	33.0	25.0
22	18.0	---	6.0	3.0	11.0	13.0	16.0	22.0	30.0	35.0	31.0	28.0
23	19.5	11.0	8.0	2.0	10.0	17.0	20.5	25.0	30.0	33.5	34.5	23.0
24	13.0	11.0	---	3.0	11.0	11.0	19.0	25.0	27.0	31.0	26.0	25.0
25	17.5	13.0	5.0	2.0	---	20.0	22.0	25.0	30.0	23.5	27.0	25.5
26	8.0	7.5	7.0	6.5	5.0	16.5	16.5	21.0	29.5	26.0	30.0	28.0
27	8.0	1.0	8.0	7.5	12.0	18.5	20.0	20.0	30.0	34.0	25.5	28.0
28	9.0	---	7.0	1.0	11.0	22.0	27.0	22.0	27.0	35.0	21.0	24.0
29	8.0	---	6.0	3.0	---	18.0	19.5	27.0	32.0	37.0	22.0	22.5
30	10.5	4.0	---	2.0	---	13.0	18.0	30.0	26.0	35.0	28.5	25.0
31	16.0	---	---	3.0	---	6.0	---	30.0	---	28.5	31.0	---
MONTH	17.0	11.0	6.0	---	9.0	13.5	19.0	23.5	29.5	32.0	27.5	25.5
YEAR	MAX	37.0	MIN	1.0	MEAN	18.5						

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18500	12100	11500	---	6280	7220	7950	15900	4320	---	2140	20600
2	---	9500	9500	---	5140	8630	13400	22700	9410	8000	2800	---
3	20000	8560	9350	---	6520	24600	10500	6440	4060	8900	3520	---
4	---	---	4040	---	4460	8500	15100	6080	4450	10000	2910	---
5	20100	7380	4480	---	3660	8420	14000	3650	4900	11500	3990	---
6	19100	6950	7830	27000	5000	7640	7820	5200	4900	13300	---	5400
7	19200	6850	5730	11100	4440	9440	8990	5130	5190	14200	---	6390
8	21900	6150	7500	---	5760	10200	8680	5200	5850	36800	---	8050
9	20100	6120	5470	---	6100	11900	8640	6240	5010	31800	---	8760
10	18100	7460	7120	---	6240	12600	9110	5750	5440	20900	---	9740
11	19200	---	5900	---	6670	13700	8090	3190	5980	5930	---	11500
12	20500	5890	7390	---	9270	16700	9260	2940	6830	9290	1890	22400
13	20000	5440	5820	---	5750	8950	16100	3100	1220	13500	44000	42100
14	19200	5560	5160	---	7910	8210	22400	3620	2140	16200	3940	17000
15	20600	6210	5880	---	4960	11200	52300	4200	2720	20200	5120	5960
16	20600	6080	5650	---	5540	8000	24100	4280	3790	23100	6420	19300
17	20400	5740	6600	12100	5760	7130	18000	13600	4420	23200	33400	4370
18	20200	6530	6830	---	5970	12300	29900	3970	5340	23100	13100	5720
19	19300	7610	8260	11000	5740	11300	29000	2660	6280	24400	20700	4810
20	18900	6990	6540	---	4960	11600	60600	---	7150	24800	11500	7970
21	18100	6550	8600	10200	6860	8420	8800	10600	7960	21400	5210	10400
22	17100	---	6020	8850	7410	8140	13800	5660	9800	22500	4760	11400
23	16800	4990	7940	15500	27700	7770	5630	4930	8850	23400	3350	14100
24	16300	5070	---	8560	4710	8790	3450	3100	12900	24300	4280	19600
25	18400	8090	7290	5720	---	11900	2690	3040	6020	19800	39200	15500
26	15600	9660	5080	6030	5830	11800	3360	5240	3970	99100	6500	14300
27	57100	12000	6710	5500	5140	14400	3950	8310	5440	37100	6140	17000
28	26800	---	6390	4580	5840	67000	4390	3560	7270	10300	18600	20300
29	19700	---	5190	6970	---	16600	7780	2600	8620	16800	12400	25900
30	67200	10200	---	5640	---	11100	9260	2050	7840	24600	16400	30500
31	19300	---	---	4320	---	7810	---	13200	---	2600	32200	---
MONTH	22400	7350	6780	---	6650	12600	14600	6200	5940	21400	12200	14600
YEAR	MAX	99100	MIN	1220	MEAN	11800						

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	1.5	2.0	---	9.5	23.0	---	26.0	24.0	24.5
2			---	2.0	3.5	---	11.5	21.0	---	25.5	26.0	---
3			---	1.0	3.5	---	10.5	22.0	---	25.0	26.0	---
4			---	1.5	3.5	---	7.5	---	---	24.5	26.5	---
5			---	1.0	3.5	---	11.0	---	---	24.0	24.5	---
6			---	2.0	6.0	---	15.0	---	---	25.0	---	26.5
7			---	1.0	2.5	---	18.5	---	---	25.0	---	27.5
8			---	1.0	4.0	---	18.0	---	---	27.0	---	28.5
9			6.5	1.0	6.0	11.0	18.5	---	---	27.5	---	21.0
10			2.0	---	8.5	11.5	18.5	---	---	27.0	---	22.5
11			3.0	---	9.0	10.5	17.0	---	---	26.5	---	29.0
12			2.5	---	8.5	8.0	15.5	---	---	27.5	---	27.5
13			3.0	---	11.0	---	16.5	---	---	25.0	---	23.0
14			4.5	---	7.5	9.5	16.5	---	---	26.0	27.0	21.5
15			3.0	---	7.0	11.5	17.0	---	---	29.0	29.0	21.5
16			5.0	---	5.5	9.5	18.0	---	---	---	27.5	24.0
17			3.0	---	8.5	11.5	18.5	---	---	---	26.0	22.5
18			5.0	---	8.5	10.5	19.0	---	---	---	23.5	23.0
19			6.0	---	7.5	9.5	20.0	---	---	---	23.5	19.5
20			1.5	---	8.5	8.0	17.5	---	---	---	26.0	23.5
21			2.5	---	10.5	9.5	12.5	---	---	---	28.0	24.5
22			5.0	---	10.5	8.5	13.5	---	---	---	29.0	26.5
23			6.0	---	10.5	12.5	15.0	---	---	---	30.0	22.5
24			3.0	---	9.0	15.0	15.0	---	---	---	27.0	20.0
25			2.5	---	9.0	15.0	16.5	---	---	---	29.0	22.5
26			4.0	5.0	7.0	15.0	13.0	---	---	---	28.0	21.5
27			4.5	4.0	---	15.0	17.5	---	---	24.5	25.0	24.0
28			5.0	0.5	---	14.5	20.5	---	---	26.5	21.0	23.0
29			3.5	0.5	---	11.0	17.5	---	26.5	28.5	21.0	22.0
30			1.5	1.0	---	11.0	18.5	---	26.0	27.5	27.5	24.0
31			1.5	0.5	---	9.5	---	---	---	25.0	26.5	---
MEAN			3.5	1.5	7.0	11.5	16.0	22.0	26.5	26.0	26.0	23.5
WTR YR 1977	MEAN	15.0		MAX	30.0		MIN	0.5				

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	8260	5960	---	8000	15900	---	9290	---	20900
2			---	7770	5260	---	12300	20800	---	8220	---	---
3			---	16400	8180	---	10800	6610	---	8840	3700	---
4			---	17400	4240	---	14700	---	---	10100	3240	---
5			---	21300	3810	---	13100	---	---	11500	3910	---
6			---	12600	4830	---	7990	---	---	13000	---	5490
7			---	23700	4530	---	9970	---	---	13900	---	6380
8			---	18500	5180	10100	8880	---	---	46900	---	8080
9			5490	19600	6390	12100	8490	---	---	37700	---	6820
10			6690	---	6340	12800	10200	---	---	21200	---	9720
11			5860	---	6720	14200	9190	---	---	5550	---	11400
12			6770	---	9250	15500	9960	---	---	8390	---	22200
13			5900	---	6080	9470	16100	---	---	12900	---	36300
14			4970	---	7010	8430	20900	---	---	15400	4120	16400
15			5990	---	4990	11400	49300	---	---	19800	7170	7610
16			5560	---	5480	8270	24900	---	---	---	7840	14300
17			6240	---	6480	7890	23600	---	---	---	21100	4770
18			7190	---	7230	13600	29000	---	---	---	14200	5710
19			7630	---	5770	10400	30700	---	---	---	29600	4880
20			7540	---	4750	12800	47800	---	---	---	24600	7790
21			8230	---	6640	8580	9670	---	---	---	5870	9980
22			7610	---	4110	7680	12600	---	9800	---	5670	11000
23			9280	---	30300	8110	5890	---	8850	---	3280	14300
24			6720	---	4160	8950	4020	---	12900	---	4270	19800
25			6470	5720	6600	12000	---	---	6020	---	40400	15200
26			4740	5680	---	8680	---	---	3970	---	7830	13700
27			6390	4450	---	16600	---	---	5440	43500	6170	17800
28			7200	5300	---	56100	---	---	7270	17100	16100	20200
29			5300	6880	---	20800	---	---	9000	15700	12600	25900
30			6080	4340	---	9900	10300	---	9030	---	15000	30200
31			7740	4110	---	7900	---	---	---	---	26900	---
MEAN			6600	11400	6810	13000	16300	14400	8030	17700	12600	14200
WTR YR 1977	MEAN	12100		MAX	56100		MIN	3240				

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	2600	1700	---	2500	5400	---	3000	---	7900
2			---	2400	1400	---	4300	7900	---	2600	---	---
3			---	6000	2600	---	3700	1900	---	2900	720	---
4			---	6400	940	---	5300	---	---	3400	520	---
5			---	8100	760	---	4600	---	---	4000	600	---
6			---	4400	1200	---	2500	---	---	4600	---	1500
7			---	9100	1100	---	3300	---	---	5000	---	1800
8			---	6900	1300	3400	2900	---	---	19000	---	2500
9			1500	7400	1800	4200	2700	---	---	15000	---	2900
10			2000	---	1800	4500	3400	---	---	8000	---	3200
11			1600	---	2000	5100	3000	---	---	1500	---	3900
12			2000	---	3000	5600	3300	---	---	2700	---	8400
13			1600	---	1700	3100	5900	---	---	4600	---	14000
14			1200	---	2100	2700	7900	---	---	5600	890	6000
15			1700	---	1300	3900	20000	---	---	7400	2200	2300
16			1500	---	1500	2600	9600	---	---	---	2400	5100
17			1800	---	1900	2500	9000	---	---	---	8000	1200
18			2200	---	2200	4800	11000	---	---	---	5100	1600
19			2400	---	1600	3500	12000	---	---	---	12000	1200
20			2300	---	1200	4500	19000	---	---	---	9400	2400
21			2600	---	1900	2800	3200	---	---	---	1600	3300
22			2300	---	890	2400	4400	---	3300	---	1500	3800
23			3000	---	12000	2600	1600	---	2900	---	540	5100
24			2000	---	910	2900	850	---	4600	---	950	7400
25			1900	1600	1900	4200	---	---	1700	---	16000	5500
26			1100	1500	---	2800	---	---	830	---	2400	4900
27			1800	1000	---	6100	---	---	1400	17000	1700	6600
28			2200	1400	---	23000	---	---	2200	6300	5900	7600
29			1400	2000	---	7900	---	---	2900	5700	4400	10000
30			1700	980	---	3300	3500	---	2900	---	5400	12000
31			2400	890	---	2500	---	---	---	---	10000	---
MEAN			1900	3900	2000	4600	6000	5200	2500	6600	4400	5100
WTR YR 1977	MEAN		4200		MAX	23000		MIN	520			

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	360	320	---	350	490	---	380	---	580
2			---	350	310	---	430	560	---	360	---	---
3			---	500	360	---	400	330	---	370	280	---
4			---	520	290	---	470	---	---	390	270	---
5			---	590	280	---	440	---	---	420	280	---
6			---	440	300	---	350	---	---	440	---	310
7			---	630	290	---	390	---	---	460	---	330
8			---	540	300	390	370	---	---	1000	---	360
9			310	560	330	430	360	---	---	880	---	370
10			330	---	320	440	390	---	---	590	---	380
11			320	---	330	460	380	---	---	310	---	410
12			330	---	380	490	390	---	---	360	---	610
13			320	---	320	380	500	---	---	440	---	860
14			300	---	340	360	580	---	---	490	280	500
15			320	---	300	410	1100	---	---	560	340	350
16			310	---	310	360	660	---	---	---	350	470
17			320	---	330	350	630	---	---	---	590	300
18			340	---	340	450	730	---	---	---	460	310
19			350	---	310	400	760	---	---	---	740	300
20			350	---	300	440	1100	---	---	---	650	350
21			360	---	330	360	380	---	---	---	320	390
22			350	---	280	350	440	---	390	---	310	410
23			380	---	750	360	320	---	370	---	270	470
24			330	---	290	370	280	---	440	---	290	560
25			330	310	330	430	---	---	320	---	930	480
26			300	310	---	370	---	---	280	---	350	460
27			330	290	---	510	---	---	310	990	320	530
28			340	310	---	1200	---	---	340	520	500	570
29			310	330	---	580	---	---	370	490	440	670
30			320	290	---	390	390	---	370	---	480	750
31			350	260	---	350	---	---	---	---	690	---
MEAN			330	410	330	440	500	470	350	530	440	460
WTR YR 1977	MEAN		430		MAX	1200		MIN	270			

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	175.00	505.00	---	101.00	1000.00	---	243.00	---	2470.00
2			---	194.00	491.00	---	151.00	4240.00	---	161.00	---	---
3			---	437.00	1330.00	---	130.00	1720.00	---	141.00	54.40	---
4			---	415.00	505.00	---	186.00	---	---	138.00	33.70	---
5			---	547.00	425.00	---	149.00	---	---	130.00	43.20	---
6			---	297.00	457.00	---	87.70	---	---	108.00	---	454.00
7			---	565.00	315.00	---	134.00	---	---	83.70	---	520.00
8			---	391.00	326.00	330.00	149.00	---	---	339.00	---	574.00
9		194.00	400.00	457.00	386.00	124.00	---	---	---	283.00	---	548.00
10		346.00	---	437.00	401.00	129.00	---	---	---	151.00	---	467.00
11			164.00	---	481.00	427.00	89.10	---	---	28.30	---	484.00
12			200.00	---	721.00	408.00	107.00	---	---	51.00	---	930.00
13			186.00	---	386.00	201.00	223.00	---	---	64.60	---	1850.00
14			227.00	---	482.00	168.00	299.00	---	---	33.30	519.00	972.00
15			262.00	---	305.00	211.00	1300.00	---	---	12.60	820.00	528.00
16			202.00	---	352.00	133.00	441.00	---	---	---	525.00	1780.00
17			243.00	---	431.00	128.00	656.00	---	---	---	1380.00	648.00
18			303.00	---	487.00	220.00	624.00	---	---	---	826.00	950.00
19			318.00	---	350.00	142.00	1230.00	---	---	---	1430.00	619.00
20			286.00	---	262.00	158.00	4210.00	---	---	---	1220.00	959.00
21			168.00	---	441.00	98.30	639.00	---	---	---	298.00	1030.00
22			174.00	---	214.00	77.80	1580.00	---	1.34	---	324.00	923.00
23			227.00	---	3080.00	84.20	1090.00	---	7.83	---	121.00	1020.00
24			363.00	---	209.00	102.00	581.00	---	422.00	---	198.00	1200.00
25			374.00	419.00	441.00	147.00	---	---	1900.00	---	2980.00	713.00
26			172.00	567.00	---	106.00	---	---	1790.00	---	395.00	516.00
27			262.00	445.00	---	362.00	---	---	1430.00	1.38	211.00	624.00
28			321.00	378.00	---	1860.00	---	---	927.00	23.80	1080.00	616.00
29			204.00	486.00	---	469.00	---	---	462.00	29.20	1730.00	729.00
30			138.00	291.00	---	187.00	652.00	---	313.00	---	2170.00	810.00
31			130.00	288.00	---	115.00	---	---	---	---	3860.00	---
MEAN			238.00	393.00	556.00	288.00	602.00	2320.00	806.00	112.00	963.00	882.00
WTR YR 1977	MEAN	563.00			MAX	4240.00		MIN	1.34			

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	24.30	95.00	---	14.20	84.70	---	30.80	---	182.00
2			---	28.30	109.00	---	15.10	312.00	---	22.40	---	---
3			---	36.40	184.00	---	14.00	298.00	---	18.00	21.20	---
4			---	33.70	156.00	---	16.50	---	---	15.80	17.50	---
5			---	39.80	156.00	---	14.30	---	---	13.60	15.10	---
6			---	29.70	114.00	---	12.30	---	---	10.30	---	93.70
7			---	39.10	83.00	---	15.80	---	---	7.70	---	95.30
8			---	30.60	75.30	37.90	19.00	---	---	17.80	---	82.60
9		40.20	30.20	83.80	39.50	16.50	---	---	---	16.60	---	69.90
10		57.00	---	77.80	39.20	14.70	---	---	---	11.20	---	55.40
11			32.80	---	79.30	38.50	11.30	---	---	5.86	---	50.90
12			33.00	---	91.30	35.70	12.60	---	---	6.80	---	67.50
13			37.20	---	72.60	24.60	18.90	---	---	6.18	---	114.00
14			56.70	---	78.00	22.40	21.90	---	---	2.91	163.00	81.00
15			49.20	---	70.50	22.10	71.30	---	---	.95	127.00	80.30
16			41.80	---	72.80	18.50	30.30	---	---	---	76.50	164.00
17			43.20	---	74.80	18.00	45.90	---	---	---	102.00	162.00
18			46.80	---	75.30	20.70	41.40	---	---	---	74.50	184.00
19			46.30	---	67.80	16.20	78.00	---	---	---	87.90	155.00
20			43.50	---	65.60	15.40	244.00	---	---	---	84.20	140.00
21			23.30	---	76.60	12.60	75.90	---	---	---	59.60	122.00
22			26.50	---	67.30	11.30	158.00	---	.16	---	67.00	99.60
23			28.70	---	192.00	11.70	219.00	---	1.00	---	60.50	93.90
24			63.30	---	66.60	13.00	191.00	---	40.40	---	60.30	90.70
25			65.00	81.20	76.60	15.10	---	---	357.00	---	173.00	62.20
26			47.00	117.00	---	14.00	---	---	604.00	---	57.60	48.40
27			48.10	129.00	---	30.30	---	---	316.00	---	39.70	50.10
28			49.60	83.70	---	97.20	---	---	143.00	1.97	91.80	46.20
29			45.20	80.20	---	34.50	---	---	58.90	2.51	173.00	48.80
30			25.90	86.10	---	22.10	72.70	---	40.00	---	193.00	50.60
31			18.90	90.70	---	16.10	---	---	---	---	266.00	---
MEAN			42.10	60.00	94.40	26.10	57.80	232.00	173.00	10.60	95.70	95.80
WTR YR 1977	MEAN	70.00			MAX	604.00		MIN	.08			

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	5120	3500	---	4940	10500	---	5850	---	14000
2			---	4770	3000	---	7970	14000	---	5090	---	---
3			---	10900	5060	---	6910	3950	---	5530	1900	---
4			---	11600	2280	---	9660	---	---	6420	1580	---
5			---	14300	1980	---	8530	---	---	7410	2050	---
6			---	8180	2700	---	4930	---	---	8460	---	3160
7			---	16000	2490	---	6330	---	---	9100	---	3790
8			---	12300	2950	6420	5560	---	---	32400	---	4990
9			3160	13100	3800	7830	5280	---	---	25900	---	5510
10			4150	---	3760	8320	6490	---	---	14300	---	6150
11			3420	---	4030	9310	5770	---	---	3210	---	7330
12			4070	---	5820	10200	6320	---	---	5210	---	15000
13			3450	---	3580	5970	10700	---	---	8390	---	24900
14			2800	---	4240	5240	14000	---	---	10200	2200	10900
15			3520	---	2810	7330	34100	---	---	13300	4350	4660
16			3210	---	3160	5130	16900	---	---	---	4820	9380
17			3690	---	3860	4860	15900	---	---	---	14200	2660
18			4360	---	4590	8890	19800	---	---	---	9310	3320
19			4670	---	3360	6630	21000	---	---	---	20200	2730
20			4610	---	2640	8320	33000	---	---	---	16600	4790
21			5100	---	3980	5340	6110	---	---	---	3430	6330
22			4660	---	2190	4710	8180	---	6210	---	3290	7050
23			5840	---	20700	5010	3450	---	5530	---	1600	9380
24			4030	---	2230	5610	2130	---	8390	---	2300	13300
25			3860	3330	3950	7760	---	---	3540	---	27800	10000
26			2630	3300	---	5420	---	---	2090	---	4820	8960
27			3800	2430	---	11000	---	---	3130	30000	3640	11900
28			4370	3030	---	38900	---	---	4420	11400	10700	13500
29			3030	4140	---	14000	---	---	5640	10400	8180	17600
30			3580	2350	---	6280	6560	---	5660	---	9870	20600
31			4750	2190	---	4860	---	---	---	---	18300	---
MEAN			3950	7320	4100	8470	10800	9480	4960	11800	8150	9300
WTR YR 1977	MEAN	7800		MAX	38900		MIN	1580				

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	346.00	1040.00	---	200.00	1810.00	---	474.00	---	4380.00
2			---	386.00	1050.00	---	280.00	7520.00	---	316.00	---	---
3			---	795.00	2580.00	---	243.00	3570.00	---	269.00	144.00	---
4			---	752.00	1230.00	---	339.00	---	---	260.00	102.00	---
5			---	965.00	1110.00	---	276.00	---	---	240.00	111.00	---
6			---	552.00	1030.00	---	173.00	---	---	199.00	---	956.00
7			---	994.00	713.00	---	256.00	---	---	152.00	---	1090.00
8			---	697.00	741.00	624.00	285.00	---	---	577.00	---	1150.00
9			410.00	707.00	964.00	719.00	242.00	---	---	490.00	---	1040.00
10			717.00	---	914.00	741.00	245.00	---	---	270.00	---	897.00
11			351.00	---	968.00	779.00	171.00	---	---	60.70	---	910.00
12			407.00	---	1400.00	744.00	205.00	---	---	98.50	---	1660.00
13			401.00	---	812.00	387.00	404.00	---	---	118.00	---	3290.00
14			529.00	---	973.00	325.00	529.00	---	---	60.60	1280.00	1770.00
15			542.00	---	660.00	396.00	2210.00	---	---	22.60	1620.00	1070.00
16			433.00	---	742.00	263.00	776.00	---	---	---	1050.00	3270.00
17			498.00	---	875.00	249.00	1160.00	---	---	---	2450.00	1440.00
18			600.00	---	972.00	408.00	1120.00	---	---	---	1510.00	1970.00
19			618.00	---	735.00	269.00	2150.00	---	---	---	2400.00	1410.00
20			573.00	---	577.00	292.00	7310.00	---	---	---	2150.00	1910.00
21			330.00	---	924.00	187.00	1220.00	---	---	---	639.00	1980.00
22			552.00	---	526.00	153.00	2940.00	---	2.52	---	711.00	1710.00
23			442.00	---	5310.00	162.00	2360.00	---	14.90	---	359.00	1870.00
24			773.00	---	512.00	197.00	1460.00	---	770.00	---	478.00	2150.00
25			761.00	872.00	917.00	272.00	---	---	3950.00	---	5180.00	1300.00
26			412.00	1250.00	---	205.00	---	---	4510.00	---	794.00	943.00
27			554.00	1080.00	---	653.00	---	---	3190.00	2.43	452.00	1120.00
28			637.00	818.00	---	3150.00	---	---	1860.00	43.10	1960.00	1090.00
29			442.00	1010.00	---	832.00	---	---	898.00	53.40	3220.00	1280.00
30			290.00	698.00	---	356.00	1220.00	---	611.00	---	3970.00	1390.00
31			256.00	710.00	---	223.00	---	---	---	---	7070.00	---
MEAN			493.00	790.00	1130.00	524.00	1110.00	4300.00	1760.00	206.00	1790.00	1660.00
WTR YR 1977	MEAN	1080.00		MAX	7520.00		MIN	2.43				

ARKANSAS RIVER BASIN

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07157960 BUFFALO CREEK NEAR LOVEDALE, OK

LOCATION.--Lat 36°46'08", long 99°21'58", in NW 1/4 NW 1/4 sec.4, T.26 N., R.20 W., Harper County, Hydrologic Unit 11050001, near center of channel on downstream side of pier of bridge on State Highway 34, 1.2 mi (1.9 km) east of Lovedale, 1.3 mi (2.1 km) upstream from Sleeping Bear Creek, and at mile 7.6 (12.2 km).

DRAINAGE AREA.--408 mi² (1,057 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,602.56 ft (488.460 m) above mean sea level (State Highway Department bench mark).

REMARKS.--Records fair.

AVERAGE DISCHARGE.--11 years, 10.2 ft³/s (0.289 m³/s), 7390 acre-ft/yr (9.11 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,800 ft³/s (447 m³/s) Aug. 9, 1967 gage height, 14.80 ft (4.511 m), extended above 7,000 ft³/s (198 m³/s); no flow each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 531 ft³/s (15.0 m³/s) at 2200 Aug. 28, gage height, 9.07 ft (2.765 m), no peak above base of 1,000 ft³/s (28.3 m³/s), no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.00	.24	1.9	2.3	3.6	3.4	2.7	4.0	3.1	.13	39
2	.18	.00	.24	2.0	2.3	3.5	3.4	5.9	5.4	2.9	.00	6.7
3	.18	.00	.18	2.1	2.4	3.5	3.1	5.1	5.3	2.5	.00	2.3
4	.06	.00	.18	2.2	2.4	3.4	2.8	3.7	4.5	2.1	.00	1.5
5	.06	.00	.18	2.2	2.2	3.3	2.8	3.2	4.1	1.7	.00	1.1
6	.18	.00	.11	2.3	2.3	3.3	2.9	3.1	3.6	1.2	.00	.87
7	.36	.00	.09	2.4	2.2	3.4	3.0	2.7	3.4	.73	.00	.69
8	.42	.00	.12	2.4	2.3	3.4	2.9	2.3	3.2	3.7	.00	.58
9	.42	.00	.16	2.3	2.4	3.2	2.9	2.2	2.9	3.1	.00	.47
10	.36	.00	.13	2.3	2.6	3.3	2.6	2.2	2.5	2.6	.00	.41
11	.30	.00	.12	2.3	2.7	3.2	2.4	2.9	2.2	2.2	.00	.49
12	.12	.00	.21	2.3	2.9	3.1	2.4	2.8	1.9	2.0	.00	.46
13	.10	.02	.25	2.3	3.0	3.2	2.7	2.6	1.7	1.5	9.7	1.3
14	.14	.00	.28	2.4	2.8	3.1	3.0	2.4	1.4	1.0	23	2.1
15	.04	.00	.34	2.4	2.7	3.0	3.1	2.2	1.0	.51	1.5	1.0
16	.00	.04	.40	2.4	2.7	2.6	3.2	2.1	.52	.12	.66	1.7
17	.00	.12	.47	2.4	3.0	2.8	3.5	2.3	.10	.00	.51	1.9
18	.00	.16	.51	2.4	2.9	2.9	3.7	2.8	.00	.00	.44	1.1
19	.00	.20	.54	2.4	2.8	2.8	3.4	2.7	.00	.00	.59	.74
20	.00	.10	.54	2.5	3.0	2.9	3.7	3.6	.00	.00	.54	.61
21	.00	.06	.56	2.6	3.0	2.8	3.5	200	.00	.00	.36	.53
22	.00	.15	1.9	2.6	3.2	2.9	3.6	51	.00	.00	.24	.40
23	.00	.18	1.6	2.7	3.4	2.7	3.5	18	.71	.00	.20	.34
24	.00	.20	1.3	2.9	3.6	2.7	3.3	14	93	.00	.13	.28
25	.00	.27	2.5	3.0	3.5	2.7	3.2	7.8	30	.00	.10	.22
26	.00	.30	2.9	2.9	3.4	2.8	3.2	5.9	7.3	.00	.00	.18
27	.00	.20	3.5	2.9	3.6	3.0	3.0	5.2	4.7	31	.00	.18
28	.00	.22	3.0	2.5	3.5	3.5	2.8	4.6	3.9	6.5	115	.19
29	.00	.22	2.4	2.4	---	3.6	2.8	4.2	3.6	1.0	133	.24
30	.00	.20	2.2	2.3	---	3.5	2.7	3.7	3.2	1.4	7.9	.25
31	.00	---	1.9	2.3	---	3.5	---	4.0	---	.51	75	---
TOTAL	3.10	2.64	29.05	75.0	79.1	97.2	92.5	377.9	194.13	71.37	369.00	67.83
MEAN	.10	.088	.94	2.42	2.83	3.14	3.08	12.2	6.47	2.30	11.9	2.26
MAX	.42	.30	3.5	3.0	3.6	3.6	3.7	200	93	31	133	39
MIN	.00	.00	.09	1.9	2.2	2.6	2.4	2.1	.00	.00	.00	.18
AC-FT	6.1	5.2	58	149	157	193	183	750	385	142	732	135
CAL YR 1976	TOTAL	4545.51	MEAN	12.4	MAX	1180	MIN	.00	AC-FT	9020		
WTR YR 1977	TOTAL	1458.82	MEAN	4.00	MAX	200	MIN	.00	AC-FT	2890		

ARKANSAS RIVER BASIN

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; minimum daily, -1.0°C Feb. 16, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,940 micromhos April 9; minimum daily, 525 micromhos Aug. 29.

WATER TEMPERATURE: Maximum daily, 32.0°C June 3, 4, 19, July 11, 30; minimum daily, 1.0°C Dec. 27, 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
05...	--	--	1740	.12	3100	7.9	--	--	--	--
13...	1028	9740	1030	14	3400	7.7	15.0	18	8.6	89
NOV										
24...	--	--	1005	.18	2280	7.8	--	--	--	--
30...	--	--	1429	.24	3130	7.8	--	--	--	--
DEC										
01...	--	--	1605	.24	3120	7.7	--	--	--	--
15...	1028	9740	0900	.36	3600	7.6	1.0	10	16.0	114
19...	--	--	1655	.54	3000	7.8	--	--	--	--
31...	--	--	1750	1.8	3400	7.8	--	--	--	--
FEB										
13...	--	--	0915	3.0	3130	7.9	--	--	--	--
18...	--	--	1825	3.0	3300	7.8	--	--	--	--
27...	--	--	--	3.6	3440	7.9	--	--	--	--
MAR										
01...	--	--	--	3.6	3440	7.9	--	--	--	--
08...	1028	9740	1700	3.5	3000	8.9	12.0	12	9.0	82
13...	--	--	0930	3.2	3620	7.8	--	--	--	--
26...	--	--	1745	2.8	3790	7.9	--	--	--	--
APR										
09...	--	--	1750	2.8	3900	7.9	--	--	--	--
14...	1028	9740	0900	3.0	3000	7.9	17.0	17	7.1	78
22...	--	--	0930	3.6	3580	7.6	--	--	--	--
30...	--	--	1535	2.8	3740	7.8	--	--	--	--
MAY										
01...	--	--	1015	2.6	3760	7.5	--	--	--	--
04...	1028	9740	0930	3.8	1610	7.6	19.0	5	5.4	62
05...	--	--	1455	3.2	2260	7.4	--	--	--	--
21...	--	--	1910	151	910	7.3	--	--	--	--
JUN										
06...	--	--	1540	3.5	2120	7.7	--	--	--	--
07...	1028	9740	1600	3.5	2200	7.7	27.0	15	6.9	91
26...	--	--	1340	6.7	974	7.4	--	--	--	--
JUL										
10...	--	--	2055	2.4	2270	7.5	--	--	--	--
12...	1028	9740	1615	2.0	2350	7.5	30.0	17	5.8	79
30...	--	--	1630	1.2	835	7.5	--	--	--	--
AUG										
22...	--	--	1735	.24	1870	7.8	--	--	--	--
29...	--	--	1615	49	525	7.8	--	--	--	--
SEP										
01...	--	--	2026	25	670	7.5	--	--	--	--
19...	--	--	1735	.68	1660	7.8	--	--	--	--
30...	--	--	1735	.24	2630	7.6	--	--	--	--

ARKANSAS RIVER BASIN

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07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT										
05...	--	1900	1700	--	580	--	100	--	110	11
13...	14	--	--	--	--	--	--	--	--	--
NOV										
24...	--	1900	1700	--	580	--	110	--	55	6
30...	--	2000	1900	--	610	--	110	--	57	6
DEC										
01...	--	2000	1800	--	610	--	110	--	58	6
15...	8	--	--	--	--	--	--	--	--	--
19...	--	1900	1700	--	560	--	110	--	91	10
31...	--	2100	1900	--	600	--	140	--	140	13
FEB										
13...	--	1700	1600	--	500	--	120	--	130	14
18...	--	1900	1800	--	540	--	130	--	140	14
27...	--	2000	1800	--	560	--	140	--	150	14
MAR										
01...	--	2000	1900	--	580	--	140	--	150	14
08...	13	--	--	--	--	--	--	--	--	--
13...	--	2100	2000	--	600	--	150	--	160	14
26...	--	2300	2100	--	640	--	160	--	170	14
APR										
09...	--	2300	2100	--	640	--	160	--	180	15
14...	14	--	--	--	--	--	--	--	--	--
22...	--	2000	1800	--	560	--	140	--	170	16
30...	--	2200	2000	--	600	--	160	--	180	15
MAY										
01...	--	2200	2100	--	620	--	150	--	180	15
04...	21	--	--	--	--	--	--	--	--	--
05...	--	1100	1000	--	330	--	77	--	83	14
21...	--	390	330	--	110	--	29	--	28	13
JUN										
06...	--	1100	960	--	310	--	90	--	79	13
07...	15	--	--	--	--	--	--	--	--	--
26...	--	450	360	--	140	--	25	--	26	11
JUL										
10...	--	1200	1100	--	380	--	69	--	77	12
12...	21	--	--	--	--	--	--	--	--	--
30...	--	370	270	--	100	--	28	--	27	13
AUG										
22...	--	1000	860	--	290	--	66	--	71	13
29...	--	250	180	--	74	--	15	--	9.3	7
SEP										
01...	--	300	210	--	86	--	21	--	19	12
19...	--	870	730	--	260	--	54	--	48	11
30...	--	1500	1400	--	450	--	98	--	15	2

ARKANSAS RIVER BASIN

07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	CAR- BONATE (CO ₃) (MG/L)	ALKA- LINITY AS CACO ₃ (MG/L)	CARBON DIOXIDE (CO ₂) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
05...	1.1	--	8.5	185	0	152	3.7	1700	150	--
13...	--	--	--	--	--	--	--	--	--	.3
NOV										
24...	.5	--	4.9	222	0	182	5.6	1600	95	--
30...	.6	--	5.2	149	0	122	3.8	1800	96	--
DEC										
01...	.6	--	5.4	179	0	147	5.7	1700	96	--
15...	--	--	--	--	--	--	--	--	--	1.1
19...	.9	--	5.3	150	0	123	3.8	1700	160	--
31...	1.3	--	5.9	168	0	138	4.3	1900	210	--
FEB										
13...	1.4	--	6.0	155	0	127	3.1	1500	230	--
18...	1.4	--	5.9	135	0	110	3.4	1800	180	--
27...	1.5	--	6.4	179	0	147	3.6	1900	200	--
MAR										
01...	1.5	--	6.6	170	0	140	3.4	1900	200	--
08...	--	--	--	--	--	--	--	--	--	.4
13...	1.5	--	6.8	190	0	160	4.8	2000	210	--
26...	1.6	--	7.0	200	0	160	4.0	2100	230	--
APR										
09...	1.6	--	7.2	180	0	148	3.6	2000	240	--
14...	--	--	--	--	--	--	--	--	--	.4
22...	1.7	--	6.9	170	0	139	6.8	1800	230	--
30...	1.7	--	6.9	170	0	139	4.3	2000	220	--
MAY										
01...	1.7	--	6.7	130	0	110	6.6	2000	240	--
04...	--	--	--	--	--	--	--	--	--	.2
05...	1.1	--	6.5	120	0	98	7.6	1000	99	--
21...	.6	--	5.2	84	0	69	6.7	350	32	--
JUN										
06...	1.0	--	7.6	220	0	180	7.0	1000	79	--
07...	--	--	--	--	--	--	--	--	--	.4
26...	.5	--	9.4	110	0	90	7.0	370	31	--
JUL										
10...	1.0	--	11	160	0	130	8.1	1100	100	--
12...	--	--	--	--	--	--	--	--	--	.3
30...	.6	--	12	120	0	98	6.1	300	37	--
AUG										
22...	1.0	--	9.2	170	0	140	4.3	850	83	--
29...	.3	--	6.6	87	0	71	2.2	180	10	--
SEP										
01...	.5	--	10	110	0	90	5.6	220	16	--
19...	.7	--	7.7	170	0	140	4.3	740	59	--
30...	.2	--	7.9	160	0	131	6.4	1400	120	--

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07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

[illegible]

07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3040	2800	3120		---	3440	3790	3760	2280	1830	2570	670
2	3020	2830	3140		---	3460	3830	3630	2320	1920	2550	1070
3	3030	2910	3010		---	3440	3840	2170	2240	2020	2530	1130
4	3040	2930	2930		---	3490	3870	2020	2250	2070	2570	1270
5	3100	2960	---		---	3520	3890	2260	2140	2100	2590	1410
6	3060	---	---		---	3530	3860	2430	2120	2150	2600	1510
7	---	2890	---		---	3520	3880	2520	2150	2180	2620	1670
8	3020	2900	2910		---	3510	3890	2630	2220	1860	2660	1780
9	3010	2920	2930		---	3560	3900	2700	2270	2210	2680	1870
10	3010	2940	2930		---	3570	---	2750	2340	2270	2700	1980
11	2990	2970	2910		---	3600	---	2860	2360	2350	2710	2050
12	3000	2920	2910		---	3600	---	2890	2390	2320	2700	2120
13	2970	2920	2980		3130	3620	---	2900	2420	2370	1570	2030
14	3020	3000	2960		3180	3640	---	2600	2440	2400	1180	1930
15	3000	---	3040		3210	3650	---	2560	2470	2440	1190	---
16	2980	2960	3090		3240	3640	---	2610	2510	2470	1370	1780
17	3030	---	3150		3240	3670	---	2570	2550	2500	1440	1990
18	3010	---	---		3300	3680	3570	2460	---	---	1520	1550
19	3030	---	2860		3330	3710	3660	2600	2600	2540	1580	1660
20	3050	---	2530		3350	3730	3520	---	2620	2630	---	1870
21	3040	---	2950		---	3750	3600	910	2640	2650	1740	---
22	3010	2990	2980		3390	3760	3580	1090	2680	2670	1870	2100
23	3020	2960	3060		3360	3760	3610	1370	---	2670	1950	2240
24	---	2280	3010		3390	3770	3650	1490	825	2760	1980	2340
25	3010	---	2910		3390	3780	3640	1520	1050	2770	2060	2400
26	3020	---	---		3420	3790	3680	1930	974	2770	---	2460
27	---	2990	3270		3440	3790	3700	1930	1170	2950	---	2510
28	2990	3040	3270		---	---	3700	1940	1370	---	1080	2570
29	2900	---	3300		---	3690	3720	2060	1560	865	525	2590
30	2880	3130	3350		---	3750	3740	2120	1730	835	845	2630
31	2900	---	3400		---	---	---	2190	---	2390	961	---
MONTH	3010	---	3030		---	3640	---	2320	2100	2270	1940	1900

ARKANSAS RIVER BASIN

07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.5		---	3.5	4.0	8.0	12.5	22.0	24.5			---
2	18.5		---	3.5	4.0	8.5	12.5	20.0	26.5			---
3	20.0		---	3.0	4.0	8.5	12.5	20.5	27.5			---
4	18.5		---	3.5	4.5	7.5	11.5	21.5	28.0			---
5	16.5		---	3.5	5.0	7.5	10.5	21.5	27.5			---
6	15.0		---	3.5	5.5	7.5	12.5	21.5	27.0			---
7	14.0		---	4.0	5.5	7.5	14.0	24.0	24.5			---
8	12.5		---	4.0	5.5	9.0	16.0	25.0	---			---
9	13.5		5.5	3.5	6.0	10.5	17.0	25.5	---			---
10	14.5		4.5	2.0	6.5	12.0	16.5	22.5	---			---
11	15.5		4.5	1.5	8.0	11.5	16.5	21.0	---			---
12	16.0		5.0	1.5	8.5	8.0	16.5	21.5	---			---
13	16.5		5.0	2.5	9.0	8.5	16.5	22.0	---			21.0
14	17.0		5.5	3.0	9.0	11.5	17.0	22.0	---			20.5
15	16.0		5.0	3.0	8.0	12.0	17.5	22.0	---			20.0
16	---		5.0	3.5	7.5	11.0	18.0	22.5	---			21.5
17	---		5.0	3.0	8.5	11.5	18.5	22.0	---			21.5
18	---		5.5	3.0	9.5	11.5	19.0	22.0	---			22.0
19	---		5.0	3.5	9.5	11.0	19.5	21.5	---			20.5
20	---		3.5	3.5	8.5	10.0	19.0	20.0	---			21.0
21	---		4.5	4.0	8.5	9.5	16.5	18.5	---			22.0
22	---		4.0	3.5	10.5	9.5	18.5	20.5	---			22.5
23	---		4.0	3.5	9.5	11.0	---	23.0	---			22.0
24	---		4.0	3.5	8.5	12.5	---	24.5	---			20.5
25	---		4.5	4.0	9.0	14.5	15.5	24.5	---			20.0
26	---		5.0	4.0	8.0	15.5	18.5	23.0	---			20.0
27	---		5.0	4.0	7.5	15.0	20.0	22.0	---			20.5
28	---		5.0	4.5	8.0	15.5	21.5	23.5	---			20.5
29	---		5.5	4.0	---	14.0	21.5	24.5	---			20.5
30	---		3.5	3.5	---	12.0	21.5	26.0	---			21.5
31	---		3.5	4.0	---	11.5	---	25.5	---			---
MEAN	16.0		4.5	3.5	7.5	11.0	16.5	22.5	26.5			21.0
WTR YR 1977	MEAN	13.0		MAX	28.0		MIN	1.5				

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3120	---	3110	3450	2970	3370	3780	3750	2300	1830	2580	680
2	3010	---	3120	3490	2940	3460	3820	3760	2330	1920	---	1060
3	3030	---	3000	3480	2970	3430	3860	2810	2240	2010	---	1130
4	3040	---	2920	3480	2980	3480	3840	2080	2250	2060	---	1270
5	3100	---	2910	3480	2950	3520	3910	2250	2170	2090	---	1400
6	3060	---	2890	3490	2950	3530	3820	2450	2120	2270	---	1520
7	3020	---	2890	3510	2950	3550	3880	2520	2110	2160	---	1670
8	3010	---	2920	3510	2960	3200	3870	2620	2450	1870	---	1770
9	3010	---	2810	3540	2990	3570	3940	2690	2430	2210	---	1870
10	3000	---	2780	3570	3030	3600	3670	2750	2520	2260	---	1980
11	3000	---	2890	3490	3010	3600	3460	2860	2600	2340	---	2040
12	3030	---	2890	3570	3060	3600	3300	2900	2800	2310	---	2120
13	2950	---	2960	3510	3110	3620	3160	2930	2620	2360	1550	1880
14	3020	---	2950	3490	3090	3670	3070	2570	2620	2390	1330	1930
15	3000	---	3040	3470	3140	3650	3270	2600	2750	2430	---	1840
16	---	2930	3070	3480	3220	3650	3420	2680	---	2470	---	1770
17	---	2950	3150	3420	3150	3680	3470	2570	---	---	---	1990
18	---	2970	2990	3350	3260	3690	3570	2460	---	---	---	1560
19	---	2980	2840	3310	3330	3700	3640	2590	---	---	---	1650
20	---	2980	2540	3290	3300	3730	3560	2260	---	---	---	1880
21	---	2980	2970	3240	3080	3760	3580	1330	---	---	---	1990
22	---	2980	2970	3200	3030	3750	3640	1100	---	---	1860	2100
23	---	2970	3040	3160	3360	3760	---	1360	---	---	1940	2240
24	---	2280	3010	3070	3380	3780	---	1480	---	---	1980	2330
25	---	2550	2890	3020	3390	3800	3620	1530	1020	---	2050	2390
26	---	2790	3080	3010	3400	3790	3680	1930	1070	---	---	2450
27	---	3000	3270	3000	3420	3760	3710	1930	1260	3260	---	2510
28	---	3080	3250	2980	3360	3740	3650	1940	1350	2440	1100	2570
29	---	3110	3290	2980	---	3710	3720	2080	1510	975	555	2590
30	---	3090	3350	2970	---	3750	3730	2120	1720	815	835	2620
31	---	---	3390	2970	---	3760	---	2200	---	2470	991	---
MEAN	3030	2910	3010	3320	3140	3630	3630	2360	2110	2140	1520	1890
WTR YR 1977	MEAN	2810		MAX	3940		MIN	555				

07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	---	160	180	150	180	210	200	110	79	130	14
2	160	---	160	190	150	190	210	210	110	84	---	28
3	160	---	160	190	150	180	210	140	110	90	---	33
4	160	---	150	190	150	190	210	95	110	94	---	42
5	160	---	150	190	150	190	220	110	100	96	---	50
6	160	---	150	190	150	190	210	120	98	110	---	58
7	160	---	150	190	150	190	210	120	97	100	---	68
8	160	---	150	190	150	170	210	130	120	81	---	75
9	160	---	140	190	150	190	220	130	120	100	---	81
10	160	---	140	190	160	190	200	140	120	110	---	88
11	160	---	150	190	160	190	190	150	130	110	---	92
12	160	---	150	190	160	190	180	150	140	110	---	98
13	150	---	150	190	160	200	170	150	130	110	60	82
14	160	---	150	190	160	200	160	130	130	120	46	85
15	160	---	160	190	160	200	170	130	140	120	---	79
16	---	150	160	190	170	200	180	130	---	120	---	75
17	---	150	170	180	170	200	190	130	---	---	---	89
18	---	150	150	180	170	200	190	120	---	---	---	61
19	---	150	140	180	180	200	200	130	---	---	---	67
20	---	150	130	170	180	200	190	110	---	---	---	82
21	---	150	150	170	160	210	190	46	---	---	---	89
22	---	150	150	170	160	200	200	31	---	---	80	96
23	---	150	160	170	180	210	---	48	---	---	86	110
24	---	110	160	160	180	210	---	56	---	---	88	110
25	---	130	150	160	180	210	200	59	25	---	93	120
26	---	140	160	160	180	210	200	85	29	---	---	120
27	---	160	170	160	180	210	200	85	41	170	---	120
28	---	160	170	150	180	200	200	86	47	120	31	130
29	---	160	170	150	---	200	200	95	57	23	9.8	130
30	---	160	180	150	---	200	200	98	71	18	19	130
31	---	---	180	150	---	210	---	100	---	120	24	---
MEAN	160	150	160	180	160	200	200	110	97	99	61	83
WTR YR 1977	MEAN	140	MAX	220	MIN	9.8						

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1700	---	1700	1900	1600	1800	2100	2000	1200	900	1300	220
2	1600	---	1700	1900	1600	1900	2100	2000	1200	960	---	450
3	1600	---	1600	1900	1600	1800	2100	1500	1100	1000	---	490
4	1600	---	1500	1900	1600	1900	2100	1100	1200	1000	---	570
5	1700	---	1500	1900	1600	1900	2100	1200	1100	1100	---	650
6	1600	---	1500	1900	1600	1900	2100	1300	1100	1200	---	720
7	1600	---	1500	1900	1600	1900	2100	1300	1100	1100	---	810
8	1600	---	1500	1900	1600	1700	2100	1400	1300	930	---	870
9	1600	---	1500	1900	1600	1900	2200	1400	1300	1100	---	930
10	1600	---	1500	1900	1600	2000	2000	1400	1300	1200	---	990
11	1600	---	1500	1900	1600	2000	1900	1500	1400	1200	---	1000
12	1600	---	1500	1900	1600	2000	1800	1500	1500	1200	---	1100
13	1600	---	1600	1900	1700	2000	1700	1600	1400	1200	740	930
14	1600	---	1600	1900	1600	2000	1600	1300	1400	1200	610	960
15	1600	---	1600	1900	1700	2000	1800	1400	1400	1300	---	910
16	---	1600	1600	1900	1700	2000	1800	1400	---	1300	---	870
17	---	1600	1700	1800	1700	2000	1900	1300	---	---	---	1000
18	---	1600	1600	1800	1700	2000	1900	1300	---	---	---	740
19	---	1600	1500	1800	1800	2000	2000	1400	---	---	---	800
20	---	1600	1300	1800	1800	2000	1900	1200	---	---	---	930
21	---	1600	1600	1700	1600	2000	1900	610	---	---	---	1000
22	---	1600	1600	1700	1600	2000	2000	470	---	---	920	1100
23	---	1600	1600	1700	1800	2000	---	620	---	---	970	1100
24	---	1200	1600	1600	1800	2100	---	700	---	---	990	1200
25	---	1300	1500	1600	1800	2100	2000	730	420	---	1000	1200
26	---	1500	1600	1600	1800	2100	2000	960	450	---	---	1300
27	---	1600	1800	1600	1800	2000	2000	960	570	1700	---	1300
28	---	1600	1700	1600	1800	2000	2000	970	620	1300	470	1300
29	---	1700	1800	1600	---	2000	2000	1100	710	400	150	1400
30	---	1600	1800	1600	---	2000	2000	1100	840	300	310	1400
31	---	---	1800	1600	---	2000	---	1100	---	1300	410	---
MEAN	1600	1600	1600	1800	1700	2000	2000	1200	1100	1100	720	940
WTR YR 1977	MEAN	1500	MAX	2200	MIN	150						

ARKANSAS RIVER BASIN

07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	---	.10	.92	.93	1.75	1.93	1.46	1.19	.66	.05	1.47
2	.08	---	.10	1.03	.93	1.80	1.93	3.35	1.60	.66	---	.51
3	.08	---	.08	1.08	.97	1.70	1.76	1.93	1.57	.61	---	.20
4	.03	---	.07	1.13	.97	1.74	1.59	.95	1.34	.53	---	.17
5	.03	---	.07	1.13	.89	1.69	1.66	.95	1.11	.44	---	.15
6	.08	---	.04	1.18	.93	1.69	1.64	1.00	.95	.36	---	.14
7	.16	---	.04	1.23	.89	1.74	1.70	.87	.89	.20	---	.13
8	.18	---	.05	1.23	.93	1.56	1.64	.81	1.04	.81	---	.12
9	.18	---	.06	1.18	.97	1.64	1.72	.77	.94	.84	---	.10
10	.16	---	.05	1.18	1.12	1.69	1.40	.83	.81	.77	---	.10
11	.13	---	.05	1.18	1.17	1.64	1.23	1.17	.77	.65	---	.12
12	.05	---	.09	1.18	1.25	1.59	1.17	1.13	.72	.59	---	.12
13	.04	---	.10	1.18	1.30	1.73	1.24	1.05	.60	.45	1.57	.29
14	.06	---	.11	1.23	1.21	1.67	1.30	.84	.49	.32	2.86	.48
15	.02	---	.15	1.23	1.17	1.62	1.42	.77	.38	.17	---	.21
16	---	.02	.17	1.23	1.24	1.40	1.56	.74	---	.04	---	.34
17	---	.05	.22	1.17	1.38	1.51	1.80	.81	---	---	---	.46
18	---	.06	.21	1.17	1.33	1.57	1.90	.91	---	---	---	.18
19	---	.08	.20	1.17	1.36	1.51	1.84	.95	---	---	---	.13
20	---	.04	.19	1.15	1.46	1.57	1.90	1.07	---	---	---	.14
21	---	.02	.23	1.19	1.30	1.59	1.80	24.80	---	---	---	.13
22	---	.06	.77	1.19	1.38	1.57	1.94	4.27	---	---	.05	.10
23	---	.07	.69	1.24	1.65	1.53	---	2.33	---	---	.05	.10
24	---	.06	.56	1.25	1.75	1.53	---	2.12	---	---	.03	.08
25	---	.09	1.01	1.30	1.70	1.53	1.73	1.24	2.02	---	.03	.07
26	---	.11	1.25	1.25	1.65	1.59	1.73	1.35	.57	---	---	.06
27	---	.09	1.61	1.25	1.75	1.70	1.62	1.19	.52	14.20	---	.06
28	---	.10	1.38	1.01	1.70	1.89	1.51	1.07	.49	2.11	9.63	.07
29	---	.10	1.10	.97	---	1.94	1.51	1.08	.55	.06	3.52	.08
30	---	.09	1.07	.93	---	1.89	1.46	.98	.61	.07	.41	.09
31	---	---	.92	.93	---	1.98	---	1.08	---	.17	4.86	---
MEAN	.09	.07	.41	1.15	1.26	1.66	1.63	2.06	.91	1.18	2.10	.21
WTR YR 1977	MEAN	1.09	MAX	24.80	MIN	.02						

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.83	---	1.10	9.75	9.94	17.50	19.30	14.60	13.00	7.53	.46	23.20
2	.78	---	1.10	10.30	9.94	18.00	19.30	31.90	17.50	7.52	---	8.14
3	.78	---	.78	10.80	10.40	17.00	17.60	20.70	15.70	6.75	---	3.04
4	.26	---	.73	11.30	10.40	17.40	15.90	11.00	14.60	5.67	---	2.31
5	.28	---	.73	11.30	9.50	16.90	15.90	10.40	12.20	5.05	---	1.93
6	.78	---	.45	11.80	9.94	16.90	16.40	10.90	10.70	3.89	---	1.69
7	1.56	---	.36	12.30	9.50	17.40	17.00	9.48	10.10	2.17	---	1.51
8	1.81	---	.49	12.30	9.94	15.60	16.40	8.69	11.20	9.29	---	1.36
9	1.81	---	.65	11.80	10.40	16.40	17.20	8.32	10.20	9.21	---	1.18
10	1.56	---	.53	11.80	11.20	17.80	14.00	8.32	8.77	8.42	---	1.10
11	1.30	---	.49	11.80	11.70	17.30	12.30	11.70	8.32	7.13	---	1.32
12	.52	---	.85	11.80	12.50	16.70	11.70	11.30	7.69	6.48	---	1.37
13	.43	---	1.08	11.80	13.80	17.30	12.40	11.20	6.43	4.86	19.40	3.26
14	.60	---	1.21	12.30	12.10	16.70	13.00	8.42	5.29	3.24	37.90	5.44
15	.17	---	1.47	12.30	12.40	16.20	15.10	8.32	3.78	1.79	---	2.46
16	---	.17	1.73	12.30	12.40	14.00	15.60	7.94	---	.42	---	3.99
17	---	.52	2.16	11.70	13.80	15.10	18.00	8.07	---	---	---	5.13
18	---	.69	2.20	11.70	13.30	15.70	19.00	9.83	---	---	---	2.20
19	---	.86	2.19	11.70	13.60	15.10	18.40	10.20	---	---	---	1.60
20	---	.43	1.90	12.20	14.60	15.70	19.00	11.70	---	---	---	1.53
21	---	.26	2.42	11.90	13.00	15.10	18.00	329.00	---	---	---	1.43
22	---	.65	8.21	11.90	13.80	15.70	19.40	64.70	---	---	.60	1.19
23	---	.78	6.91	12.40	16.50	14.60	---	30.10	---	---	.52	1.01
24	---	.65	5.62	12.50	17.50	15.30	---	26.50	---	---	.35	.91
25	---	.95	10.10	13.00	17.00	15.30	17.30	15.40	34.00	---	.27	.71
26	---	1.21	12.50	12.50	16.50	15.90	17.30	15.30	8.87	---	---	.63
27	---	.86	17.00	12.50	17.50	16.20	16.20	13.50	7.23	142.00	---	.63
28	---	.95	13.80	10.80	17.00	18.90	15.10	12.00	6.53	22.80	146.00	.67
29	---	1.01	11.70	10.40	---	19.40	15.10	12.50	6.90	1.08	53.90	.91
30	---	.86	10.70	9.94	---	18.90	14.60	11.00	7.26	1.13	6.61	.95
31	---	---	9.23	9.94	---	18.90	---	11.90	---	1.79	83.00	---
MEAN	.90	.72	4.21	11.60	12.90	16.60	16.30	25.00	10.80	12.30	31.70	2.76
WTR YR 1977	MEAN	12.10	MAX	329.00	MIN	.17						

07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2930	---	2920	3270	2780	3180	3600	3570	2090	1610	2380	435
2	2820	---	2930	3310	2740	3280	3640	3580	2120	1700	---	823
3	2840	---	2810	3300	2780	3250	3680	2610	2030	1790	---	895
4	2850	---	2720	3300	2790	3300	3660	1870	2040	1850	---	1040
5	2910	---	2710	3300	2750	3340	3740	2040	1960	1880	---	1170
6	2870	---	2690	3310	2750	3350	3640	2240	1910	2060	---	1290
7	2830	---	2690	3330	2750	3370	3710	2320	1900	1950	---	1450
8	2820	---	2720	3330	2770	3010	3700	2420	2240	1650	---	1550
9	2820	---	2610	3360	2800	3390	3770	2490	2220	2000	---	1650
10	2810	---	2580	3390	2840	3420	3490	2550	2320	2050	---	1760
11	2810	---	2690	3310	2820	3420	3280	2660	2400	2130	---	1820
12	2840	---	2690	3390	2870	3420	3110	2700	2600	2100	---	1910
13	2750	---	2770	3330	2920	3440	2970	2730	2420	2150	1320	1660
14	2830	---	2750	3310	2900	3490	2880	2370	2420	2180	1100	1710
15	2810	---	2850	3290	2950	3470	3080	2400	2550	2220	---	1620
16	---	2730	2880	3300	3030	3470	3240	2480	---	2260	---	1550
17	---	2750	2960	3240	2960	3500	3290	2370	---	---	---	1770
18	---	2780	2800	3160	3070	3510	3390	2250	---	---	---	1330
19	---	2790	2640	3120	3140	3520	3460	2390	---	---	---	1430
20	---	2790	2340	3100	3110	3550	3380	2050	---	---	---	1660
21	---	2790	2780	3050	2890	3580	3400	1100	---	---	---	1770
22	---	2790	2780	3010	2840	3570	3460	864	---	---	1640	1890
23	---	2780	2850	2970	3170	3580	---	1130	---	---	1720	2030
24	---	2070	2820	2880	3190	3600	---	1250	---	---	1760	2120
25	---	2350	2690	2830	3200	3620	3440	1300	782	---	1840	2180
26	---	2590	2890	2820	3210	3610	3500	1710	834	---	---	2240
27	---	2810	3080	2810	3240	3580	3530	1710	1030	3070	---	2310
28	---	2890	3060	2790	3170	3560	3470	1720	1120	2230	864	2370
29	---	2920	3100	2790	---	3530	3540	1870	1280	736	307	2390
30	---	2900	3160	2780	---	3570	3550	1910	1500	573	593	2420
31	---	---	3200	2780	---	3580	---	1990	---	2260	753	---
MEAN	2840	2720	2810	3140	2940	3450	3450	2150	1890	1930	1300	1670
WTR YR 1977	MEAN	2610	MAX	3770	MIN	307						

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.42	---	1.89	16.80	17.30	30.90	33.00	26.00	22.60	13.50	.84	45.80
2	1.37	---	1.90	17.90	17.00	31.00	33.40	57.00	30.90	13.30	---	14.90
3	1.38	---	1.37	18.70	18.00	30.70	30.80	35.90	29.00	12.10	---	5.56
4	.46	---	1.32	19.60	18.10	30.30	27.70	18.70	24.80	10.50	---	4.21
5	.47	---	1.32	19.60	16.30	29.80	28.30	17.60	21.70	8.63	---	3.47
6	1.39	---	.80	20.60	17.10	29.80	28.50	18.70	18.60	6.67	---	3.03
7	2.75	---	.65	21.60	16.30	30.90	30.10	16.90	17.40	3.84	---	2.70
8	3.20	---	.88	21.60	17.20	27.60	29.00	15.00	19.40	16.50	---	2.43
9	3.20	---	1.13	20.90	18.10	29.30	29.50	14.80	17.40	16.70	---	2.09
10	2.73	---	.91	21.10	19.90	30.50	24.50	15.10	15.70	14.40	---	1.95
11	2.28	---	.87	20.60	20.60	29.50	21.30	20.80	14.30	12.70	---	2.41
12	.92	---	1.53	21.10	22.50	28.60	20.20	20.40	13.30	11.30	---	2.37
13	.74	---	1.87	20.70	23.70	29.70	21.70	19.20	11.10	8.71	34.60	5.83
14	1.07	---	2.08	21.40	21.90	29.20	23.30	15.40	9.15	5.89	68.30	9.70
15	.30	---	2.62	21.30	21.50	28.10	25.80	14.30	6.88	3.06	---	4.37
16	---	.29	3.11	21.40	22.10	24.40	28.00	14.10	---	.73	---	7.11
17	---	.89	3.76	21.00	24.00	26.50	31.10	14.70	---	---	---	9.08
18	---	1.20	3.86	20.50	24.00	27.50	33.90	17.00	---	---	---	3.95
19	---	1.51	3.85	20.20	23.70	26.60	31.80	17.40	---	---	---	2.86
20	---	.75	3.41	20.90	25.20	27.80	33.80	19.90	---	---	---	2.73
21	---	.45	4.20	21.40	23.40	27.10	32.10	594.00	---	---	---	2.53
22	---	1.13	14.30	21.10	24.50	28.00	33.60	119.00	---	---	1.06	2.04
23	---	1.35	12.30	21.70	29.10	26.10	---	54.90	---	---	.93	1.86
24	---	1.12	9.90	22.60	31.00	26.20	---	47.20	---	---	.62	1.60
25	---	1.71	18.20	22.90	30.20	26.40	29.70	27.40	63.30	---	.50	1.29
26	---	2.10	22.60	22.10	29.50	27.30	30.20	27.20	16.40	---	---	1.09
27	---	1.52	29.10	22.00	31.50	29.00	28.60	24.00	13.10	257.00	---	1.12
28	---	1.72	24.80	18.80	30.00	33.60	26.20	21.40	11.80	39.10	268.00	1.22
29	---	1.73	20.10	18.10	---	34.30	26.80	21.20	12.40	1.99	110.00	1.55
30	---	1.57	18.80	17.30	---	33.70	25.90	19.10	13.00	2.17	12.60	1.63
31	---	---	16.40	17.30	---	33.80	---	21.50	---	3.11	152.00	---
MEAN	1.58	1.27	7.41	20.40	22.60	29.20	28.50	44.70	19.10	22.00	59.00	5.08
WTR YR 1977	MEAN	21.50	MAX	594.00	MIN	.29						

ARKANSAS RIVER BASIN

07157980 CIMARRON RIVER AT FREEDOM, OK

LOCATION.--Lat 36°45'18", long 99°06'58", in SE 1/4 SE 1/4 sec.3, T.26 N., R.18 W., Woodward County, Hydro-logic 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 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) above mean sea level (State Highway Department bench mark).

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s (396 m³/s) May 20, 1977, gage height, 8.90 ft (2.713 m), from graph based on gage readings; maximum gage height, 9.25 ft (2.819 m), from graph based on gage readings; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,000 ft³/s (396 m³/s) May 20, gage height, 8.90 ft (2.713 m), from graph based on gage readings; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	19	38	26	99	64	20	228	416	11	40	560
2	1.6	11	26	25	156	68	19	180	370	7.7	32	485
3	.92	16	28	23	150	57	19	458	322	5.5	7.0	274
4	.92	15	32	21	168	38	25	448	250	3.1	4.5	132
5	.76	15	112	19	186	38	18	226	198	2.0	3.3	102
6	1.0	15	109	19	156	35	13	141	162	1.8	2.5	79
7	2.2	15	33	18	128	42	15	71	132	1.5	1.8	114
8	2.0	15	36	18	110	35	17	45	112	1.4	1.3	79
9	1.5	19	43	18	95	33	12	33	71	1.3	.95	55
10	1.2	22	48	18	102	29	12	254	48	3.0	2.3	47
11	.76	22	36	18	156	31	12	330	38	2.8	4.9	57
12	.18	17	40	19	136	31	12	204	99	2.3	.95	57
13	.12	13	55	22	110	30	19	114	36	1.4	1510	347
14	.18	26	73	21	102	25	32	83	64	.30	746	186
15	.06	32	89	20	95	24	28	59	76	.00	180	150
16	.00	35	76	18	92	23	28	52	48	.00	57	250
17	.00	35	68	16	92	24	83	146	30	.00	48	322
18	.00	38	66	20	86	17	73	635	19	.00	86	266
19	.00	40	66	20	79	19	40	290	19	.00	79	186
20	.00	36	50	18	76	15	86	1920	13	.00	86	150
21	.00	40	36	18	73	14	68	2400	9.1	.00	105	110
22	.00	42	32	25	71	14	64	560	7.7	15	110	90
23	.00	42	33	47	71	15	73	1060	11	4.8	83	70
24	.36	47	48	68	99	14	250	690	831	2.8	64	56
25	.30	50	99	68	83	14	174	382	1360	2.0	28	45
26	.18	50	83	92	99	17	102	298	545	73	16	35
27	5.1	38	59	118	76	18	76	266	192	42	9.1	31
28	6.6	32	62	92	73	32	57	198	52	26	504	27
29	20	22	55	105	---	32	43	918	31	24	450	24
30	52	28	36	73	---	26	105	298	19	25	290	23
31	22	---	28	71	---	23	---	539	---	6.7	322	---
TOTAL	121.34	847	1697	1174	3019	897	1595	13526	5580.8	266.40	4968.65	4409
MEAN	3.91	28.2	54.7	37.9	108	28.9	53.2	436	186	8.59	160	147
MAX	52	50	112	118	186	68	250	2400	1360	73	1510	560
MIN	.00	11	26	16	71	14	12	33	7.7	.00	.95	23
AC-FT	241	1680	3370	2330	5990	1780	3160	26830	11070	528	9860	8750
CAL YR 1976	TOTAL	53012.72	MEAN	145	MAX	6370	MIN	.00	AC-FT	105200		
WTR YR 1977	TOTAL	38101.19	MEAN	104	MAX	2400	MIN	.00	AC-FT	75570		

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 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, 176,000 micromhos Aug. 15, 1976, Oct. 26, 1977; minimum daily, 4,930 micromhos June 10, 1975.

WATER TEMPERATURE: Maximum, 37.0°C June 14, 1974; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 176,000 micromhos Oct. 26; minimum daily, 8,330 micromhos May 31.

WATER TEMPERATURE: Maximum daily, 36.0°C July 29; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
05...	--	--	1710	--	137000	7.7	--	--	--	--
13...	1028	9740	1145	--	157000	8.1	20.0	5	9.8	111
26...	--	--	1800	--	199000	7.2	--	--	--	--
31...	--	--	1130	--	100000	7.8	--	--	--	--
NOV										
01...	--	--	1545	--	85800	7.8	--	--	--	--
10...	1028	9740	1115	--	61200	8.4	9.0	27	12.4	113
11...	--	--	1330	--	58800	8.1	--	--	--	--
22...	--	--	1830	--	44600	8.2	--	--	--	--
DEC										
01...	--	--	1415	--	69800	7.8	--	--	--	--
15...	1028	9740	1030	--	50000	8.0	.5	300	11.5	94
15...	--	--	1820	--	29000	7.9	--	--	--	--
24...	--	--	1300	--	49600	8.0	--	--	--	--
JAN										
11...	--	--	1030	--	132000	7.6	--	--	--	--
21...	--	--	1550	--	75000	7.9	--	--	--	--
26...	1028	9740	1430	--	30000	--	5.0	100	12.2	102
27...	--	--	1430	--	24300	8.2	--	--	--	--
FEB										
05...	--	--	1530	--	16300	8.2	--	--	--	--
09...	1028	9740	1025	--	20500	8.2	2.0	200	12.2	92
12...	--	--	1430	--	49700	8.0	--	--	--	--
22...	--	--	1712	--	32600	8.3	--	--	--	--
MAR										
01...	--	--	1810	--	33800	8.1	--	--	--	--
08...	1028	9740	1600	--	52000	8.6	19.5	8	10.3	118
17...	--	--	1545	--	65700	8.0	--	--	--	--
APR										
14...	--	--	1020	--	117000	7.2	--	--	--	--
14...	1028	9740	1115	--	115000	7.8	18.5	67	8.6	97
21...	--	--	1330	--	64200	7.5	--	--	--	--
25...	--	--	1500	--	12300	7.4	--	--	--	--
MAY										
02...	--	--	1800	--	44900	7.3	--	--	--	--
04...	1028	9740	1100	--	20000	8.1	20.5	>1000	7.5	88
10...	--	--	1755	--	27700	7.3	--	--	--	--
30...	--	--	0820	--	8870	7.5	--	--	--	--
JUN										
04...	--	--	0730	--	11400	7.6	--	--	--	--
07...	1028	9740	1930	--	22000	8.5	27.0	400	7.5	99
13...	--	--	1645	--	49000	7.6	--	--	--	--
23...	--	--	1530	--	99100	7.8	--	--	--	--
JUL										
01...	--	--	1040	--	31700	8.1	--	--	--	--
12...	1028	9740	1730	--	42000	6.1	33.0	2	7.7	112
26...	--	--	1620	--	116000	7.2	--	--	--	--
29...	--	--	1830	--	70600	7.5	--	--	--	--

ARKANSAS RIVER BASIN

07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
AUG										
13...	--	--	1415	--	48300	7.5	--	--	--	--
16...	--	--	1800	--	30500	7.6	--	--	--	--
24...	--	--	1800	--	16500	7.6	--	--	--	--
SEP										
03...	--	--	1740	--	13000	7.8	--	--	--	--
10...	--	--	1235	--	39800	7.7	--	--	--	--
30...	--	--	1400	--	87200	8.1	--	--	--	--

DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT										
05...	--	3500	3400	--	760	--	380	--	45000	97
13...	227	--	--	--	--	--	--	--	--	--
26...	--	4600	4500	--	970	--	520	--	71000	97
31...	--	2200	2100	--	500	--	230	--	30000	97
NOV										
01...	--	1900	1800	--	430	--	210	--	24000	96
10...	18	--	--	--	--	--	--	--	--	--
11...	--	1400	1300	--	310	--	160	--	15000	96
22...	--	1100	950	--	250	--	120	--	11000	95
DEC										
01...	--	1500	--	--	340	--	160	--	19000	96
15...	40	--	--	--	--	--	--	--	--	--
15...	--	830	630	--	190	--	87	--	6500	94
24...	--	1200	1000	--	270	--	130	--	12000	96
JAN										
11...	--	3100	2900	--	670	--	340	--	43000	97
21...	--	1800	1600	--	390	--	190	--	21000	96
26...	50	--	--	--	--	--	--	--	--	--
27...	--	680	510	--	160	--	68	--	5500	95
FEB										
05...	--	570	400	--	140	--	54	--	3500	93
09...	10	--	--	--	--	--	--	--	--	--
12...	--	1100	940	--	260	--	110	--	12900	96
22...	--	910	730	--	210	--	93	--	8020	95
MAR										
01...	--	990	810	--	230	--	100	--	7800	94
08...	35	--	--	--	--	--	--	--	--	--
17...	--	1800	1600	--	390	--	190	--	18000	96
APR										
14...	--	2500	2400	--	570	--	260	--	40000	97
14...	--	--	--	--	--	--	--	--	--	--
21...	--	1500	1400	--	370	--	130	--	17000	96
25...	--	630	430	--	150	--	63	--	2500	89
MAY										
02...	--	1800	1600	--	270	--	270	--	16000	95
04...	275	--	--	--	--	--	--	--	--	--
10...	--	880	690	--	220	--	79	--	6900	94
30...	--	540	340	--	140	--	45	--	1800	88
JUN										
04...	--	610	450	--	160	--	52	--	2400	89
07...	92	--	--	--	--	--	--	--	--	--
13...	--	1500	1400	--	370	--	140	--	13000	95
23...	--	2400	2300	--	580	--	230	--	32000	97
JUL										
01...	--	1000	860	--	250	--	100	--	7600	94
12...	34	--	--	--	--	--	--	--	--	--
26...	--	2400	2300	--	600	--	210	--	39000	97
29...	--	1700	1600	--	400	--	170	--	19000	96
AUG										
13...	--	1100	1000	--	300	--	96	--	12000	96
16...	--	900	810	--	220	--	86	--	7000	94
24...	--	710	540	--	170	--	69	--	4200	93
SEP										
03...	--	570	400	--	140	--	53	--	2900	92
10...	--	1500	1300	--	350	--	140	--	9600	93
30...	--	2400	2300	--	540	--	260	--	28000	96

ARKANSAS RIVER BASIN

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07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
05...	333	--	51	110	0	90	3.5	2100	70000	--
13...	--	--	--	--	--	--	--	--	--	.2
26...	457	--	67	90	0	74	9.1	2600	110000	--
31...	279	--	33	155	0	127	3.9	1400	47000	--
NOV										
01...	237	--	27	172	1	143	4.4	1200	37000	--
10...	--	--	--	--	--	--	--	--	--	.4
11...	172	--	19	173	2	145	2.3	910	24000	--
22...	143	--	15	209	1	173	2.1	710	17000	--
DEC										
01...	213	--	22	--	0	--	--	920	29000	--
15...	--	--	--	--	--	--	--	--	--	.8
15...	98	--	13	245	0	201	4.9	510	10000	--
24...	150	--	16	230	0	189	3.7	740	20000	--
JAN										
11...	338	--	44	198	0	162	8.0	1700	68000	--
21...	218	--	26	204	0	167	4.1	1100	34000	--
26...	--	--	--	--	--	--	--	--	--	.6
27...	92	--	10	207	0	170	2.1	390	9400	--
FEB										
05...	64	--	8.7	211	0	173	2.1	310	5700	--
09...	--	--	--	--	--	--	--	--	--	.7
12...	169	--	14	202	0	166	3.2	650	19200	--
22...	116	--	13	219	0	180	1.8	550	11800	--
MAR										
01...	108	--	15	210	0	170	2.7	600	13000	--
08...	--	--	--	--	--	--	--	--	--	.5
17...	187	--	24	170	0	140	2.7	1200	28000	--
APR										
14...	349	--	36	110	0	90	11	66	60000	--
14...	--	--	--	--	--	--	--	--	--	.2
21...	194	--	20	130	0	107	6.6	930	27000	--
25...	43	--	12	250	0	205	16	310	3900	--
MAY										
02...	165	--	16	170	0	140	14	640	25000	--
04...	--	--	--	--	--	--	--	--	--	.5
10...	102	--	14	220	0	180	18	490	11000	--
30...	34	--	12	240	0	200	12	280	2700	--
JUN										
04...	42	--	13	200	0	164	8.0	340	3600	--
07...	--	--	--	--	--	--	--	--	--	.9
13...	146	--	19	180	0	148	7.2	860	20000	--
23...	285	--	26	140	0	110	3.6	1400	49000	--
JUL										
01...	103	--	18	220	0	180	2.8	540	12000	--
12...	--	--	--	--	--	--	--	--	--	.5
26...	349	--	33	100	0	82	10	1200	62000	--
29...	201	--	28	81	0	66	4.1	1000	30000	--
AUG										
13...	154	--	17	180	0	150	9.1	540	18000	--
16...	101	--	17	120	0	98	4.8	500	11000	--
24...	69	--	15	200	0	160	8.0	300	6500	--
SEP										
03...	53	--	14	210	0	170	5.3	250	4700	--
10...	110	--	23	220	0	180	7.0	660	16000	--
30...	248	--	34	150	0	123	1.9	1400	40000	--

ARKANSAS RIVER BASIN

07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
05...	--	121000	--	165	--	.03	--	--	--	--
13...	--	--	--	--	--	--	.80	<.11	--	--
26...	--	189000	--	257	--	.23	--	--	--	--
31...	--	78400	--	107	--	.05	--	--	--	--
NOV										
01...	--	63800	--	86.8	--	.18	--	--	--	--
10...	--	--	--	--	--	--	.80	.09	3	30
11...	--	40400	--	54.9	--	.04	--	--	--	--
22...	--	29400	--	40.0	--	.17	--	--	--	--
DEC										
01...	--	50900	--	69.2	--	.39	--	--	--	--
15...	--	--	--	--	--	--	1.0	<.03	--	--
15...	--	18200	--	24.8	--	.94	--	--	--	--
24...	--	33800	--	46.0	--	.50	--	--	--	--
JAN										
11...	--	115800	--	158	--	.63	--	--	--	--
21...	--	56800	--	77.2	--	.68	--	--	--	--
26...	--	--	--	--	--	--	1.3	.52	--	--
27...	--	15200	--	20.7	--	1.1	--	--	--	--
FEB										
05...	--	9700	--	13.2	--	1.3	--	--	--	--
09...	--	--	--	--	--	--	1.5	.31	6	9
12...	--	34100	--	46.4	--	.64	--	--	--	--
22...	--	21000	--	28.6	--	.07	--	--	--	--
MAR										
01...	--	22000	--	29.9	--	.16	--	--	--	--
08...	--	--	--	--	--	--	1.3	.14	--	--
17...	--	48100	--	65.4	--	.07	--	--	--	--
APR										
14...	--	98700	--	134	--	.20	--	--	--	--
14...	--	--	--	--	--	--	1.6	.27	--	--
21...	--	46400	--	63.1	--	.11	--	--	--	--
25...	--	7280	--	9.90	--	.63	--	--	--	--
MAY										
02...	--	30500	--	41.5	--	1.1	--	--	--	--
04...	--	--	--	--	--	--	11	2.7	<1	12
10...	--	17600	--	23.9	--	1.3	--	--	--	--
30...	--	5330	--	7.25	--	--	--	--	--	--
JUN										
04...	--	6820	--	9.28	--	--	--	--	--	--
07...	--	--	--	--	--	--	1.2	.75	--	--
13...	--	33800	--	46.0	--	--	--	--	--	--
23...	--	82600	--	112	--	--	--	--	--	--
JUL										
01...	--	20400	--	27.7	--	--	--	--	--	--
12...	--	--	--	--	--	--	1.0	.05	--	--
26...	--	101000	--	137	--	--	--	--	--	--
29...	--	52400	--	71.3	--	--	--	--	--	--
AUG										
13...	--	32100	--	43.7	--	--	--	--	--	--
16...	--	19400	--	26.4	--	--	--	--	--	--
24...	--	11300	--	15.4	--	--	--	--	--	--
SEP										
03...	--	7590	--	10.3	--	--	--	--	--	--
10...	--	26400	--	35.9	--	--	--	--	--	--
30...	--	68400	--	93.0	--	--	--	--	--	--

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

ARKANSAS RIVER BASIN

07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	17.0	5.0	---	4.0	7.0	19.0	---	30.0	24.0	31.0	28.0
2	24.0	10.0	7.0	---	3.0	12.0	21.0	27.0	28.0	20.0	33.0	30.0
3	22.0	14.0	8.0	---	5.0	9.0	6.0	25.0	29.0	21.0	31.0	28.0
4	17.0	14.0	5.0	.0	6.0	10.0	14.0	24.0	23.0	27.0	---	21.0
5	20.0	13.0	.0	.0	6.0	12.0	15.0	23.0	30.0	30.0	---	26.0
6	18.0	16.0	2.0	.0	1.0	---	22.0	27.0	25.0	---	---	32.0
7	12.0	5.0	3.0	3.0	5.0	17.0	21.0	29.0	27.0	---	---	28.0
8	15.0	12.0	---	.0	8.0	17.0	19.0	24.0	29.0	---	---	28.0
9	24.0	14.0	8.0	---	9.0	18.0	18.0	29.0	30.0	---	---	21.0
10	14.0	12.0	---	---	12.0	18.0	14.0	21.0	30.0	---	---	21.0
11	14.0	8.0	3.0	---	8.0	12.0	17.0	22.0	26.0	---	---	19.0
12	16.0	---	---	---	12.0	8.0	18.0	25.0	22.0	---	25.0	27.0
13	---	4.0	4.0	3.0	4.0	8.0	19.0	24.0	33.0	---	24.0	22.0
14	24.0	1.0	6.0	4.0	9.0	19.0	17.0	22.0	31.0	---	24.0	23.0
15	18.0	1.0	4.0	---	7.0	17.0	20.0	17.0	32.0	---	28.0	25.0
16	---	.0	5.0	4.0	9.0	13.0	20.0	26.0	29.0	---	34.0	22.0
17	---	10.0	7.0	---	12.0	17.0	23.0	23.0	---	---	29.0	26.0
18	---	12.0	1.0	---	12.0	9.0	23.0	20.0	28.0	---	---	18.0
19	---	10.0	7.0	5.0	9.0	9.0	25.0	20.0	24.0	---	24.0	26.0
20	---	10.0	7.0	6.0	14.0	4.0	20.0	19.0	24.0	---	---	---
21	---	4.0	---	6.0	14.0	12.0	12.0	18.0	25.0	---	29.0	28.0
22	---	7.0	4.0	.0	12.0	18.0	17.0	15.0	30.0	---	31.0	29.0
23	---	3.0	4.0	7.0	---	19.0	22.0	23.0	32.0	---	34.0	24.0
24	9.0	11.0	4.0	6.0	12.0	18.0	14.0	23.0	27.0	---	29.0	25.0
25	---	10.0	.0	5.0	9.0	14.0	20.0	25.0	32.0	---	32.0	21.0
26	6.0	5.0	5.0	6.0	9.0	17.0	23.0	20.0	24.0	26.0	29.0	25.0
27	---	---	8.0	6.0	4.0	12.0	24.0	21.0	33.0	32.0	27.0	25.0
28	9.0	---	6.0	---	9.0	18.0	---	23.0	30.0	---	18.0	22.0
29	8.0	---	6.0	---	---	19.0	22.0	22.0	28.0	36.0	23.0	23.0
30	8.0	1.0	---	---	---	8.0	20.0	22.0	28.0	34.0	28.0	28.0
31	11.0	---	---	4.0	---	14.0	---	22.0	---	22.0	29.0	---
MEAN	15.5	8.5	5.0	3.5	8.5	13.5	19.0	22.5	28.0	27.0	28.0	25.0
WTR YR 1977	MEAN	17.0	MAX	36.0	MIN	.0						

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101000	85800	69800	---	21400	33800	60700	---	18900	31700	20800	25000
2	110000	80400	59900	74600	22200	42800	78900	44900	15200	51000	28800	28000
3	124000	63400	58000	84200	33200	68000	73300	20200	17200	51000	41500	13000
4	128000	62700	58200	74500	21700	54800	80700	20100	11400	56600	---	15300
5	137000	76300	30800	88000	16300	41700	74900	14200	16900	53700	---	27000
6	126000	68800	30300	72000	18800	---	78100	16500	16700	---	---	32800
7	144000	66500	38000	96500	20400	49200	85400	20000	19000	---	---	19200
8	148000	52700	---	102000	26200	54000	91600	20100	23900	---	---	28300
9	151000	62600	39900	103000	27900	55200	86800	22900	24900	---	---	36300
10	152000	61100	53300	116000	26700	57000	81200	27700	24300	---	---	39800
11	152000	58800	35400	126000	29900	62200	95100	11300	28200	---	---	44400
12	153000	---	---	120000	49700	64500	96500	11500	35800	---	29300	41600
13	---	51000	43700	107000	33200	60400	84300	13400	49000	---	47800	33500
14	154000	54600	45700	108000	28200	65400	117000	17100	16800	---	13500	42300
15	159000	62900	29000	93200	24800	65400	102000	19400	20800	---	21000	29700
16	---	56600	34300	96800	25800	57500	82000	18300	27800	---	30500	35300
17	---	53800	38800	91400	27700	65700	91000	42800	---	---	40000	15900
18	---	51900	40000	91200	25400	77400	75400	16900	34000	---	---	13100
19	---	48900	40300	87300	24600	71800	109000	13600	43800	---	38800	18100
20	---	49600	37700	80700	26200	72600	54000	16900	61200	---	---	---
21	---	49000	37900	75000	30700	76400	64200	12300	70600	---	23000	34400
22	---	44600	56100	69600	32600	75100	39000	12100	96600	---	16600	37500
23	---	45200	47400	68700	---	78300	28300	13800	99100	---	22400	49100
24	156000	47100	49600	39000	27900	82900	18900	11700	20000	---	18500	64000
25	---	50100	33200	27500	24800	82900	12300	10400	12000	---	41900	64000
26	176000	49400	30300	27100	26300	87400	15300	26200	12000	116000	42500	65600
27	---	52400	33900	24300	29500	87200	17800	19500	14300	102000	29300	71300
28	171000	79600	33400	26400	29800	95200	---	16000	22900	---	42400	72400
29	133000	75300	32900	30800	---	76100	25700	10600	22800	70600	19800	82400
30	118000	76500	---	43600	---	74800	19800	8870	---	40700	23300	87200
31	100000	---	---	34100	---	56200	---	14500	---	51400	19400	---
MONTH	---	59900	42100	76000	27100	66400	66900	18100	31300	---	---	40200
YEAR	MAX	176000	MIN	8870	MEAN	53000						

ARKANSAS RIVER BASIN

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07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---			---	16.0	20.0	26.0			---
2			---			---	16.5	20.0	26.0			---
3			---			---	16.0	25.5	25.5			---
4			---			---	13.5	24.5	26.0			---
5			---			---	13.0	21.5	29.0			---
6			---			---	14.5	26.5	24.5			---
7			---			---	17.0	28.5	26.0			---
8			---			---	17.0	25.5	27.5			---
9			5.0			13.0	17.0	29.0	28.5			---
10			2.5			13.0	16.5	20.5	28.0			---
11			---			10.0	16.0	20.0	25.5			---
12			---			7.0	17.0	24.5	25.5			---
13			---			10.0	17.0	25.0	32.0			---
14			---			13.5	17.0	22.5	28.5			23.5
15			---			12.5	17.5	20.0	32.0			22.5
16			---			10.0	18.0	24.0	28.0			23.5
17			---			12.0	18.5	23.5	25.5			25.0
18			---			12.5	19.0	20.5	26.0			18.5
19			---			9.5	19.5	20.5	27.0			25.0
20			---			9.5	18.0	19.0	26.5			26.0
21			---			8.5	13.5	18.5	25.5			27.5
22			---			10.5	14.5	21.0	25.5			28.0
23			---			12.5	17.0	22.5	---			23.5
24			---			13.5	17.0	23.0	---			23.0
25			---			16.0	16.0	22.5	---			22.0
26			---			16.0	17.0	21.0	---			26.5
27			---			16.0	19.0	21.5	---			25.5
28			---			15.0	20.0	24.0	---			22.5
29			---			12.5	19.5	25.0	---			---
30			---			10.5	18.5	27.5	---			---
31			---			14.0	---	24.0	---			---
MEAN			4.0			12.0	17.0	23.0	27.0			24.0
WTR YR 1977	MEAN	20.0		MAX	32.0	MIN	2.5					

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	21300	---	62600	31600	18900			---
2			---	---	21900	---	81900	45600	15900			---
3			---	---	32400	---	72700	33500	16500			---
4			---	---	20800	---	81100	20500	11900			---
5			---	---	15100	---	77000	14400	16300			---
6			---	---	19400	---	85800	16700	17300			---
7			---	---	19600	---	86900	20200	22100			---
8			---	---	24900	---	91000	20100	24100			---
9			40400	---	26900	54400	86100	22800	24700			---
10			53000	---	25200	56400	81700	22000	24400			---
11			---	---	29800	63500	93500	13300	28200			---
12			---	---	49300	64200	95500	12100	31200			---
13			---	---	33300	61300	84700	13500	49200			---
14			---	---	---	65800	120000	17200	15500			42000
15			---	---	---	66000	103000	18500	21200			30500
16			---	---	---	57900	83200	15500	28500			31800
17			---	---	---	65000	92200	43500	32000			15900
18			---	---	---	68200	78900	15900	34500			12100
19			---	---	---	71400	108000	13900	43500			19700
20			---	---	---	73100	56100	17200	61600			28500
21			---	---	---	75700	66700	13000	71200			35700
22			---	---	---	74400	39800	10300	102000			38300
23			---	---	---	78900	28800	15400	---			49700
24			---	---	---	82300	22000	11400	---			64600
25			---	---	---	83600	11700	10100	---			63600
26			---	27200	---	87700	15500	20100	---			66000
27			---	26400	---	89300	17700	19800	---			71500
28			---	26500	---	100000	21400	16100	---			72500
29			---	30800	---	79100	26100	10200	---			82500
30			---	44000	---	74100	20200	9640	---			87200
31			---	33700	---	57300	---	8330	---			---
MEAN			46700	31400	26100	71700	66400	18500	32300			47800
WTR YR 1977	MEAN	44200		MAX	120000	MIN	8330					

ARKANSAS RIVER BASIN

07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	6100	---	29000	12000	5300			---
2			---	---	6400	---	39000	19000	5000			---
3			---	---	12000	---	34000	13000	5000			---
4			---	---	5800	---	39000	5700	4600			---
5			---	---	4900	---	37000	4800	5000			---
6			---	---	5300	---	42000	5100	5100			---
7			---	---	5400	---	42000	5500	6600			---
8			---	---	8100	---	44000	5500	7700			---
9			17000	---	9200	24000	42000	6900	8000			---
10			24000	---	8300	25000	39000	6500	7800			---
11			---	---	11000	29000	46000	4700	9900			---
12			---	---	22000	30000	47000	4600	12000			---
13			---	---	13000	28000	41000	4700	21000			---
14			---	---	---	31000	60000	5100	4900			18000
15			---	---	---	31000	51000	5200	6100			11000
16			---	---	---	26000	40000	4900	10000			12000
17			---	---	---	30000	45000	18000	12000			5000
18			---	---	---	32000	38000	5000	13000			4600
19			---	---	---	34000	54000	4800	18000			5400
20			---	---	---	35000	25000	5100	28000			10000
21			---	---	---	36000	31000	4700	34000			14000
22			---	---	---	35000	16000	4400	51000			15000
23			---	---	---	38000	10000	4900	---			22000
24			---	---	---	40000	6500	4500	---			30000
25			---	---	---	40000	4600	4400	---			29000
26			---	9400	---	43000	4900	5500	---			31000
27			---	8900	---	44000	5200	5400	---			34000
28			---	9000	---	49000	6200	5000	---			34000
29			---	11000	---	38000	8800	4400	---			40000
30			---	19000	---	35000	5500	4400	---			42000
31			---	13000	---	26000	---	4200	---			---
MEAN			21000	12000	9000	34000	31000	6400	13000			21000
WTR YR 1977	MEAN	19000		MAX	60000	MIN	4200					

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	410	---	870	520	380			---
2			---	---	420	---	1100	680	350			---
3			---	---	530	---	980	550	360			---
4			---	---	400	---	1100	400	310			---
5			---	---	340	---	1000	330	350			---
6			---	---	390	---	1100	360	370			---
7			---	---	390	---	1100	400	420			---
8			---	---	450	---	1200	400	440			---
9			620	---	470	780	1100	430	450			---
10			760	---	450	800	1100	420	440			---
11			---	---	500	880	1200	320	490			---
12			---	---	720	890	1200	310	520			---
13			---	---	540	850	1100	320	720			---
14			---	---	---	900	1500	360	350			640
15			---	---	---	910	1300	380	410			510
16			---	---	---	820	1100	350	490			530
17			---	---	---	890	1200	660	530			350
18			---	---	---	930	1000	350	560			310
19			---	---	---	970	1400	330	660			390
20			---	---	---	980	800	360	860			490
21			---	---	---	1000	910	320	960			570
22			---	---	---	1000	620	290	1300			600
23			---	---	---	1000	490	340	---			720
24			---	---	---	1100	420	300	---			890
25			---	---	---	1100	300	290	---			880
26			---	480	---	1100	350	400	---			910
27			---	470	---	1200	370	390	---			970
28			---	470	---	1300	410	350	---			980
29			---	520	---	1100	460	290	---			1100
30			---	660	---	1000	400	280	---			1100
31			---	550	---	810	---	270	---			---
MEAN			690	530	460	970	910	380	530			700
WTR YR 1977	MEAN	660		MAX	1500	MIN	270					

07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	1630	---	1570	7390	5950			---
2			---	---	2700	---	2000	9230	4990			---
3			---	---	4860	---	1740	16100	4350			---
4			---	---	2630	---	2630	6890	3110			---
5			---	---	2460	---	1800	2930	2670			---
6			---	---	2230	---	1470	1940	2230			---
7			---	---	1870	---	1700	1050	2350			---
8			---	---	2410	---	2020	668	2330			---
9			1970	---	2360	2140	1360	615	1530			---
10			3110	---	2290	1960	1260	4460	1010			---
11			---	---	4630	2430	1490	4190	1020			---
12			---	---	8080	2510	1520	2530	3210			---
13			---	---	3860	2270	2100	1450	2040			---
14			---	---	---	2090	5180	1140	847			9040
15			---	---	---	2010	3860	828	1250			4450
16			---	---	---	1610	3020	688	1300			8100
17			---	---	---	1940	10100	7100	972			4350
18			---	---	---	1470	7490	8570	667			3300
19			---	---	---	1740	5830	3760	923			2710
20			---	---	---	1420	5800	26400	983			4050
21			---	---	---	1360	5690	30500	835			4160
22			---	---	---	1320	2760	6650	1060			3650
23			---	---	---	1540	1970	14000	---			4160
24			---	---	---	1510	4390	8380	---			4540
25			---	---	---	1510	2160	4540	---			3520
26			---	2330	---	1970	1350	4430	---			2930
27			---	2840	---	2140	1070	3880	---			2850
28			---	2240	---	4230	954	2670	---			2480
29			---	3120	---	3280	1020	10900	---			2590
30			---	3740	---	2460	1560	3540	---			2610
31			---	2490	---	1610	---	6110	---			---
MEAN			2540	2790	3230	2020	2900	6570	2070			4090
WTR YR 1977	MEAN	3580		MAX	30500		MIN	615				

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	110.0	---	47.0	320.0	427.0			---
2			---	---	177.0	---	56.4	330.0	350.0			---
3			---	---	215.0	---	50.3	680.0	313.0			---
4			---	---	181.0	---	74.2	484.0	209.0			---
5			---	---	171.0	---	48.6	201.0	187.0			---
6			---	---	164.0	---	38.6	137.0	162.0			---
7			---	---	135.0	---	44.5	76.7	150.0			---
8			---	---	134.0	---	55.1	48.6	133.0			---
9			72.0	---	121.0	69.5	35.6	38.3	86.3			---
10			98.5	---	124.0	62.6	35.6	288.0	57.0			---
11			---	---	211.0	73.7	38.9	285.0	50.3			---
12			---	---	264.0	74.5	38.9	171.0	139.0			---
13			---	---	160.0	68.8	56.4	98.5	70.0			---
14			---	---	---	60.7	130.0	80.7	60.5			321.0
15			---	---	---	59.0	98.3	60.5	84.1			207.0
16			---	---	---	50.9	83.2	49.1	63.5			358.0
17			---	---	---	57.7	269.0	260.0	42.9			304.0
18			---	---	---	42.7	197.0	600.0	28.7			223.0
19			---	---	---	49.8	151.0	258.0	33.9			196.0
20			---	---	---	39.7	186.0	1870.0	30.2			198.0
21			---	---	---	37.8	167.0	2070.0	23.6			169.0
22			---	---	---	37.8	107.0	438.0	27.0			146.0
23			---	---	---	40.5	96.6	973.0	---			136.0
24			---	---	---	41.6	283.0	559.0	---			135.0
25			---	---	---	41.6	141.0	299.0	---			107.0
26			---	119.0	---	50.5	96.4	322.0	---			86.0
27			---	150.0	---	58.3	75.9	280.0	---			81.2
28			---	117.0	---	112.0	63.1	187.0	---			71.4
29			---	147.0	---	95.0	53.4	719.0	---			71.3
30			---	130.0	---	70.2	113.0	225.0	---			68.3
31			---	105.0	---	50.3	---	393.0	---			---
MEAN			85.2	128.0	167.0	58.5	97.7	413.0	124.0			169.0
WTR YR 1977	MEAN	179.0		MAX	2070.0		MIN	23.6				

07157980 CIMARRON RIVER AT FREEDOM, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	10100	---	48800	19800	8550			---
2			---	---	10700	---	66800	32900	7570			---
3			---	---	20500	---	56200	21500	7770			---
4			---	---	9650	---	66100	9370	6270			---
5			---	---	7310	---	62300	7080	7700			---
6			---	---	8710	---	70500	7830	8030			---
7			---	---	8770	---	71500	9090	10900			---
8			---	---	13500	---	75400	9000	12700			---
9			28000	---	15400	41100	70800	11500	13300			---
10			39800	---	13800	43000	66700	10800	13000			---
11			---	---	18100	49600	77700	6720	16600			---
12			---	---	36300	50300	79600	6330	19400			---
13			---	---	21400	47600	69500	6790	36200			---
14			---	---	---	51800	103000	7990	7440			29500
15			---	---	---	52000	86600	8420	10000			18700
16			---	---	---	44400	68100	7440	16900			19900
17			---	---	---	51000	76500	30900	20100			7570
18			---	---	---	54000	64000	7570	22500			6330
19			---	---	---	57000	91300	6920	30900			8810
20			---	---	---	58600	42700	7990	47800			16900
21			---	---	---	61000	52600	6630	56800			23600
22			---	---	---	59800	27400	5750	85700			26000
23			---	---	---	64000	17100	7410	---			36700
24			---	---	---	67200	10800	6110	---			50700
25			---	---	---	68400	6200	5680	---			49700
26			---	15600	---	72300	7440	9000	---			52000
27			---	14900	---	73800	8160	8840	---			57100
28			---	15000	---	83800	10200	7640	---			58000
29			---	19000	---	64200	14600	5720	---			67400
30			---	31400	---	59500	9090	5530	---			71800
31			---	21700	---	43800	---	5110	---			---
MEAN			33900	19600	14900	57300	52700	9980	21200			35300
WTR YR 1977	MEAN	32300				103000	MIN	5110				

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	2700	---	2640	12200	9600			---
2			---	---	4510	---	3430	16000	7560			---
3			---	---	8300	---	2990	26600	6760			---
4			---	---	4380	---	4460	11300	4230			---
5			---	---	3670	---	3030	4320	4120			---
6			---	---	3670	---	2470	2980	3510			---
7			---	---	3030	---	2900	1740	3880			---
8			---	---	4010	---	3460	1090	3840			---
9			3250	---	3950	3660	2290	1020	2550			---
10			5160	---	3800	3370	2160	7410	1680			---
11			---	---	7620	4150	2520	5990	1700			---
12			---	---	13300	4210	2580	3490	5190			---
13			---	---	6360	3860	3570	2090	3520			---
14			---	---	---	3500	8900	1790	1290			14800
15			---	---	---	3370	6550	1340	2050			7570
16			---	---	---	2760	5150	1040	2190			13400
17			---	---	---	3300	17100	12200	1630			6580
18			---	---	---	2480	12600	13000	1150			4550
19			---	---	---	2920	9860	5420	1590			4420
20			---	---	---	2370	9910	41400	1680			6840
21			---	---	---	2310	9660	43000	1400			7010
22			---	---	---	2260	4730	8690	1780			6320
23			---	---	---	2590	3370	21200	---			6940
24			---	---	---	2540	7290	11400	---			7670
25			---	---	---	2590	2910	5860	---			6040
26			---	3880	---	3320	2050	7240	---			4910
27			---	4750	---	3590	1670	6350	---			4780
28			---	3730	---	7240	1570	4080	---			4230
29			---	5390	---	5550	1700	14200	---			4370
30			---	6190	---	4180	2580	4450	---			4460
31			---	4160	---	2720	---	7440	---			---
MEAN			4210	4680	5330	3430	4870	9880	3310			6760
WTR YR 1977	MEAN	5730				43000	MTN	1020				

ARKANSAS RIVER BASIN

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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 (1.39 km) downstream from Main Creek, 5 mi (8.0 km) south of Waynoka, and at mile 247.0 (397 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) above mean sea level (levels by Corps of Engineers). September 1903 to December 1905, nonrecording gage at The Atchison, Topeka and Santa Fe Railway Co. bridge 5 mi (8.0 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.--40 years (water years 1938-77), 346 ft³/s (9.799 m³/s), 250,700 acre-ft/yr (309 hm³/yr)

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,500 ft³/s (2,676 m³/s) May 16, 1957, gage height, 15.10 ft (4.602 m), from rating curve extended above 45,000 ft³/s (1,274 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, 15,700 ft³/s (445 m³/s) at 0615 May 21, gage height, 8.55 ft (2.606 m), no other peak above base of 10,000 ft³/s (283 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	41	21	28	51	48	27	98	1600	54	25	551
2	13	39	21	26	59	45	24	202	403	42	21	266
3	9.2	35	23	24	67	41	23	171	269	31	28	160
4	7.6	31	24	22	70	39	20	185	209	22	16	144
5	6.8	27	23	21	73	37	19	265	176	14	7.7	119
6	6.1	22	42	22	74	37	18	185	133	8.4	4.1	103
7	6.4	22	44	24	71	36	16	126	116	6.9	2.9	79
8	6.7	21	33	26	66	35	12	89	74	516	2.1	79
9	6.7	21	31	29	63	33	10	79	70	169	1.5	52
10	6.7	21	31	37	62	33	8.8	79	64	66	1.0	41
11	6.6	22	30	38	65	34	7.3	287	48	28	391	43
12	6.1	22	31	39	75	30	6.7	247	34	16	220	45
13	5.5	22	30	47	73	29	14	160	31	10	1200	137
14	4.9	21	31	39	64	28	160	92	33	8.5	2250	216
15	3.5	21	33	29	56	25	76	66	60	4.8	609	106
16	1.5	22	39	27	57	23	51	55	39	2.2	188	66
17	.55	23	38	27	56	23	62	81	27	1.1	137	149
18	.11	24	37	20	55	21	75	196	22	.76	105	144
19	.00	27	36	22	53	20	71	507	20	.32	119	126
20	.00	27	35	24	51	19	238	502	14	.00	104	64
21	.00	27	33	22	50	17	187	7620	14	.00	86	60
22	.00	27	28	24	49	17	112	1410	14	.00	104	49
23	.00	27	24	27	49	15	90	509	17	8.3	98	41
24	.00	28	24	33	53	15	91	672	140	5.8	91	37
25	.00	30	25	43	52	14	125	725	1220	1.2	193	34
26	.00	29	37	50	53	15	97	408	789	38	103	32
27	2.2	29	39	50	53	17	80	456	408	33	56	28
28	3.5	21	36	59	50	21	61	343	199	23	223	25
29	10	17	37	50	---	33	48	2850	119	419	1150	23
30	25	21	37	49	---	34	80	1350	76	132	553	20
31	45	---	31	44	---	29	---	1410	---	37	587	---
TOTAL	204.66	767	986	1022	1672	863	1909.8	21445	6438	1698.28	8676.3	3101
MEAN	6.60	25.6	31.8	33.0	59.7	27.8	63.7	692	215	54.8	280	103
MAX	45	41	44	59	75	48	238	7620	1600	516	2250	551
MIN	.00	17	21	20	49	14	6.7	55	14	.00	1.0	20
AC-FT	406	1520	1960	2030	3520	1710	3790	42540	12770	3370	17210	6150
CAL YR 1976	TOTAL	76206.54	MEAN 208	MAX 8580	MIN .00	AC-FT 151200						
WTR YR 1977	TOTAL	48783.04	MEAN 134	MAX 7620	MIN .00	AC-FT 96760						

ARKANSAS RIVER BASIN

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, 35.5°C July 28, 1977; minimum daily, -1.0°C Nov. 26, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 93,900 micromhos Oct. 31; minimum daily, 6,560 micromhos May 21.

WATER TEMPERATURE: Maximum daily, 35.5°C July 28; minimum daily, 0.0°C Nov. 15, 30, Dec. 4, 15, Jan. 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
05...	--	--	1928	6.8	55400	8.0	--	--	--	--
12...	1028	9740	1530	6.1	50000	8.2	26.0	3	9.8	126
15...	--	--	0800	4.0	43900	7.8	--	--	--	--
NOV										
05...	--	--	0900	29	65400	8.0	--	--	--	--
09...	1028	9740	1540	21	60000	8.4	17.5	1	10.4	114
15...	--	--	0835	21	54200	8.1	--	--	--	--
25...	--	--	2110	30	48200	8.2	--	--	--	--
DEC										
05...	--	--	1310	24	56200	8.0	--	--	--	--
14...	1028	9740	1430	33	80000	7.9	9.0	15	11.4	104
15...	--	--	0740	32	40200	8.0	--	--	--	--
24...	--	--	1445	26	47000	8.1	--	--	--	--
JAN										
05...	--	--	1125	21	58000	7.9	--	--	--	--
15...	--	--	1645	30	68400	7.8	--	--	--	--
24...	--	--	1615	37	54400	8.1	--	--	--	--
26...	1028	9740	1220	50	35000	--	4.0	8	14.1	113
FEB										
05...	--	--	2135	74	24400	8.0	--	--	--	--
09...	1028	9740	1550	62	18000	8.3	12.0	145	9.4	91
15...	--	--	1815	56	33300	8.1	--	--	--	--
25...	--	--	1715	53	44400	8.1	--	--	--	--
MAR										
05...	--	--	0720	37	49100	8.1	--	--	--	--
09...	1028	9740	1000	33	40000	8.3	9.5	6	11.2	104
15...	--	--	1540	25	53500	8.0	--	--	--	--
25...	--	--	0810	15	56000	8.1	--	--	--	--
APR										
13...	1028	9740	1430	14	30000	8.3	18.0	122	8.9	97
15...	--	--	0850	79	26300	7.4	--	--	--	--
25...	--	--	0750	140	23300	7.5	--	--	--	--
MAY										
03...	1028	9740	1630	148	37000	8.1	27.0	330	7.4	97
05...	--	--	1355	251	19900	7.3	--	--	--	--
15...	--	--	1750	164	18700	7.6	--	--	--	--
25...	--	--	0700	719	11100	7.4	--	--	--	--
JUN										
04...	--	--	2010	313	17300	7.6	--	--	--	--
07...	1028	9740	1315	116	21800	8.3	27.5	400	7.8	103
14...	--	--	0800	50	44100	7.7	--	--	--	--
25...	--	--	2045	1290	18500	7.6	--	--	--	--
JUL										
04...	--	--	1010	25	36700	8.1	--	--	--	--
12...	1028	9740	1845	13	36500	8.4	33.0	2	8.0	116
15...	--	--	2345	2.5	38200	7.5	--	--	--	--
24...	--	--	1735	3.0	42500	7.9	--	--	--	--
AUG										
04...	--	--	1910	13	29700	7.4	--	--	--	--

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
AUG										
10...	1028	9740	1000	1.0	23200	8.1	24.0	5	9.7	120
15...	--	--	1120	604	12800	7.6	--	--	--	--
27...	--	--	0840	74	32000	7.6	--	--	--	--
SEP										
05...	--	--	2000	119	14900	7.8	--	--	--	--
07...	1028	9740	1350	89	--	8.2	28.0	72	7.4	97
15...	--	--	1755	84	31700	8.0	--	--	--	--
25...	--	--	1725	33	37300	8.3	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT										
05...	--	1500	1400	--	360	--	140	--	14000	95
12...	35	--	--	--	--	--	--	--	--	--
15...	--	1300	1100	--	320	--	120	--	11000	95
NOV										
05...	--	1800	1600	--	430	--	170	--	17000	95
09...	15	--	--	--	--	--	--	--	--	--
15...	--	1500	1300	--	340	--	150	--	14000	95
25...	--	1300	1100	--	300	--	130	--	12000	95
DEC										
05...	--	1400	--	--	330	--	150	--	14000	95
14...	38	--	--	--	--	--	--	--	--	--
15...	--	1100	880	--	250	--	110	--	9500	95
24...	--	1300	1100	--	290	--	130	--	11000	95
JAN										
05...	--	1500	1300	--	320	--	160	--	15000	96
15...	--	1700	1500	--	390	--	180	--	19000	96
24...	--	1400	1300	--	330	--	150	--	14000	95
26...	40	--	--	--	--	--	--	--	--	--
FEB										
05...	--	690	510	--	160	--	70	--	5500	94
09...	48	--	--	--	--	--	--	--	--	--
15...	--	990	810	--	240	--	96	--	7800	94
25...	--	1100	960	--	260	--	120	--	11000	95
MAR										
05...	--	2300	2100	--	690	--	140	--	13000	92
09...	32	--	--	--	--	--	--	--	--	--
15...	--	1500	1400	--	350	--	160	--	14000	95
25...	--	1600	1400	--	370	--	160	--	15000	95
APR										
13...	31	--	--	--	--	--	--	--	--	--
15...	--	1200	1100	--	350	--	88	--	6100	91
25...	--	780	580	--	190	--	74	--	5300	94
MAY										
03...	652	--	--	--	--	--	--	--	--	--
05...	--	760	560	--	200	--	64	--	4500	93
15...	--	750	590	--	190	--	66	--	4100	92
25...	--	600	450	--	160	--	49	--	2300	89
JUN										
04...	--	800	630	--	210	--	68	--	3600	91
07...	33	--	--	--	--	--	--	--	--	--
14...	--	1400	1300	--	380	--	120	--	12000	95
25...	--	600	490	--	170	--	43	--	4200	94
JUL										
04...	--	1300	1100	--	330	--	120	--	8800	93
12...	25	--	--	--	--	--	--	--	--	--
15...	--	1700	1600	--	440	--	150	--	8700	92
24...	--	1600	1500	--	430	--	130	--	10000	93
AUG										
04...	--	1700	1500	--	430	--	140	--	6600	90
10...	33	--	--	--	--	--	--	--	--	--
15...	--	470	310	--	130	--	35	--	2700	92
27...	--	1300	1100	--	320	--	110	--	7700	93
SEP										
05...	--	690	560	--	180	--	59	--	3300	91
07...	45	--	--	--	--	--	--	--	--	--
15...	--	1200	1100	--	330	--	97	--	7400	93
25...	--	1500	1300	--	370	--	130	--	8900	93

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	CAR- BONATE (CO ₃) (MG/L)	ALKA- LINITY AS CACO ₃ (MG/L)	CARBON DIOXIDE (CO ₂) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
05...	159	--	23	154	0	126	2.5	930	22000	--
12...	--	--	--	--	--	--	--	--	--	.4
15...	133	--	19	201	0	165	5.1	820	17000	--
NOV										
05...	176	--	23	197	0	162	3.2	1100	27000	--
09...	--	--	--	--	--	--	--	--	--	.4
15...	159	--	19	210	2	176	2.7	940	22000	--
25...	146	--	17	218	2	182	2.2	800	19000	--
DEC										
05...	160	--	22	--	0	--	--	850	21000	--
14...	--	--	--	--	--	--	--	--	--	.7
15...	126	--	15	237	0	194	3.8	690	16000	--
24...	135	--	16	243	0	199	3.1	820	19000	--
JAN										
05...	171	--	21	188	0	154	3.8	810	25000	--
15...	200	--	24	220	0	180	5.6	1100	30000	--
24...	160	--	19	204	0	167	2.6	920	22000	--
26...	--	--	--	--	--	--	--	--	--	.5
FEB										
05...	91	--	9.7	219	0	180	3.5	410	8900	--
09...	--	--	--	--	--	--	--	--	--	.7
15...	108	--	12	225	0	185	2.9	630	12000	--
25...	142	--	17	227	0	186	2.9	710	17000	--
MAR										
05...	118	--	18	220	0	180	2.8	870	20000	--
09...	--	--	--	--	--	--	--	--	--	.6
15...	156	--	21	200	0	160	3.2	1100	22000	--
25...	164	--	22	210	0	170	2.7	1100	23000	--
APR										
13...	--	--	--	--	--	--	--	--	--	.4
15...	76	--	13	130	0	107	8.3	980	9400	--
25...	83	--	13	240	0	197	12	540	8200	--
MAY										
03...	--	--	--	--	--	--	--	--	--	.4
05...	71	--	13	250	0	210	20	420	7200	--
15...	65	--	12	190	0	156	7.6	440	6300	--
25...	41	--	11	190	0	160	12	330	3700	--
JUN										
04...	55	--	14	210	0	170	8.4	480	5500	--
07...	--	--	--	--	--	--	--	--	--	.9
14...	137	--	18	210	0	170	6.7	880	18000	--
25...	75	--	11	140	0	110	5.6	480	6300	--
JUL										
04...	105	--	21	210	0	172	2.7	720	14000	--
12...	--	--	--	--	--	--	--	--	--	.4
15...	91	--	22	150	0	120	7.6	1200	14000	--
24...	109	--	20	94	0	77	1.9	1100	16000	--
AUG										
04...	71	--	24	230	0	189	15	950	11000	--
10...	--	--	--	--	--	--	--	--	--	.4
15...	54	--	10	190	0	156	7.6	300	4100	--
27...	95	--	19	190	0	160	7.6	710	12000	--
SEP										
05...	55	--	12	160	0	131	4.1	480	5000	--
07...	--	--	--	--	--	--	--	--	--	.7
15...	92	--	16	140	0	110	2.2	800	12000	--
25...	101	--	19	180	0	150	1.4	970	14000	--

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
05...	--	38400	--	52.2	705	.15	--	--	--	--
12...	--	--	--	--	--	--	1.2	<.11	--	--
15...	--	29200	--	39.7	315	.23	--	--	--	--
NOV										
05...	--	46200	--	62.8	3620	.15	--	--	--	--
09...	--	--	--	--	--	--	1.0	.03	4	40
15...	--	37200	--	50.6	2110	.02	--	--	--	--
25...	--	32200	--	43.8	2610	.06	--	--	--	--
DEC										
05...	--	39100	--	53.2	2530	.04	--	--	--	--
14...	--	--	--	--	--	--	.90	<.03	--	--
15...	--	26600	--	36.2	2300	.37	--	--	--	--
24...	--	31900	--	43.4	2240	.32	--	--	--	--
JAN										
05...	--	41500	--	56.4	2350	.73	--	--	--	--
15...	--	50500	--	68.7	4090	.62	--	--	--	--
24...	--	38100	--	51.8	3810	.12	--	--	--	--
26...	--	--	--	--	--	--	.90	<.10	--	--
FEB										
05...	--	15000	--	20.4	3000	1.1	--	--	--	--
09...	--	--	--	--	--	--	1.3	.22	6	8
15...	--	21500	--	29.2	3250	.43	--	--	--	--
25...	--	29900	--	40.7	4280	.11	--	--	--	--
MAR										
05...	--	33800	--	46.0	3380	.01	--	--	--	--
09...	--	--	--	--	--	--	1.2	.08	--	--
15...	--	37500	--	51.0	2530	.00	--	--	--	--
25...	--	41600	--	56.6	1690	.00	--	.01	--	--
APR										
13...	--	--	--	--	--	--	2.5	.18	--	--
15...	--	16800	--	22.8	3580	.36	--	--	--	--
25...	--	14500	--	19.7	5480	.27	--	--	--	--
MAY										
03...	--	--	--	--	--	--	3.7	.79	18	14
05...	--	12300	--	16.7	8340	--	--	--	--	--
15...	--	11400	--	15.5	5050	--	--	--	--	--
25...	--	6580	--	8.95	12800	--	--	--	--	--
JUN										
04...	--	10500	--	14.3	8870	--	--	--	--	--
07...	--	--	--	--	--	--	2.7	.86	--	--
14...	--	30000	--	40.8	4050	--	--	--	--	--
25...	--	11300	--	15.4	39400	--	--	--	--	--
JUL										
04...	--	24300	--	33.0	1640	--	--	--	--	--
12...	--	--	--	--	--	--	.83	.05	--	--
15...	--	25400	--	34.5	171	--	--	--	--	--
24...	--	29100	--	39.6	236	--	--	--	--	--
AUG										
04...	--	19300	--	26.2	677	--	--	--	--	--
10...	--	--	--	--	--	--	.95	.05	5	8
15...	--	7400	--	10.1	12100	--	--	--	--	--
27...	--	20600	--	28.0	4120	--	--	--	--	--
SEP										
05...	--	8890	--	12.1	2860	--	--	--	--	--
07...	--	--	--	--	--	--	<.65	.24	--	--
15...	--	20500	--	27.9	4650	--	--	--	--	--
25...	--	24600	--	33.5	2190	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.0	19.5	5.0	---	8.0	9.0	10.0	26.5	27.5	22.0	34.0	22.5
2	23.5	15.5	---	---	6.0	9.0	7.5	23.0	25.0	24.0	31.0	22.0
3	25.0	16.5	8.0	0.0	9.0	12.0	18.0	26.5	24.5	22.5	29.0	22.0
4	15.0	13.0	0.0	---	10.0	2.0	14.5	24.5	28.0	25.0	30.0	23.0
5	17.0	5.0	8.0	---	8.5	2.0	19.5	23.5	25.0	22.0	32.5	26.5
6	18.5	7.0	2.5	---	3.0	---	20.5	24.5	22.0	24.0	29.0	29.0
7	11.0	13.0	5.0	3.5	7.0	14.0	21.5	25.0	18.5	28.0	25.0	---
8	6.5	14.5	---	---	12.5	14.0	26.0	26.0	19.0	21.0	30.5	22.0
9	25.0	7.0	2.0	---	5.0	14.5	18.5	24.0	20.0	25.5	32.0	21.5
10	26.0	8.0	3.0	---	8.5	16.0	20.5	24.0	24.5	26.0	26.0	21.0
11	14.0	9.5	3.0	---	10.5	13.0	12.0	23.0	26.0	24.0	21.0	25.0
12	18.0	2.5	8.0	---	13.0	7.5	16.0	17.5	25.0	23.5	25.0	25.0
13	23.0	6.0	5.0	---	14.0	13.0	15.5	18.0	21.0	25.0	25.0	23.5
14	21.0	9.0	5.0	---	8.5	9.0	21.0	24.5	20.5	23.5	24.0	24.0
15	11.5	0.0	0.0	---	9.5	20.0	16.0	24.0	22.0	23.0	27.0	25.0
16	10.5	3.5	5.0	---	2.0	13.0	19.0	23.0	21.5	26.0	29.0	25.0
17	9.5	11.5	1.5	---	5.0	17.0	16.5	18.0	22.0	26.5	23.5	---
18	10.0	15.0	10.0	---	16.0	7.0	22.0	24.0	22.0	29.5	23.0	23.0
19	8.5	14.0	9.0	5.0	9.0	15.0	24.5	21.5	25.0	29.0	25.0	26.0
20	6.5	4.5	4.0	8.5	15.0	12.5	18.5	19.0	27.5	33.0	30.5	25.0
21	10.5	4.5	2.5	2.5	5.0	12.0	15.0	16.5	23.0	---	29.0	19.0
22	10.0	0.5	1.5	5.0	12.0	18.5	14.0	18.0	21.5	---	23.0	20.0
23	14.0	4.0	4.5	6.5	10.0	5.5	22.0	24.0	22.0	33.0	31.0	---
24	12.0	4.0	9.0	11.0	4.0	20.5	22.0	26.0	21.0	31.0	25.5	25.0
25	9.0	12.0	4.5	0.5	9.5	12.5	12.0	20.5	29.0	28.0	27.5	27.0
26	8.5	9.0	10.5	10.0	8.0	---	13.5	22.0	25.0	27.5	23.0	29.0
27	7.0	---	10.0	2.0	9.0	17.0	24.5	24.5	25.0	28.0	21.0	26.0
28	7.0	0.5	8.5	2.0	3.0	17.0	23.0	21.5	24.0	35.5	22.0	23.5
29	8.0	3.5	8.0	3.0	---	13.0	22.0	24.5	22.0	35.0	24.0	23.0
30	15.0	0.0	---	1.5	---	14.0	24.5	27.0	22.0	35.0	27.0	21.0
31	16.0	---	---	1.0	---	17.5	---	22.5	---	21.5	21.0	---
MONTH	14.5	8.0	5.5	---	8.5	12.5	18.5	23.0	23.5	27.0	26.5	24.0
YEAR	MAX	35.5	MIN	0.0	MEAN	17.0						

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56600	83200	56800	42000	31900	31800	64800	20200	9910	25700	41700	12500
2	57700	76700	58200	39400	28000	32100	64900	28200	13700	31000	27500	22400
3	57700	74000	60700	45200	22600	35800	56900	35200	18300	34400	27600	21800
4	55800	71200	58800	49000	28200	38000	61600	22700	17300	36700	29700	14200
5	55400	65400	56200	58000	24400	44100	65600	19900	13300	39600	29700	14900
6	50300	63100	57100	61300	21700	---	65000	13800	17100	39500	37600	26600
7	48700	63600	30900	56500	19800	42600	67700	18200	19600	45500	37500	---
8	51600	64500	33900	58400	21300	44600	66400	21400	20900	13000	26500	33600
9	59600	63300	35800	65000	22000	45600	68800	23700	23000	38600	26400	28200
10	55300	62000	43500	---	26700	46300	69400	26300	29200	36600	20200	30200
11	54300	55700	48300	70100	27500	45900	66800	23100	30800	37800	8010	31300
12	49500	59600	43700	73400	26800	50300	66500	10800	31500	37400	12500	36600
13	47000	58000	39500	72600	54900	52800	45200	10600	30400	37500	8850	34600
14	44700	56800	41300	68900	39600	51900	16900	14000	44100	36600	15800	24500
15	43900	54200	40200	68400	33300	53500	26300	18700	44300	38200	12800	31700
16	46600	51500	38800	75300	30000	51400	56700	21000	21800	37800	14300	29200
17	46100	57500	32800	67300	27400	53500	47000	21900	26700	34300	18900	---
18	46600	56200	34000	74100	30200	54600	59800	36200	32600	40600	27500	29800
19	47400	54400	37900	62900	30400	55000	58600	11200	35300	41800	33200	15300
20	47400	52500	39500	64600	29300	56300	26800	10800	41300	27400	30000	18500
21	47900	52400	40400	60300	28200	56700	37400	6560	41300	---	47500	20800
22	47900	51200	39300	56600	29600	55600	45900	12000	41900	---	47100	25700
23	48400	50000	39200	57800	33500	54900	41300	12100	40300	27200	22600	---
24	49100	46000	47000	54400	34400	57000	32100	15000	34000	42500	20100	34400
25	49600	48200	47600	57800	44400	56000	23300	11100	18500	42600	7380	37300
26	49200	47800	31200	38500	34900	55800	13800	10200	13800	6660	12900	39700
27	37800	51000	30600	28800	27500	56500	17200	14900	12000	18200	32000	40000
28	40500	52100	35000	27000	28500	54600	21500	22200	12900	58800	24800	40900
29	41600	53700	34400	27100	---	85200	25500	12700	17800	45000	10800	41700
30	64100	52600	28700	29600	---	73600	23800	8730	21900	45100	16900	42000
31	93900	---	35600	33000	---	66500	---	7120	---	41700	15400	---
MONTH	51400	58300	41800	54800	29900	52100	46800	17400	25900	36000	24000	28800
YEAR	MAX	93900	MIN	6560	MEAN	34000						

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	13.5	23.0	24.5	26.0	---	26.0
2						---	14.5	21.0	24.5	---	---	26.0
3						---	13.0	21.5	24.5	---	---	26.0
4						---	9.0	22.5	25.0	26.0	---	24.0
5						---	10.5	21.0	25.5	27.5	---	25.5
6						---	16.0	21.0	25.0	29.0	---	26.5
7						---	17.5	22.5	24.0	30.0	---	27.5
8						---	17.0	23.0	24.5	26.0	---	27.5
9						---	16.0	23.0	24.0	29.5	---	23.0
10						---	16.0	21.5	24.5	30.0	---	27.0
11						---	16.5	20.0	24.5	---	---	25.5
12						---	17.5	20.5	25.0	---	---	24.5
13						---	17.0	21.0	25.0	---	---	27.5
14						---	17.0	21.0	25.0	---	---	28.5
15						---	18.0	21.0	25.0	---	---	21.5
16						10.0	18.5	21.5	25.0	---	---	23.5
17						11.5	18.5	20.5	25.0	---	---	23.5
18						12.0	19.5	21.5	25.0	---	23.0	23.5
19						8.5	21.0	21.5	25.5	---	23.0	23.0
20						9.0	18.0	20.0	25.5	---	26.5	25.5
21						8.5	14.5	18.5	25.5	---	28.5	26.5
22						9.5	13.0	21.5	25.0	---	27.5	22.5
23						12.5	17.5	22.5	---	---	28.0	20.0
24						13.5	18.5	23.5	---	---	27.5	---
25						16.0	18.0	23.5	---	---	26.5	---
26						16.5	18.0	21.5	---	---	25.5	---
27						16.0	19.5	20.5	---	---	24.0	---
28						14.5	21.0	22.5	---	---	21.5	---
29						12.5	22.0	25.0	---	---	22.5	---
30						10.0	21.5	28.0	---	---	24.5	---
31						11.5	---	26.5	---	---	26.0	---
MEAN						12.0	17.0	22.0	25.0	28.0	25.5	25.0
WTR YR 1977	MEAN	21.5		MAX	30.0		MIN	8.5				

SPECIFIC CONDUCTANCE (MICROHMS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	42500	34900	33200	69500	20200	9860	27400	---	12300
2			---	40900	28000	34100	59300	27200	13700	31000	---	22100
3			---	44700	22800	31800	61900	36400	18300	33900	---	21900
4			---	47100	26600	---	54700	28300	17300	38100	---	14000
5			---	56500	26800	---	64100	19800	13300	40800	---	14700
6			---	58700	21500	---	63700	14100	17100	42400	---	22500
7			---	53600	20400	---	66600	17800	19800	---	---	27800
8			---	54400	21700	---	44200	21600	20800	13100	---	33400
9			26700	67000	22000	29900	71700	23700	22900	30900	---	26000
10			48600	72300	26500	43700	70200	26500	29300	38100	---	30300
11			47800	72000	28700	39200	---	23300	30700	---	9610	31100
12			44500	72900	26000	43600	---	10800	31600	---	20900	36600
13			39400	69700	54500	56400	---	10500	30400	---	10400	33700
14			41500	75500	39600	56900	16900	14200	44100	---	17000	30500
15			54300	62000	32700	46300	26800	18900	44300	---	---	31600
16			38100	74700	30300	51500	55500	20800	22000	---	13600	28700
17			32200	64700	29500	44600	47300	21500	26800	---	19300	30100
18			33900	70300	29300	43100	59600	37000	32600	---	27400	30300
19			41400	64300	30300	41700	58200	11500	35400	---	32200	15100
20			38100	66100	26700	61000	26600	10500	41000	---	29700	24500
21			40100	62800	28500	54400	38200	10200	41400	---	47200	---
22			37800	60100	25700	44700	45100	11600	41800	---	48300	---
23			39300	57300	32500	43000	42600	11200	---	---	23000	---
24			46600	55200	34500	57000	33900	15000	---	---	20000	---
25			48400	58000	43500	57500	22900	10900	---	---	7880	---
26			33200	37200	35400	56200	13800	10300	---	---	11500	---
27			27900	29300	26500	56000	17400	14200	---	---	31800	---
28			25100	26500	26000	61200	21200	22300	---	---	25300	---
29			34200	25200	---	82900	24500	13100	---	---	11000	---
30			29000	27600	---	63400	23700	7920	---	---	15200	---
31			34500	30300	---	70900	---	7150	---	---	15100	---
MEAN			37800	54800	29800	50400	44400	17800	27500	32900	21800	26000
WTR YR 1977	MEAN	35100		MAX	82900		MIN	7150				

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	17000	13000	13000	29000	6900	2300	10000	---	3400
2			---	16000	10000	13000	24000	10000	4000	12000	---	7700
3			---	18000	8100	12000	25000	15000	6100	13000	---	7700
4			---	19000	9700	---	22000	10000	5600	15000	---	4200
5			---	23000	9600	---	26000	6700	3900	16000	---	4500
6			---	24000	7500	---	26000	4200	5500	17000	---	7900
7			---	22000	7000	---	27000	5800	6700	---	---	10000
8			---	22000	7600	---	18000	7500	7200	3800	---	13000
9			9800	28000	7700	11000	30000	8500	8100	12000	---	10000
10			19000	30000	9700	17000	29000	9700	11000	15000	---	11000
11			19000	30000	11000	15000	---	8300	12000	---	2200	12000
12			18000	30000	9500	17000	---	2800	12000	---	7200	14000
13			15000	29000	22000	23000	---	2600	11000	---	2600	13000
14			16000	31000	15000	23000	5500	4300	17000	---	5500	11000
15			16000	25000	12000	18000	9800	6300	18000	---	---	12000
16			15000	31000	11000	21000	22000	7200	7700	---	4100	11000
17			12000	27000	11000	18000	19000	7500	9800	---	6500	11000
18			13000	29000	11000	17000	24000	14000	12000	---	10000	11000
19			16000	26000	11000	16000	24000	3100	14000	---	12000	4700
20			15000	27000	11000	25000	9700	2600	16000	---	11000	8800
21			16000	26000	11000	24000	15000	2500	16000	---	19000	---
22			15000	25000	9300	18000	18000	3100	16000	---	19000	---
23			16000	23000	12000	17000	17000	2900	---	---	8100	---
24			19000	22000	13000	23000	13000	4600	---	---	6600	---
25			19000	24000	17000	23000	8100	2800	---	---	1500	---
26			13000	14000	14000	23000	4100	2500	---	---	3100	---
27			10000	11000	9700	23000	5700	4300	---	---	12000	---
28			9100	9700	9500	25000	7300	7800	---	---	9200	---
29			13000	9100	---	35000	8800	3800	---	---	2800	---
30			11000	10000	---	26000	8500	1500	---	---	4700	---
31			13000	11000	---	29000	---	1100	---	---	4700	---
MEAN			15000	22000	11000	20000	18000	5800	10000	13000	7600	9400
WTR YR 1977	MEAN	13000		MAX	35000		MIN	1100				

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	830	730	710	1200	550	420	640	---	450
2			---	810	650	720	1000	640	470	680	---	570
3			---	850	580	690	1100	780	530	720	---	570
4			---	880	630	---	980	650	510	770	---	470
5			---	1000	630	---	1100	540	460	810	---	480
6			---	1000	560	---	1100	470	510	830	---	580
7			---	960	550	---	1100	520	540	---	---	640
8			---	970	570	---	850	570	560	460	---	710
9			630	1100	570	670	1200	590	580	680	---	650
10			900	1200	630	840	1200	630	660	770	---	670
11			890	1200	650	790	---	590	680	---	420	680
12			850	1200	620	840	---	430	690	---	560	750
13			790	1200	980	1000	---	430	680	---	430	720
14			810	1200	790	1000	510	470	850	---	510	680
15			790	1100	700	870	630	530	850	---	---	690
16			770	1200	670	940	990	560	570	---	470	650
17			700	1100	660	850	890	560	630	---	540	670
18			720	1200	660	830	1000	760	700	---	640	670
19			810	1100	670	820	1000	440	740	---	700	490
20			770	1100	650	1100	630	430	810	---	670	600
21			800	1100	650	1000	770	420	810	---	880	---
22			770	1000	620	850	860	440	820	---	900	---
23			790	1000	700	830	830	440	---	---	580	---
24			880	980	730	1000	720	480	---	---	550	---
25			900	1000	840	1000	580	430	---	---	400	---
26			710	760	740	1000	470	430	---	---	440	---
27			640	660	630	990	510	470	---	---	690	---
28			610	630	620	1100	560	570	---	---	610	---
29			720	610	---	1300	600	460	---	---	430	---
30			660	640	---	1100	590	400	---	---	490	---
31			730	670	---	1200	---	390	---	---	490	---
MEAN			770	980	670	920	850	520	640	710	570	620
WTR YR 1977	MEAN	730		MAX	1300		MIN	390				

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	1290	1790	1680	2110	1830	9940	1460	---	5060
2			---	1120	1590	1580	1560	5450	4350	1360	---	5950
3			---	1170	1470	1330	1550	6930	4430	1090	---	3330
4			---	1130	1830	---	1190	4990	3160	891	---	1630
5			---	1300	1930	---	1330	5160	1850	605	---	1450
6			---	1430	1500	---	1260	2100	1980	386	---	2200
7			---	1430	1340	---	1170	1970	2100	---	---	2130
8			---	1540	1350	---	583	1800	1440	5290	---	2770
9			820	2190	1310	980	810	1810	1530	5480	---	1400
10			1590	3000	1620	1510	689	2070	1900	2670	---	1220
11			1540	3080	1930	1380	---	6430	1560	---	2320	1390
12			1510	3160	1920	1380	---	1870	1100	---	4280	1700
13			1220	3680	4340	1800	---	1120	921	---	8420	4810
14			1340	3260	2590	1740	2380	1070	1510	---	33400	6420
15			1430	1960	1880	1220	2010	1120	2920	---	---	3430
16			1580	2260	1690	1300	3030	1070	811	---	2080	2550
17			1230	1970	1660	1120	3180	1640	714	---	2400	4430
18			1300	1570	1630	964	4860	7410	713	---	2840	4260
19			1560	1540	1570	864	4600	4240	756	---	3860	1620
20			1420	1750	1510	1280	6230	3520	605	---	3090	2000
21			1430	1540	1490	1100	7570	51400	605	---	4410	---
22			1130	1620	1230	826	5440	11800	605	---	5340	---
23			1040	1680	1590	688	4130	3990	---	---	2140	---
24			1230	1960	1860	931	3190	8350	---	---	1670	---
25			1280	2790	2390	869	2730	5480	---	---	782	---
26			1300	1890	2000	931	1070	2750	---	---	862	---
27			1050	1490	1390	1060	1230	5290	---	---	1810	---
28			934	1550	1280	1420	1200	7220	---	---	5540	---
29			1300	1230	---	3120	1140	29200	---	---	8690	---
30			1100	1320	---	2390	1840	5470	---	---	7020	---
31			1090	1310	---	2270	---	4190	---	---	7450	---
MEAN			1280	1880	1770	1370	2520	6410	2070	2140	5420	2990
WTR YR 1977	MEAN	2840		MAX	51400		MIN	386				

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	62.7	101.0	92.0	87.5	146.0	1810.0	93.3	---	669.0
2			---	56.9	104.0	87.5	64.8	349.0	511.0	77.1	---	440.0
3			---	55.1	105.0	76.4	68.3	360.0	385.0	60.3	---	246.0
4			---	52.3	119.0	---	52.9	325.0	288.0	45.7	---	183.0
5			---	56.7	124.0	---	56.4	416.0	219.0	30.6	---	154.0
6			---	59.4	112.0	---	53.5	235.0	183.0	18.8	---	161.0
7			---	62.2	105.0	---	47.5	177.0	169.0	---	---	137.0
8			---	68.1	102.0	---	27.5	137.0	112.0	641.0	---	151.0
9			52.7	86.1	97.0	59.7	32.4	126.0	110.0	310.0	---	91.3
10			75.3	120.0	105.0	74.8	28.5	134.0	114.0	137.0	---	74.2
11			72.1	123.0	114.0	72.5	---	457.0	88.1	---	443.0	78.9
12			71.1	126.0	126.0	68.0	---	287.0	63.3	---	333.0	91.1
13			64.0	152.0	193.0	78.3	---	186.0	56.9	---	1390.0	266.0
14			67.8	126.0	137.0	75.6	220.0	117.0	75.7	---	3100.0	397.0
15			70.4	86.1	110.0	58.7	129.0	94.4	138.0	---	---	197.0
16			81.1	87.5	103.0	58.4	136.0	83.2	60.0	---	239.0	151.0
17			71.8	80.2	99.8	52.8	149.0	122.0	45.9	---	200.0	270.0
18			71.9	64.8	98.0	47.1	202.0	402.0	41.6	---	181.0	260.0
19			78.7	65.3	95.9	44.3	192.0	602.0	40.0	---	225.0	169.0
20			72.8	71.3	89.5	56.4	405.0	583.0	30.6	---	188.0	136.0
21			71.3	65.3	87.7	45.9	389.0	6640.0	30.6	---	204.0	---
22			58.2	64.8	82.0	39.0	260.0	1680.0	31.0	---	253.0	---
23			51.2	72.9	92.6	33.6	202.0	605.0	---	---	153.0	---
24			57.0	87.3	104.0	40.5	177.0	871.0	---	---	135.0	---
25			60.7	116.0	118.0	37.8	196.0	842.0	---	---	208.0	---
26			70.9	103.0	106.0	40.5	123.0	474.0	---	---	122.0	---
27			67.4	89.1	90.2	45.4	110.0	579.0	---	---	104.0	---
28			62.6	100.0	83.7	62.4	92.2	528.0	---	---	367.0	---
29			71.9	82.3	---	116.0	77.8	3540.0	---	---	1340.0	---
30			65.9	84.7	---	101.0	127.0	1460.0	---	---	732.0	---
31			61.1	79.6	---	94.0	---	1480.0	---	---	777.0	---
MEAN			67.3	84.1	107.0	63.8	137.0	840.0	209.0	157.0	535.0	216.0
WTR YR 1977	MEAN	251.0		MAX	8640.0		MIN	18.8				

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 160 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	29000	23300	22000	49300	12300	4490	17700	---	6320
2			---	27800	18100	22700	41600	17500	7380	20400	---	13700
3			---	30700	14200	21000	43600	25900	10800	22600	---	13500
4			---	32500	17100	---	38200	18300	10100	25700	---	7600
5			---	39500	17200	---	45200	12000	7080	27700	---	8130
6			---	41200	13200	---	44900	7680	9930	28900	---	14000
7			---	37300	12400	---	47100	10500	12000	---	---	18000
8			---	38000	13400	---	30300	13300	12700	6930	---	22200
9			17100	47400	13600	19500	50900	14900	14300	20300	---	18100
10			33600	51400	17000	29900	49800	17000	19100	25700	---	19800
11			33000	51200	18600	26500	---	14600	20100	---	4300	20400
12			30500	51800	16600	29800	---	5200	20800	---	12800	24600
13			26700	49400	38000	39500	---	4970	19900	---	4900	22400
14			28300	53800	26800	39800	9780	7750	30200	---	9860	20000
15			27000	43700	21600	31900	17200	11300	30400	---	---	20800
16			25700	53200	19800	35800	38800	12700	13600	---	7450	18600
17			21300	45700	19200	30600	32600	13200	17200	---	11600	19700
18			22600	49900	19100	29500	41900	24900	21600	---	17700	19800
19			28200	45400	19800	28400	40800	5720	23700	---	21300	8430
20			25700	46700	18600	42900	17100	4970	27900	---	19400	15500
21			27200	44300	18500	41700	25800	4750	28200	---	32500	---
22			25500	42200	16400	30700	31000	5800	28500	---	33400	---
23			27000	40100	21500	29400	29100	5500	---	---	14400	---
24			32100	38600	23000	39900	22600	8350	---	---	12100	---
25			33400	40700	29600	40300	14300	5270	---	---	3000	---
26			22000	25000	23700	39300	7450	4820	---	---	5720	---
27			18000	19100	17000	39200	10200	7750	---	---	21000	---
28			15900	17000	16600	43100	13000	13800	---	---	16100	---
29			22800	16000	---	59400	15500	6930	---	---	5350	---
30			18900	17800	---	44700	14900	3030	---	---	8500	---
31			23000	19800	---	50300	---	2460	---	---	8430	---
MEAN			25500	38300	19400	34900	30500	10400	17700	21800	13500	16600
WTR YR 1977	MEAN	23400		MAX	59400		MIN	2460				

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	2190	3210	2850	3590	3250	19400	2580	---	9400
2			---	1950	2880	2760	2700	9540	8030	2310	---	10600
3			---	1990	2570	2320	2710	12000	7840	1890	---	5830
4			---	1930	3230	---	2060	9140	5700	1530	---	2950
5			---	2240	3390	---	2320	9230	3360	1050	---	2610
6			---	2450	2640	---	2180	3840	3570	655	---	3890
7			---	2420	2380	---	2030	3570	3760	---	---	3840
8			---	2670	2390	---	982	3200	2540	9650	---	4740
9			1430	3710	2310	1740	1370	3180	2700	9260	---	2540
10			2810	5130	2850	2660	1180	3630	3300	4580	---	2190
11			2670	5250	3260	2430	---	11300	2600	---	4540	2370
12			2550	5450	3360	2410	---	3470	1910	---	7600	2990
13			2160	6270	7490	3090	---	2150	1670	---	15900	8290
14			2370	5670	4630	3010	4220	1930	2690	---	59900	11700
15			2410	3420	3380	2150	3530	2010	4920	---	---	5950
16			2710	3880	3050	2220	5340	1890	1430	---	3780	4320
17			2190	3330	2900	1900	5460	2890	1250	---	4290	7930
18			2260	2690	2840	1670	8480	13200	1280	---	5020	7700
19			2740	2700	2830	1530	7820	7830	1280	---	6840	2910
20			2430	3030	2560	2200	11000	6740	1050	---	5450	3520
21			2420	2630	2500	1910	13000	97700	1070	---	7550	---
22			1930	2730	2170	1410	9370	22100	1080	---	9380	---
23			1750	2920	2840	1190	7070	7560	---	---	3810	---
24			2080	3440	3290	1620	5550	15200	---	---	2970	---
25			2250	4730	4180	1520	4830	10300	---	---	1560	---
26			2200	3380	3390	1590	1950	5310	---	---	1590	---
27			1900	2580	2430	1800	2200	9540	---	---	3180	---
28			1630	2710	2240	2440	2140	12800	---	---	9690	---
29			2280	2160	---	5290	2010	53300	---	---	16600	---
30			1890	2350	---	4100	3220	11000	---	---	12700	---
31			1930	2350	---	3940	---	9370	---	---	13400	---
MEAN			2220	3240	3110	2380	4380	11900	3750	3720	9790	5310
WTR YR 1977	MEAN	5080		MAX	97700		MIN	655				

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK

LOCATION.--Lat 36°06'11", long 98°11'36", in SW 1/4 sec.20, T.19 N., R.9 W., Kingfisher County, Hydrologic Unit 11050002, near left bank on downstream wingwall of country bridge, 2.2 mi (3.5 km) downstream from Spring Creek, 7.0 mi (11.3 km) east of Okeene, and at mile 2.2 (3.5 km).

DRAINAGE AREA.--196 mi² (508 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1961 to September 1967, December 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,085.25 ft (330.784 m) above mean sea level.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--9 years (water years 1962-67, 1975-77) 42.0 ft³/s (1.189 m³/s), 30,430 acre-ft/yr (37.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,700 ft³/s (360 m³/s) Sept. 19, 1974, gage height, 16.90 ft (5.151 m); minimum daily, 0.90 ft³/s (0.003 m³/s) July 13, 14, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,950 ft³/s (83.5 m³/s) at 1145 May 21, gage height, 11.98 ft (3.652 m), no other peak above base of 2,000 ft³/s (56.6 m³/s); minimum daily, 3.0 ft³/s (0.085 m³/s) Dec. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	7.2	6.4	3.5	11	11	11	9.7	239	46	11	5.8
2	7.4	6.5	6.5	3.8	9.0	10	11	9.3	40	22	9.7	5.6
3	7.4	6.7	6.6	4.2	9.3	10	10	11	27	13	7.8	5.5
4	7.1	6.5	6.8	4.5	11	10	9.3	11	20	12	7.1	5.9
5	6.7	5.3	6.8	5.0	12	10	9.0	12	17	11	6.3	21
6	6.4	6.5	6.6	6.8	10	9.7	8.7	15	15	10	5.9	9.8
7	6.7	6.1	7.8	7.7	9.3	9.7	8.3	11	13	9.6	5.8	6.3
8	9.6	5.8	6.3	7.4	9.7	9.3	8.4	9.3	12	12	5.3	5.3
9	7.8	5.7	6.2	8.3	9.9	9.3	6.2	9.3	12	15	5.0	5.1
10	7.1	6.1	6.2	9.0	10	10	5.6	9.3	12	10	5.0	4.8
11	6.7	6.2	6.2	10	12	127	6.2	9.0	11	9.2	9.0	5.0
12	6.5	6.2	6.0	11	38	15	6.2	9.0	11	8.5	7.8	7.4
13	6.2	6.0	5.9	17	15	13	6.8	8.3	11	8.2	7.5	5.3
14	6.2	5.9	5.9	16	13	12	8.0	8.3	11	7.6	7.1	5.0
15	6.2	5.9	5.9	10	12	11	10	8.3	11	7.8	6.7	5.0
16	5.9	5.9	5.9	7.0	11	10	8.7	9.0	10	7.9	6.3	39
17	6.1	6.0	5.9	7.6	11	10	30	127	10	7.3	5.9	12
18	6.4	6.4	5.6	6.6	11	10	21	18	9.6	7.0	5.9	6.2
19	6.5	6.5	5.6	7.4	11	9.7	16	11	9.3	6.5	6.8	5.2
20	6.5	6.4	5.0	10	10	9.3	12	198	9.2	6.5	18	5.0
21	6.5	6.1	5.6	8.7	10	9.3	21	2200	8.8	6.5	8.5	4.9
22	6.5	6.1	5.9	7.4	9.7	9.3	71	169	9.3	6.9	7.4	4.4
23	6.8	6.7	6.5	7.4	11	9.3	224	58	35	11	8.0	4.2
24	6.7	6.2	7.1	7.7	9.7	9.3	66	40	14	8.8	10	4.2
25	6.5	6.1	6.8	7.7	9.0	9.3	14	31	25	6.7	28	4.0
26	6.7	5.9	7.1	7.1	12	10	9.3	21	16	6.2	8.9	4.0
27	10	5.9	7.1	7.1	14	11	9.3	58	10	6.2	6.2	4.1
28	11	6.2	7.1	7.1	12	13	8.0	31	9.5	7.0	12	4.3
29	11	5.8	6.0	5.8	---	13	8.7	328	217	114	7.0	4.5
30	44	5.9	4.5	10	---	12	9.0	45	49	20	6.8	4.9
31	9.6	---	3.0	12	---	11	---	257	---	10	6.2	---
TOTAL	262.7	184.7	190.8	250.8	332.6	442.5	652.7	3750.8	903.7	440.4	258.9	213.7
MEAN	8.47	6.16	6.15	8.09	11.9	14.3	21.8	121	30.1	14.2	8.35	7.12
MAX	44	7.2	7.8	17	38	127	224	2200	239	114	28	39
MIN	5.9	5.3	3.0	3.5	9.0	9.3	5.6	8.3	8.8	6.2	5.0	4.0
AC-FT	521	366	378	497	660	878	1290	7440	1790	874	514	424
CAL YR 1976 TOTAL	10235.7			MEAN 28.0	MAX 1960	MIN 3.0	AC-FT 20300					
WTR YR 1977 TOTAL	7884.3			MEAN 21.6	MAX 2200	MIN 3.0	AC-FT 15640					

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, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 47,500 micromhos Feb. 27; minimum daily, 1,170 micromhos May 21.

WATER TEMPERATURE: Maximum daily, 38.0°C Aug. 31; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
06...	1028	9740	1200	6.2	9000	7.9	13.0	2	10.5	102
13...	--	--	1850	6.2	16600	7.9	--	--	--	--
22...	--	--	1835	6.5	9360	8.0	--	--	--	--
28...	--	--	1850	10	42800	7.7	--	--	--	--
NOV										
01...	--	--	1740	6.8	27000	8.0	--	--	--	--
03...	1028	9740	0845	6.2	22000	7.7	9.0	6	11.5	101
12...	--	--	1920	6.2	9070	8.0	--	--	--	--
20...	--	--	1430	6.5	14600	7.9	--	--	--	--
DEC										
01...	--	--	1740	6.8	13600	7.9	--	--	--	--
08...	1028	9740	0950	6.2	16000	8.2	.5	2	13.0	105
09...	--	--	1720	6.2	19200	7.8	--	--	--	--
20...	--	--	1730	5.0	16500	7.8	--	--	--	--
JAN										
04...	1028	9740	0900	4.5	4780	8.1	.5	1	16.4	114
11...	--	--	2020	4.5	13900	7.8	--	--	--	--
15...	--	--	1805	10	29100	7.9	--	--	--	--
26...	--	--	1750	7.1	21200	7.9	--	--	--	--
FEB										
02...	1028	9740	0825	9.0	10200	7.5	4.0	2	15.4	120
05...	--	--	2000	12	19900	8.0	--	--	--	--
13...	--	--	1805	14	26600	8.0	--	--	--	--
23...	--	--	1725	11	11600	8.1	--	--	--	--
MAR										
03...	1028	9740	1006	10	14000	8.4	6.0	4	17.0	143
11...	--	--	1720	27	7120	7.7	--	--	--	--
29...	--	--	1735	13	34200	7.9	--	--	--	--
31...	--	--	1750	11	14000	7.8	--	--	--	--
APR										
06...	1028	9740	1000	8.7	10000	7.6	14.0	3	12.6	124
14...	--	--	1905	8.1	15000	7.6	--	--	--	--
21...	--	--	1845	21	39300	7.3	--	--	--	--
MAY										
04...	1028	9740	1000	10	26800	7.6	21.0	8	9.6	112
05...	--	--	1900	10	31600	7.4	--	--	--	--
09...	--	--	2005	9.3	17400	7.6	--	--	--	--
21...	--	--	2050	882	1170	7.2	--	--	--	--
JUN										
01...	--	--	2020	92	2820	7.5	--	--	--	--
02...	1028	9740	1020	40	5750	7.9	24.0	110	7.5	91
17...	--	--	2015	10	10600	7.2	--	--	--	--
23...	--	--	2015	31	30800	7.8	--	--	--	--
JUL										
01...	--	--	1830	84	2160	7.4	--	--	--	--
06...	1028	9740	1315	10	10500	8.2	30.0	8	12.8	173
14...	--	--	2045	7.1	14700	7.4	--	--	--	--
24...	--	--	1945	7.1	25700	7.7	--	--	--	--

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CF8)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
AUG										
03...	1028	9740	0930	8.0	25000	8.0	21.0	6	8.8	102
04...	--	--	1940	6.8	20900	7.8	--	--	--	--
20...	--	--	1900	11	38000	7.9	--	--	--	--
25...	--	--	2030	7.4	3840	7.4	--	--	--	--
SEP										
01...	--	--	--	5.8	11700	7.8	--	--	--	--
07...	--	--	1830	5.3	28300	7.9	--	--	--	--
08...	1028	9740	0900	5.3	26000	7.6	23.0	6	7.7	92
18...	--	--	2020	5.6	20300	7.9	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT										
06...	28	--	--	--	--	--	--	--	--	--
13...	--	1100	1000	--	330	--	78	--	3300	86
22...	--	940	780	--	280	--	59	--	1700	80
28...	--	2200	2100	--	660	--	140	--	10000	91
NOV										
01...	--	1600	1500	--	460	--	120	--	5800	88
03...	196	--	--	--	--	--	--	--	--	--
12...	--	1000	840	--	300	--	62	--	1600	78
20...	--	1200	1000	--	350	--	78	--	2800	84
DEC										
01...	--	1200	1000	--	340	--	81	--	2700	83
08...	21	--	--	--	--	--	--	--	--	--
09...	--	1300	1100	--	390	--	90	--	3900	86
20...	--	1300	1100	--	360	--	87	--	3400	85
JAN										
04...	84	--	--	--	--	--	--	--	--	--
11...	--	1200	970	--	330	--	86	--	2800	84
15...	--	1600	1500	--	470	--	110	--	6400	89
26...	--	1400	1200	--	400	--	96	--	4500	87
FEB										
02...	22	--	--	--	--	--	--	--	--	--
05...	--	1500	1300	--	430	--	96	--	4200	86
13...	--	1600	1400	--	450	--	110	--	5700	89
23...	--	1300	1100	--	370	--	80	--	2200	79
MAR										
03...	81	--	--	--	--	--	--	--	--	--
11...	--	450	350	--	140	--	25	--	1400	87
29...	--	2200	2100	--	640	--	140	--	7700	88
31...	--	1400	1300	--	420	--	85	--	2700	81
APR										
06...	22	--	--	--	--	--	--	--	--	--
14...	--	1200	1000	--	320	--	87	--	3100	85
21...	--	2100	2000	--	620	--	140	--	9400	91
MAY										
04...	42	--	--	--	--	--	--	--	--	--
05...	--	1900	1800	--	530	--	150	--	6700	88
09...	--	1400	1300	--	420	--	89	--	3600	85
21...	--	230	160	--	73	--	11	--	150	58
JUN										
01...	--	530	430	--	170	--	25	--	390	61
02...	22	--	--	--	--	--	--	--	--	--
17...	--	1300	1100	--	380	--	73	--	2100	78
23...	--	1900	1800	--	590	--	110	--	7000	89
JUL										
01...	--	430	330	--	140	--	20	--	320	61
06...	25	--	--	--	--	--	--	--	--	--
14...	--	1300	1200	--	400	--	75	--	2900	83
24...	--	1800	1700	--	520	--	120	--	5500	87
AUG										
03...	30	--	--	--	--	--	--	--	--	--
04...	--	1500	1400	--	430	--	95	--	4400	87
20...	--	2000	1900	--	560	--	140	--	8700	90
25...	--	440	350	--	130	--	27	--	680	77
SEP										
01...	--	850	720	--	230	--	66	--	2400	86
07...	--	1700	1600	--	480	--	120	--	6200	89
08...	29	--	--	--	--	--	--	--	--	--
18...	--	1100	990	--	320	--	77	--	4300	89

ARKANSAS RIVER BASIN

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07158400 SALT CREEK NEAR OKEENE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
06...	--	--	--	--	--	--	--	--	--	.5
13...	42	--	7.8	142	0	116	2.9	990	5000	--
22...	24	--	5.0	193	0	158	3.1	1000	2400	--
28...	92	--	17	200	0	164	6.4	1400	16000	--
NOV										
01...	62	--	10	196	0	161	3.1	1000	9400	--
03...	--	--	--	--	--	--	--	--	--	.3
12...	22	--	4.9	196	0	161	3.1	1100	2300	--
20...	35	--	6.1	196	0	161	3.9	1100	4400	--
DEC										
01...	34	--	6.4	170	0	139	3.4	1100	4000	--
08...	--	--	--	--	--	--	--	--	--	.4
09...	46	--	6.8	242	0	198	6.1	1100	6300	--
20...	42	--	6.5	136	0	112	3.4	1200	5200	--
JAN										
04...	--	--	--	--	--	--	--	--	--	.3
11...	36	--	6.1	248	0	203	6.3	980	4600	--
15...	69	--	8.8	164	0	135	3.3	1200	10000	--
26...	52	--	9.3	209	0	171	4.2	1100	7100	--
FEB										
02...	--	--	--	--	--	--	--	--	--	.3
05...	48	--	6.0	198	0	160	3.2	1200	6300	--
13...	62	--	10	187	0	153	3.0	1100	9400	--
23...	27	--	6.1	216	0	180	2.7	1200	3500	--
MAR										
03...	--	--	--	--	--	--	--	--	--	.3
11...	29	--	7.2	130	0	110	4.2	350	2100	--
29...	72	--	15	150	0	120	3.0	1500	12000	--
31...	31	--	8.4	130	0	110	3.3	1300	4200	--
APR										
06...	--	--	--	--	--	--	--	--	--	.4
14...	40	--	8.0	190	0	156	7.6	1100	4700	--
21...	89	--	15	180	0	148	14	1400	15000	--
MAY										
04...	--	--	--	--	--	--	--	--	--	.3
05...	66	--	12	180	0	150	11	1100	8000	--
09...	42	--	8.7	150	0	120	6.0	1200	6000	--
21...	4.3	--	5.1	86	0	71	8.7	160	210	--
JUN										
01...	7.4	--	8.8	120	0	98	6.1	430	610	--
02...	--	--	--	--	--	--	--	--	--	.3
17...	26	--	8.1	140	0	110	14	1100	3300	--
23...	69	--	17	150	0	123	3.8	1200	11000	--
JUL										
01...	6.7	--	5.9	130	0	107	8.3	300	490	--
06...	--	--	--	--	--	--	--	--	--	.3
14...	35	--	9.7	190	0	160	12	1000	4600	--
24...	57	--	14	140	0	115	4.5	1200	8800	--
AUG										
03...	--	--	--	--	--	--	--	--	--	.3
04...	50	--	11	140	0	110	3.6	1000	6900	--
20...	85	--	17	140	0	110	2.8	890	14000	--
25...	14	--	7.0	100	0	82	6.4	430	970	--
SEP										
01...	36	--	7.4	160	0	130	4.1	880	3700	--
07...	66	--	14	160	0	130	3.2	1100	9600	--
08...	--	--	--	--	--	--	--	--	--	.3
18...	56	--	11	150	0	120	3.0	760	6600	--

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
06...	--	--	--	--	--	--	.50	<.14	--	--
13...	--	10200	--	13.9	171	.37	--	--	--	--
22...	--	5790	--	7.87	102	.43	--	--	--	--
28...	--	28900	--	39.3	780	.83	--	--	--	--
NOV										
01...	--	17200	--	23.4	316	1.2	--	--	--	--
03...	--	--	--	--	--	--	1.0	<.08	2	10
12...	--	5680	--	7.72	95.1	.90	--	--	--	--
20...	--	9040	--	12.3	159	.92	--	--	--	--
DEC										
01...	--	8500	--	11.6	156	1.4	--	--	--	--
08...	--	--	--	--	--	--	.50	<.03	--	--
09...	--	12100	--	16.5	203	1.4	--	--	--	--
20...	--	10400	--	14.1	140	1.4	--	--	--	--
JAN										
04...	--	--	--	--	--	--	.60	<.06	--	--
11...	--	8650	--	11.8	105	2.5	--	--	--	--
15...	--	19000	--	25.8	513	2.0	--	--	--	--
26...	--	13600	--	18.5	261	1.5	--	--	--	--
FEB										
02...	--	--	--	--	--	--	--	<.03	4	9
05...	--	12700	--	17.3	411	1.1	--	--	--	--
13...	--	17300	--	23.5	654	1.6	--	--	--	--
23...	--	7360	--	10.0	219	.75	--	--	--	--
MAR										
03...	--	--	--	--	--	--	1.4	.06	--	--
11...	--	4180	--	5.68	3.05	1.4	--	--	--	--
29...	--	23100	--	31.4	811	.44	--	--	--	--
31...	--	8820	--	12.0	262	.64	--	--	--	--
APR										
06...	--	--	--	--	--	--	1.4	.06	--	--
14...	--	9490	--	12.9	208	.43	--	--	--	--
21...	--	25800	--	35.1	1460	1.0	--	--	--	--
MAY										
04...	--	--	--	--	--	--	1.4	.06	<1	13
05...	--	20900	--	28.4	564	.72	--	--	--	--
09...	--	11100	--	15.1	279	--	--	--	--	--
21...	--	681	--	.93	1620	--	--	--	--	--
JUN										
01...	--	1760	--	2.39	437	--	--	--	--	--
02...	--	--	--	--	--	--	1.8	.27	--	--
17...	--	6650	--	9.04	180	--	--	--	--	--
23...	--	20700	--	28.2	1730	--	--	--	--	--
JUL										
01...	--	1280	--	1.74	290	--	--	--	--	--
06...	--	--	--	--	--	--	1.3	.08	--	--
14...	--	9100	--	12.4	174	--	--	--	--	--
24...	--	16700	--	22.7	320	--	--	--	--	--
AUG										
03...	--	--	--	--	--	--	1.0	.08	6	1
04...	--	13300	--	18.1	244	--	--	--	--	--
20...	--	25400	--	34.5	754	--	--	--	--	--
25...	--	2260	--	3.07	45.2	--	--	--	--	--
SEP										
01...	--	7200	--	9.79	113	--	--	--	--	--
07...	--	18400	--	25.0	263	--	--	--	--	--
08...	--	--	--	--	--	--	<.65	.21	--	--
18...	--	12700	--	17.3	192	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	16.0	4.5	0.0	7.0	11.0	16.0	29.0	27.0	25.0	30.0	35.0
2	24.0	17.0	6.0	0.5	6.0	13.0	18.5	24.0	29.0	29.0	---	---
3	---	14.5	7.0	0.5	8.5	12.0	---	27.5	29.0	28.0	28.0	28.0
4	21.5	12.0	7.0	0.5	9.0	12.5	14.0	26.0	29.0	29.0	29.0	25.0
5	19.0	12.0	6.5	0.0	8.0	11.0	17.0	23.0	29.0	28.0	28.0	27.0
6	16.5	15.5	4.0	1.5	10.0	13.5	22.0	25.0	27.0	32.0	29.0	33.0
7	12.5	12.5	3.5	3.0	5.5	17.0	23.0	28.0	27.0	31.0	32.0	31.0
8	17.0	12.0	4.0	---	9.5	17.0	23.0	30.0	27.5	31.0	28.5	31.0
9	20.0	14.5	9.0	---	11.5	17.0	23.0	26.5	29.0	30.0	29.5	28.0
10	22.0	13.0	3.0	0.0	12.0	17.0	24.5	27.0	30.0	33.0	30.0	28.0
11	21.0	5.0	3.0	0.0	9.5	20.0	21.0	26.0	29.0	29.5	23.0	31.0
12	22.0	4.0	6.5	0.5	13.0	18.0	18.0	27.0	28.0	30.5	28.0	28.0
13	22.0	5.0	6.0	0.0	13.5	19.0	19.0	26.0	29.0	---	26.0	25.0
14	21.0	6.5	8.0	0.0	11.0	20.0	19.0	22.0	30.0	28.0	28.0	22.0
15	15.0	6.0	7.0	0.0	8.0	18.0	21.0	25.0	32.0	28.0	31.0	28.0
16	14.0	6.0	7.5	0.0	11.0	15.5	22.0	26.0	30.0	30.0	---	25.5
17	12.5	9.5	8.0	0.5	13.0	15.5	20.5	24.0	30.0	28.0	---	25.5
18	11.0	12.0	8.0	0.0	14.0	15.5	23.0	23.0	29.0	27.0	---	27.0
19	10.5	13.0	8.5	1.0	12.5	16.0	25.0	20.0	29.0	28.0	---	28.0
20	13.0	11.5	3.0	1.5	14.0	14.0	23.0	20.0	29.5	---	---	26.0
21	14.5	9.5	1.0	4.0	14.5	15.0	15.5	19.0	28.0	28.5	---	28.5
22	15.5	8.0	4.0	3.0	15.0	16.5	14.5	24.0	28.5	28.0	---	29.0
23	21.0	10.0	5.5	7.0	10.0	17.0	19.0	24.0	27.0	31.0	---	27.0
24	14.5	11.0	---	---	13.0	18.0	18.5	24.0	29.0	32.0	---	27.0
25	12.0	14.5	6.0	7.0	10.0	18.0	23.5	26.0	---	35.0	30.0	27.0
26	12.5	10.5	7.5	9.0	10.0	19.0	26.0	22.0	29.5	28.0	30.0	27.5
27	10.5	2.0	8.0	9.0	10.0	18.0	26.0	23.5	30.0	26.5	30.5	28.0
28	13.0	2.0	6.0	1.0	12.5	20.0	27.5	29.0	26.0	32.0	24.5	27.0
29	10.0	1.5	6.5	2.0	---	21.0	25.0	29.5	25.0	28.0	26.0	27.0
30	10.5	5.0	0.0	3.0	---	19.0	27.0	29.0	27.0	30.0	29.0	27.0
31	16.0	---	0.0	5.0	---	17.0	---	22.0	---	29.0	38.0	---
MONTH	16.5	9.5	5.5	2.0	11.0	16.5	21.0	25.0	28.5	29.5	---	28.0
YEAR	MAX	38.0	MIN	0.0	MEAN	18.5						

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14300	27000	13600	17100	15800	22800	11900	10400	2820	2160	16200	11700
2	13000	23400	14300	15000	15000	18500	10400	20400	6320	6630	---	---
3	---	21800	14500	19600	15100	18100	---	28700	8520	8840	21300	13700
4	11600	19100	15000	18500	17000	15700	11100	26900	10600	9910	20900	13900
5	11100	14500	15700	23100	19900	17000	12300	31600	9290	10800	20500	7920
6	10600	14900	16700	19500	21600	15700	13000	23600	10400	10600	18800	13600
7	10200	13200	13900	19900	18200	13900	13900	27300	9910	10200	17300	28300
8	11400	10600	15600	---	16200	13400	14600	23200	9660	9030	16200	24100
9	32300	10200	19200	---	16800	14600	14800	17400	9310	21600	15300	23300
10	26400	10300	16200	15000	16700	14500	14100	13900	9550	19600	14500	21300
11	22000	9470	17200	13900	15600	7120	14100	13800	9940	18400	15300	19500
12	18900	9070	16100	13900	33700	9970	14100	14000	9370	16600	21800	15500
13	16600	9120	18100	26500	26600	11300	13800	13500	9340	---	23300	25400
14	14600	12100	16000	25700	22800	10700	15000	12900	8370	14700	21500	24700
15	13500	16000	17300	29100	17900	8860	18400	12200	13000	11500	20600	23200
16	12800	13500	17100	26100	17400	10900	18500	12900	11100	10600	22100	23400
17	12000	15200	17400	23300	14200	11500	33400	9350	10600	11800	20100	21500
18	11100	14500	18000	22100	13300	10900	24500	9910	10100	11400	18700	20300
19	10500	14800	17200	16600	14500	12000	22000	12400	9630	11600	16600	19000
20	9940	14600	16500	18500	15600	16300	19200	8230	9440	---	38000	17800
21	9700	14700	13800	17400	13500	13200	39300	1170	9310	10800	27400	18000
22	9360	14000	17400	15600	12700	15800	11300	3470	8900	10300	24200	16000
23	11900	13700	16900	15800	11600	11900	5880	6010	30800	12000	19300	14500
24	10600	13700	---	---	15300	13700	9880	7050	17500	25700	17700	13500
25	12100	12300	16900	24200	16600	13200	12800	8200	---	22800	3840	16200
26	12200	13000	17400	21200	16300	20600	13300	9220	13800	22500	7900	16500
27	20500	14800	17100	18100	47500	15700	12600	20900	14600	20500	9720	14500
28	42800	15300	17900	16900	25200	30400	11700	11400	15200	19600	8280	13400
29	32400	16200	17200	15000	---	34200	11200	1500	4140	8450	10500	12400
30	19800	16300	16700	15600	---	27500	11800	3700	4340	9170	11000	12200
31	21900	---	17500	15700	---	14000	---	12100	---	12400	10600	---
MONTH	16200	14600	16500	19300	18700	15600	15500	13800	10500	13500	17600	17800
YEAR	MAX	47500	MIN	1170	MEAN	15800						

ARKANSAS RIVER BASIN

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07158400 SALT CREEK NEAR OKEENE, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1											---	28.0
2											---	27.5
3											---	27.0
4											---	26.0
5											---	25.0
6											---	26.5
7											---	28.0
8											---	28.5
9											---	27.0
10											---	24.5
11											---	26.0
12											---	26.5
13											---	24.5
14											---	22.5
15											---	22.5
16											---	23.5
17											25.0	24.0
18											24.5	24.5
19											24.5	23.5
20											24.5	22.5
21											24.5	23.0
22											25.0	25.0
23											25.0	24.0
24											25.0	28.0
25											27.5	---
26											27.5	---
27											27.0	---
28											25.5	---
29											24.5	---
30											26.0	---
31											27.5	---
MEAN											25.5	25.5
WTR YR 1977	MEAN	25.5		MAX	28.5	MIN	22.5					

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	17400	15300	---	---	10600	2120	2970	16100	12900
2			---	15400	15000	---	---	18800	---	6030	16000	14100
3			---	19200	15000	18700	---	24200	8300	8940	18600	14200
4			---	19100	16200	15800	---	27600	10200	10200	20600	15100
5			---	23100	18000	17100	---	26900	9190	10500	18800	7420
6			---	19800	20000	15500	12900	26000	10300	9700	17000	13500
7			---	19200	18100	13000	12900	26900	9810	---	16700	28100
8			15900	18400	16100	12900	13400	21400	9560	---	16700	15200
9			15100	16600	16500	14600	14300	11900	9310	---	15000	22900
10			18800	15100	16300	14200	15500	15400	9350	---	14200	22600
11			15600	14200	16600	6620	14100	13400	9940	---	15900	18300
12			19700	14100	34100	9670	14100	12500	9170	---	20900	15000
13			16700	25600	26800	10700	13900	14400	9140	---	23300	25700
14			15600	26800	23400	9400	14500	13500	8470	---	20400	24000
15			15600	28600	18100	8460	17400	11900	12800	---	19200	21000
16			16100	26800	18300	10100	11400	11700	11000	---	21900	26500
17			16300	23800	13900	12000	---	9040	10600	---	20500	21000
18			17100	22500	13600	10400	---	9210	10100	---	19000	20100
19			17300	17500	15300	11700	---	11800	9630	---	16700	20000
20			16600	18200	15500	13700	---	8450	9540	10600	37900	18200
21			13900	17200	---	13900	---	1520	9310	11000	27200	17600
22			16700	15800	---	9700	---	2390	8800	10300	24500	15500
23			16700	15300	---	12300	---	4550	30600	11800	18700	14900
24			16000	17700	---	14600	---	6160	17500	25400	17200	---
25			16100	21700	---	13200	---	7500	15300	22100	2280	---
26			16100	20500	---	20800	---	9520	13700	22200	7200	---
27			16500	17600	---	15400	12000	20400	14500	21100	8420	---
28			17600	17000	---	30000	11000	12600	15000	19500	8580	---
29			16700	15200	---	34400	11000	2400	4040	7950	14300	---
30			17100	15500	---	26500	10400	3700	4040	9170	12500	---
31			17700	15400	---	---	---	12000	---	12700	11300	---
MEAN			16600	19000	18100	14600	13300	13200	10700	12900	17300	18400
WTR YR 1977	MEAN	15500		MAX	37900	MIN	1520					

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

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	5700	4900	---	---	3200	510	600	5200	4000
2			---	5000	4800	---	---	6200	---	1500	5200	4500
3			---	6400	4800	6200	---	6200	2300	2500	6100	4500
4			---	6300	5300	5100	---	9500	3000	3000	6900	4800
5			---	7800	5900	5600	---	9200	2600	3100	6200	2000
6			---	6600	6700	5000	4000	8900	3100	2800	5500	4200
7			---	6400	6000	4100	4000	9200	2900	---	5400	9700
8			5100	6100	5200	4000	4200	7200	2800	---	5400	4900
9			4800	5400	5400	4700	4500	3700	2700	---	4800	7700
10			6200	4800	5300	4500	5000	5000	2700	---	4500	7600
11			5000	4500	5400	1700	4500	4200	2900	---	5100	6000
12			6600	4500	12000	2800	4500	3900	2600	---	7000	4800
13			5400	8800	9200	3200	4400	4600	2600	---	7900	8800
14			5000	9200	7900	2700	4600	4200	2400	---	6800	8200
15			5000	9900	6000	2400	5700	3700	4000	---	6400	7000
16			5200	9200	6000	3000	3500	3600	3300	---	7400	9100
17			5300	8100	4400	3700	---	2600	3200	---	6900	7000
18			5600	7600	4300	3100	---	2600	3000	---	6300	6700
19			5700	5700	4900	3600	---	3600	2800	---	5400	6700
20			5400	6000	5000	4300	---	2400	2800	3200	13000	6000
21			4400	5600	---	4400	---	450	2700	3300	9300	5800
22			5400	5100	---	2800	---	540	2500	3100	8300	5000
23			5400	4900	---	3800	---	910	11000	3600	6200	4800
24			5200	5800	---	4700	---	1500	5700	8700	5600	---
25			5200	7300	---	4100	---	2000	4900	7400	530	---
26			5200	6900	---	7000	---	2800	4300	7500	1900	---
27			5400	5800	---	5000	3700	6800	4600	7100	2400	---
28			5800	5500	---	10000	3300	3900	4800	6500	2400	---
29			5400	4900	---	12000	3300	540	720	2200	4500	---
30			5600	5000	---	9100	3100	680	720	2600	3900	---
31			5800	5000	---	---	---	3700	---	3900	3400	---
MEAN			5400	6300	6000	4700	4200	4200	3200	4000	5700	6100
WTR YR 1977	MEAN	5000		MAX	13000		MIN	450				

DISSOLVED SULFATE (SU4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	980	930	---	---	840	680	690	950	890
2			---	940	930	---	---	1000	---	750	950	910
3			---	1000	930	1000	---	1100	800	810	1000	910
4			---	1000	950	940	---	1200	830	830	1000	930
5			---	1100	990	970	---	1200	810	840	1000	780
6			---	1000	1000	940	890	1100	840	820	970	900
7			---	1000	990	890	890	1200	830	---	960	1200
8			950	1000	950	890	900	1100	820	---	960	930
9			930	960	960	920	910	870	820	---	930	1100
10			1000	930	950	910	940	940	820	---	910	1100
11			940	910	960	760	910	900	830	---	950	990
12			1000	910	1300	820	910	880	810	---	1000	930
13			960	1100	1200	840	910	920	810	---	1100	1100
14			940	1200	1100	820	920	900	800	---	1000	1100
15			940	1200	990	800	980	870	890	---	1000	1000
16			950	1200	990	830	860	860	850	---	1100	1200
17			950	1100	910	870	---	810	840	---	1000	1000
18			970	1100	900	840	---	810	830	---	1000	1000
19			970	980	930	860	---	870	820	---	960	1000
20			960	990	940	900	---	800	820	840	1400	990
21			910	970	---	910	---	660	820	850	1200	980
22			960	940	---	820	---	680	810	840	1100	940
23			960	930	---	880	---	720	1200	870	1000	930
24			950	920	---	920	---	750	980	1100	970	---
25			950	1100	---	890	---	780	930	1100	680	---
26			950	1000	---	1000	---	820	960	1100	780	---
27			960	980	---	940	870	1000	920	1000	800	---
28			980	970	---	1200	850	880	930	1000	800	---
29			960	930	---	1300	850	680	710	790	910	---
30			970	940	---	1200	840	710	710	810	880	---
31			980	940	---	---	---	870	---	880	860	---
MEAN			960	1000	990	920	900	890	840	880	970	990
WTR YR 1977	MEAN	940		MAX	1400		MIN	660				

07158400 SALT CREEK NEAR OKEENE, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	53.9	146.0	---	---	83.8	329.0	74.5	154.0	62.6
2			---	51.3	117.0	---	---	156.0	---	89.1	136.0	68.0
3			---	72.6	121.0	167.0	---	244.0	168.0	87.7	128.0	66.8
4			---	76.5	157.0	138.0	---	282.0	162.0	97.2	132.0	76.5
5			---	105.0	191.0	151.0	---	298.0	119.0	92.1	105.0	113.0
6			---	121.0	181.0	131.0	94.0	360.0	126.0	75.6	87.6	111.0
7			---	133.0	151.0	107.0	89.6	273.0	102.0	---	84.6	165.0
8			86.8	122.0	136.0	100.0	95.3	181.0	90.7	---	77.3	70.1
9			80.4	121.0	144.0	116.0	75.3	92.9	87.5	---	64.8	106.0
10			104.0	117.0	143.0	121.0	75.6	126.0	87.5	---	60.7	98.5
11			83.7	121.0	175.0	583.0	75.3	102.0	86.1	---	124.0	81.0
12			107.0	134.0	1230.0	113.0	75.3	94.8	77.2	---	147.0	95.9
13			86.0	404.0	373.0	112.0	80.8	103.0	77.2	---	160.0	126.0
14			79.6	397.0	277.0	87.5	99.4	94.1	71.3	---	130.0	111.0
15			79.6	267.0	194.0	71.3	154.0	82.9	119.0	---	116.0	94.5
16			82.8	174.0	178.0	81.0	82.2	87.5	89.1	---	126.0	958.0
17			84.4	166.0	131.0	99.9	---	892.0	86.4	---	110.0	227.0
18			84.7	135.0	128.0	83.7	---	126.0	77.8	---	100.0	112.0
19			86.2	114.0	146.0	94.3	---	107.0	70.3	---	99.1	94.1
20			72.9	162.0	135.0	108.0	---	1280.0	69.6	56.2	632.0	81.0
21			66.5	132.0	---	110.0	---	2670.0	64.2	57.9	213.0	76.7
22			86.0	102.0	---	70.3	---	246.0	62.8	57.8	166.0	59.4
23			94.8	97.9	---	95.4	---	143.0	1040.0	107.0	134.0	54.4
24			99.7	121.0	---	118.0	---	162.0	215.0	207.0	151.0	---
25			95.5	152.0	---	103.0	---	167.0	331.0	134.0	40.1	---
26			99.7	132.0	---	189.0	---	159.0	186.0	126.0	45.7	---
27			104.0	111.0	---	148.0	92.9	1060.0	124.0	119.0	40.2	---
28			111.0	105.0	---	351.0	71.3	326.0	123.0	123.0	77.8	---
29			87.5	76.7	---	421.0	77.5	478.0	422.0	677.0	85.0	---
30			68.0	135.0	---	295.0	75.3	82.6	95.3	140.0	71.6	---
31			47.0	162.0	---	---	---	2570.0	---	105.0	56.9	---
MEAN			86.6	141.0	223.0	156.0	87.6	424.0	164.0	135.0	124.0	135.0
WTR YR 1977	MEAN	175.0		MAX	2670.0		MIN	40.1				

DISSOLVED SULFATE (SU4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	9.26	27.60	---	---	22.00	439.00	85.70	28.20	13.90
2			---	9.64	22.60	---	---	25.10	---	44.50	24.90	13.80
3			---	11.30	23.40	27.00	---	32.70	58.30	28.40	21.10	13.50
4			---	12.20	28.20	25.40	---	35.60	44.80	26.90	19.20	14.80
5			---	14.90	32.10	26.20	---	38.90	37.20	24.90	17.00	44.20
6			---	18.40	27.00	24.60	20.90	44.50	34.00	22.10	15.50	23.80
7			---	20.80	24.90	23.30	19.90	35.60	29.10	---	15.00	20.40
8			16.20	20.00	24.90	22.30	20.40	27.60	26.60	---	13.70	13.30
9			15.60	21.50	25.70	23.10	15.20	21.80	26.60	---	12.60	15.10
10			16.70	22.60	25.60	24.60	14.20	23.60	26.60	---	12.30	14.30
11			15.70	24.60	31.10	261.00	15.20	21.90	24.70	---	23.10	13.40
12			16.20	27.00	133.00	33.20	15.20	21.40	24.10	---	21.10	18.60
13			15.30	50.50	48.60	29.50	16.70	20.60	24.10	---	22.30	15.70
14			15.00	51.80	38.60	26.60	19.90	20.20	23.80	---	19.20	14.90
15			15.00	32.40	32.10	23.80	26.50	19.50	26.40	---	18.10	13.50
16			15.10	22.70	29.40	22.40	20.20	20.90	22.90	---	18.70	126.00
17			15.10	22.60	27.00	23.50	---	278.00	22.70	---	15.90	32.40
18			14.70	19.60	26.70	22.70	---	39.40	21.50	---	15.90	16.70
19			14.70	19.60	27.60	22.50	---	25.60	20.60	---	17.60	14.00
20			13.00	26.70	25.40	22.60	---	428.00	20.40	14.70	68.00	13.40
21			13.80	22.80	---	22.90	---	3920.00	19.50	14.90	27.50	13.00
22			15.30	18.80	---	20.60	---	310.00	20.30	15.60	22.00	11.20
23			16.80	18.60	---	22.10	---	113.00	113.00	25.80	21.60	10.50
24			18.20	20.40	---	23.10	---	81.00	37.00	26.10	26.20	---
25			17.40	22.90	---	22.30	---	65.30	62.80	19.90	51.40	---
26			18.20	19.20	---	27.00	---	46.50	38.90	18.40	18.70	---
27			18.40	18.80	---	27.90	21.80	157.00	24.80	16.70	13.40	---
28			18.80	18.60	---	42.10	18.40	73.70	23.90	18.90	25.90	---
29			15.60	14.60	---	45.60	20.00	602.00	416.00	243.00	17.20	---
30			11.80	25.40	---	38.90	20.40	86.30	93.90	43.70	16.20	---
31			7.94	30.50	---	---	---	604.00	---	23.80	14.40	---
MEAN			15.40	22.20	34.10	34.90	19.00	234.00	62.20	39.70	21.70	21.80
WTR YR 1977	MEAN	55.80		MAX	3920.00		MIN	7.94				

ARKANSAS RIVER BASIN

07158400 SALT CREEK NEAR OKEENE, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	11600	10200	---	---	7120	1540	2100	10700	8640
2			---	10300	10000	---	---	12500	---	4110	10700	9430
3			---	12800	10000	12500	---	16100	5610	6030	12400	9490
4			---	12700	10800	10500	---	18300	6860	6860	13700	10100
5			---	15400	12000	11400	---	17900	6190	7060	12500	5030
6			---	13200	13300	10300	8640	17300	6920	6530	11300	9030
7			---	12800	12100	8700	8640	17900	6600	---	11100	18600
8			10600	12300	10700	8640	8970	14200	6440	---	11100	10200
9			10100	11100	11000	9760	9560	7980	6270	---	10000	15200
10			12500	10100	10900	9490	10300	10300	6300	---	9490	15000
11			10400	9490	11100	4500	9430	8970	6690	---	10600	12200
12			13100	9430	22600	6510	9430	8370	6180	---	13900	10000
13			11100	17000	17800	7140	9300	9620	6160	---	15500	17100
14			10400	17800	15600	6330	9690	9030	5720	---	13600	15900
15			10400	19000	12100	5710	11600	7980	8570	---	12800	14000
16			10700	17800	12200	6790	7650	7850	7390	---	14600	17600
17			10900	15800	9300	8040	---	6090	7120	---	13600	14000
18			11400	15000	9100	6990	---	6210	6790	---	12700	13400
19			11500	11700	10200	7850	---	7910	6480	---	11100	13300
20			11100	12100	10300	9160	---	5690	6420	7120	25100	12100
21			9300	11500	---	9300	---	1140	6270	7390	18100	11700
22			11100	10500	---	6530	---	1720	5940	6920	16300	10300
23			11100	10200	---	8240	---	3140	20400	7910	12500	9950
24			10700	11800	---	9890	---	4200	11700	16900	11500	---
25			10700	14400	---	8630	---	5080	10200	14700	1640	---
26			10700	13600	---	13800	---	6410	9160	14800	4880	---
27			11000	11700	---	10300	8040	13600	9690	14000	5690	---
28			11700	11300	---	19900	7390	8440	10000	13000	5790	---
29			11100	10200	---	22800	7390	1720	2800	5380	9560	---
30			11400	10300	---	17600	6990	2580	2800	6180	8370	---
31			11800	10300	---	---	---	8040	---	8500	7580	---
MEAN			11000	12700	12100	9910	8870	8820	7210	8640	11600	12300
WTR YR 1977	MEAN	10400		MAX	25100		MIN	1140				

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	110.0	303.0	---	---	186.0	994.0	261.0	318.0	135.0
2			---	106.0	243.0	---	---	314.0	---	244.0	280.0	143.0
3			---	145.0	251.0	337.0	---	478.0	409.0	212.0	261.0	141.0
4			---	154.0	321.0	283.0	---	544.0	370.0	222.0	263.0	161.0
5			---	208.0	389.0	308.0	---	580.0	784.0	210.0	213.0	285.0
6			---	242.0	359.0	270.0	203.0	701.0	280.0	176.0	180.0	239.0
7			---	266.0	304.0	228.0	194.0	532.0	232.0	---	174.0	316.0
8			180.0	246.0	280.0	217.0	203.0	357.0	209.0	---	159.0	146.0
9			169.0	249.0	294.0	245.0	160.0	200.0	203.0	---	135.0	209.0
10			209.0	245.0	244.0	256.0	156.0	259.0	204.0	---	128.0	194.0
11			174.0	256.0	360.0	1540.0	158.0	218.0	199.0	---	258.0	165.0
12			212.0	280.0	2320.0	264.0	158.0	203.0	184.0	---	293.0	200.0
13			177.0	780.0	721.0	252.0	171.0	216.0	183.0	---	314.0	245.0
14			166.0	769.0	548.0	205.0	209.0	202.0	170.0	---	261.0	215.0
15			166.0	513.0	392.0	170.0	313.0	179.0	255.0	---	232.0	189.0
16			170.0	336.0	362.0	183.0	180.0	191.0	200.0	---	248.0	1850.0
17			174.0	324.0	276.0	217.0	---	2090.0	192.0	---	217.0	454.0
18			172.0	267.0	270.0	189.0	---	302.0	176.0	---	202.0	224.0
19			174.0	234.0	303.0	206.0	---	235.0	163.0	---	204.0	187.0
20			150.0	327.0	278.0	230.0	---	3040.0	159.0	125.0	1220.0	163.0
21			141.0	270.0	---	234.0	---	6770.0	149.0	130.0	415.0	155.0
22			177.0	210.0	---	164.0	---	785.0	149.0	129.0	326.0	122.0
23			195.0	204.0	---	207.0	---	492.0	1930.0	235.0	270.0	113.0
24			205.0	245.0	---	248.0	---	454.0	442.0	402.0	310.0	---
25			196.0	299.0	---	222.0	---	425.0	688.0	266.0	124.0	---
26			205.0	261.0	---	373.0	---	363.0	396.0	248.0	117.0	---
27			211.0	224.0	---	306.0	202.0	2130.0	262.0	234.0	95.3	---
28			224.0	217.0	---	698.0	160.0	706.0	256.0	246.0	188.0	---
29			180.0	160.0	---	800.0	174.0	1520.0	1640.0	1660.0	181.0	---
30			139.0	278.0	---	570.0	170.0	313.0	370.0	334.0	154.0	---
31			95.6	334.0	---	---	---	5580.0	---	229.0	127.0	---
MEAN			178.0	283.0	443.0	337.0	187.0	986.0	391.0	309.0	254.0	272.0
WTR YR 1977	MEAN	383.0		MAX	6770.0		MIN	95.3				

ARKANSAS RIVER BASIN

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07159100 CIMARRON RIVER NEAR DOVER, OK

LOCATION.--Lat 35°57'06", long 97°54'51", in SW 1/4 NE 1/4 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) above mean sea level.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,000 ft³/s (1,769 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.--Maximum discharge, 35,500 ft³/s (1,010 m³/s) at 2045 May 21, gage height, 18.83 ft (5.739 m), no other peak above base of 12,000 ft³/s (340 m³/s); minimum daily, 31 ft³/s (0.88 m³/s) Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	108	64	36	124	110	60	235	2880	290	203	797
2	128	94	75	36	111	108	67	297	5730	233	146	533
3	107	84	69	37	116	131	70	264	2400	179	106	465
4	92	83	64	38	116	112	61	665	1180	138	84	429
5	85	78	64	39	128	86	54	471	821	111	63	394
6	73	72	61	41	142	76	51	300	596	95	54	429
7	65	68	61	40	148	72	51	512	466	85	49	466
8	67	64	62	38	152	68	51	612	384	88	42	330
9	68	60	62	36	160	62	49	402	307	508	36	242
10	65	60	68	33	159	68	43	280	265	1700	32	195
11	59	62	83	35	151	103	39	225	239	582	31	179
12	53	64	77	40	197	170	38	199	223	249	33	163
13	48	67	69	43	210	104	50	178	364	180	64	148
14	45	66	70	45	187	89	65	451	227	134	734	148
15	42	66	71	43	169	84	61	401	195	109	3120	257
16	37	64	73	39	156	77	257	328	176	101	2940	734
17	36	64	74	40	134	71	343	676	165	87	893	495
18	35	63	74	39	123	67	245	805	150	76	466	242
19	34	63	74	50	110	60	179	607	151	68	306	211
20	34	62	78	80	102	56	203	601	141	63	262	205
21	35	60	80	140	97	47	202	20700	129	58	225	220
22	34	60	80	130	94	46	240	18100	122	54	215	211
23	35	60	79	118	85	46	755	14500	136	119	401	163
24	35	59	89	113	84	48	377	4840	161	108	1400	133
25	35	61	85	93	79	49	268	2110	161	81	1520	124
26	36	63	76	86	87	49	197	1620	201	66	1680	100
27	39	59	73	82	112	60	178	1700	516	54	1580	94
28	47	41	70	82	126	74	214	1510	624	54	727	88
29	69	41	70	74	---	77	569	1770	424	53	361	80
30	113	50	45	80	---	68	784	2010	595	115	646	71
31	137	---	35	90	---	62	---	2290	---	90	1140	---
TOTAL	1948	1966	2175	1916	3659	2400	5821	79659	20129	5928	19559	8346
MEAN	62.8	65.5	70.2	61.8	131	77.4	194	2570	671	191	631	278
MAX	160	108	89	140	210	170	784	20700	5730	1700	3120	797
MIN	34	41	35	33	79	46	38	178	122	53	31	71
AC-FT	3860	3900	4310	3800	7260	4760	11550	158000	39930	11760	38800	16550
CAL YR 1976	TOTAL	153821	MEAN 420	MAX 8840	MIN 12	AC-FT 305100						
WTR YR 1977	TOTAL	153506	MEAN 421	MAX 20700	MIN 31	AC-FT 304500						

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, 34.0°C July 29, Aug. 6, 13, 1976; minimum daily, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 30,000 micromhos April 27; minimum daily, 1,390 micromhos May 21.

WATER TEMPERATURE: Maximum daily, 33.0°C July 20, Aug. 2; minimum daily, 0.0°C on Nov. 28, 29, Dec. 30, Jan. 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
06...	1028	9740	1400	72	11300	8.1	14.5	260	9.6	96
11...	--	--	1930	55	13200	7.7	--	--	--	--
30...	--	--	0830	102	9940	7.9	--	--	--	--
31...	--	--	1600	130	20900	7.8	--	--	--	--
NOV										
01...	--	--	1800	106	11600	8.3	--	--	--	--
03...	1028	9740	1030	84	13500	7.9	10.5	18	10.6	96
07...	--	--	1630	67	19400	8.2	--	--	--	--
29...	--	--	1700	54	16500	8.2	--	--	--	--
DEC										
04...	--	--	0830	64	17500	8.0	--	--	--	--
08...	1028	9740	1245	63	18000	8.2	1.0	5	13.7	100
12...	--	--	1400	60	25000	7.9	--	--	--	--
23...	--	--	1730	87	21000	8.0	--	--	--	--
JAN										
05...	1028	9740	1215	39	3700	8.4	.5	2	13.8	96
23...	--	--	1130	118	18900	8.0	--	--	--	--
29...	--	--	0900	74	23300	8.1	--	--	--	--
31...	--	--	1600	90	26700	8.1	--	--	--	--
FEB										
02...	1028	9740	0950	111	13400	7.8	4.0	6	13.0	102
03...	--	--	1330	116	20200	8.2	--	--	--	--
12...	--	--	1000	282	15100	8.2	--	--	--	--
19...	--	--	0900	197	25500	8.0	--	--	--	--
MAR										
03...	1028	9740	1414	245	13000	8.4	10.0	22	11.4	106
03...	--	--	1530	245	--	8.1	--	--	--	--
12...	--	--	0830	286	10200	7.6	--	--	--	--
23...	--	--	1700	110	20300	8.0	--	--	--	--
APR										
06...	1028	9740	1230	116	20000	7.9	20.0	8	10.8	120
16...	--	--	0900	127	17300	7.7	--	--	--	--
28...	--	--	1630	309	29900	7.6	--	--	--	--
30...	--	--	0830	917	4430	7.5	--	--	--	--
MAY										
04...	1028	9740	1130	747	7400	7.8	22.0	<1000	7.0	83
07...	--	--	0900	475	20800	7.4	--	--	--	--
17...	--	--	1630	966	13000	7.4	--	--	--	--
21...	--	--	0830	9900	1390	7.6	--	--	--	--
27...	--	--	1700	1850	10500	7.5	--	--	--	--
JUN										
02...	1028	9740	1310	5200	3400	7.9	26.5	25	7.1	90
02...	--	--	1930	4250	3720	7.4	--	--	--	--
20...	--	--	2000	229	18000	7.4	--	--	--	--
27...	--	--	1600	799	10700	7.4	--	--	--	--
JUL										
06...	1028	9740	1445	176	16100	8.2	31.0	30	8.2	114
07...	--	--	1830	160	16400	7.7	--	--	--	--

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JUL										
10...	--	--	1400	1640	4370	7.6	--	--	--	--
26...	--	--	1030	134	10900	7.6	--	--	--	--
AUG										
03...	1028	9740	1245	188	10000	8.4	25.5	22	8.3	104
09...	--	--	1700	95	18000	7.6	--	--	--	--
17...	--	--	1600	869	11900	7.8	--	--	--	--
26...	--	--	1530	1810	4780	7.7	--	--	--	--
SEP										
02...	--	--	1830	777	16200	7.6	--	--	--	--
08...	1028	9740	1100	536	10400	8.3	26.0	160	7.6	95
16...	--	--	1030	736	9140	7.4	--	--	--	--
22...	--	--	1500	317	23300	7.9	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
UCT										
06...	52	--	--	--	--	--	--	--	--	--
11...	--	730	570	--	190	--	62	--	2500	88
30...	--	590	420	--	160	--	47	--	1900	87
31...	--	1200	1000	--	330	--	82	--	4400	89
NOV										
01...	--	640	450	--	160	--	59	--	2300	89
03...	80	--	--	--	--	--	--	--	--	--
07...	--	870	710	--	220	--	78	--	4100	91
29...	--	870	650	--	220	--	77	--	3400	89
DEC										
04...	--	910	760	--	230	--	82	--	3600	89
08...	21	--	--	--	--	--	--	--	--	--
12...	--	1000	--	--	260	--	92	--	5400	92
23...	--	930	--	--	230	--	86	--	4400	91
JAN										
05...	84	--	--	--	--	--	--	--	--	--
23...	--	820	630	--	200	--	77	--	4000	91
29...	--	1000	840	--	260	--	96	--	5000	91
31...	--	1000	810	--	250	--	94	--	6000	93
FEB										
02...	41	--	--	--	--	--	--	--	--	--
03...	--	850	670	--	210	--	80	--	4400	92
12...	--	660	490	--	160	--	62	--	3100	91
19...	--	960	780	--	240	--	88	--	5700	93
MAR										
03...	71	--	--	--	--	--	--	--	--	--
03...	--	750	520	--	180	--	73	--	3200	90
12...	--	580	420	--	160	--	44	--	2000	88
23...	--	1000	800	--	250	--	92	--	4400	90
APR										
06...	27	--	--	--	--	--	--	--	--	--
16...	--	820	650	--	200	--	79	--	3900	91
28...	--	1100	960	--	290	--	98	--	7100	93
30...	--	240	140	--	65	--	19	--	830	88
MAY										
04...	186	--	--	--	--	--	--	--	--	--
07...	--	880	750	--	250	--	63	--	4600	92
17...	--	--	--	--	--	--	--	--	--	--
21...	--	140	48	--	42	--	8.1	--	230	78
27...	--	610	480	--	170	--	45	--	2100	88
JUN										
02...	223	--	--	--	--	--	--	--	--	--
02...	--	470	340	--	140	--	29	--	610	73
20...	--	1100	920	--	280	--	92	--	3800	88
27...	--	1000	870	--	300	--	64	--	1900	80
JUL										
06...	22	--	--	--	--	--	--	--	--	--
07...	--	900	740	--	250	--	68	--	3500	89
10...	--	330	220	--	94	--	22	--	800	84
26...	--	650	500	--	170	--	54	--	2100	87
AUG										
03...	31	--	--	--	--	--	--	--	--	--
09...	--	1100	940	--	290	--	88	--	3900	89
17...	--	570	460	--	170	--	34	--	2500	90
26...	--	320	220	--	90	--	23	--	940	86
SEP										
12...	--	690	590	--	190	--	53	--	3600	92
18...	74	--	--	--	--	--	--	--	--	--
16...	--	250	130	--	9.7	--	54	--	1800	94
22...	--	1100	890	--	290	--	89	--	5500	92

ARKANSAS RIVER BASIN

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PD- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
06...	--	--	--	--	--	--	--	--	--	.5
11...	40	--	8.5	198	0	162	6.3	590	3800	--
30...	34	--	5.6	216	0	177	4.4	440	2500	--
31...	56	--	9.2	192	0	157	4.9	730	6700	--
NOV										
01...	40	--	6.3	234	0	192	1.9	430	3600	--
03...	--	--	--	--	--	--	--	--	--	.4
07...	60	--	8.5	201	0	165	2.0	600	6500	--
29...	50	--	7.4	258	0	212	2.6	530	5400	--
DEC										
04...	52	--	7.6	182	0	149	2.9	580	5800	--
08...	--	--	--	--	--	--	--	--	--	.5
12...	73	--	9.5	--	0	--	--	680	8500	--
23...	63	--	9.0	--	0	--	--	650	7200	--
JAN										
05...	--	--	--	--	--	--	--	--	--	.4
23...	61	--	7.6	235	0	193	3.8	520	6700	--
29...	67	--	9.3	248	0	203	3.2	630	8800	--
31...	82	--	11	244	0	200	3.1	610	10000	--
FEB										
02...	--	--	--	--	--	--	--	--	--	.5
03...	66	--	8.3	230	0	189	2.3	570	6900	--
12...	53	--	7.0	202	0	170	2.0	450	4700	--
19...	80	--	9.3	227	0	186	3.6	640	9100	--
MAR										
03...	--	--	--	--	--	--	--	--	--	.5
03...	51	--	7.5	280	0	230	3.6	410	5000	--
12...	36	--	8.0	190	0	160	7.6	440	3200	--
23...	60	--	9.8	250	0	210	4.0	720	7000	--
APR										
06...	--	--	--	--	--	--	--	--	--	.5
16...	59	--	8.3	210	0	172	6.7	590	6300	--
28...	92	--	13	210	0	172	8.4	780	11000	--
30...	23	--	6.3	120	0	98	6.1	140	1300	--
MAY										
04...	--	--	--	--	--	--	--	--	--	.4
07...	67	--	11	160	0	130	10	560	7300	--
17...	--	--	--	--	--	--	--	410	4200	--
21...	8.5	--	4.2	110	0	90	4.4	57	350	--
27...	37	--	9.1	160	0	130	8.1	400	3400	--
JUN										
02...	--	--	--	--	--	--	--	--	--	.6
02...	12	--	8.4	160	0	130	10	330	930	--
20...	50	--	11	190	0	160	12	460	6000	--
27...	26	--	10	170	0	140	11	740	3200	--
JUL										
06...	--	--	--	--	--	--	--	--	--	.4
07...	51	--	11	200	0	164	6.4	640	5300	--
10...	19	--	7.2	130	0	107	5.2	220	1200	--
26...	36	--	9.1	180	0	150	7.2	450	3300	--
AUG										
03...	--	--	--	--	--	--	--	--	--	.4
09...	51	--	12	180	0	148	7.2	830	5900	--
17...	46	--	10	130	0	107	3.3	390	3700	--
26...	23	--	7.1	120	0	98	3.8	210	1400	--
SEP										
02...	60	--	11	130	0	110	5.2	470	5400	--
08...	--	--	--	--	--	--	--	--	--	.4
16...	50	--	9.6	140	0	115	8.9	530	2700	--
22...	72	--	13	240	0	200	4.8	680	8400	--

ARKANSAS RIVER BASIN

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07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
06...	--	--	--	--	--	--	1.0	<.14	--	--
11...	--	7850	--	10.7	1170	.26	--	--	--	--
30...	--	5800	--	7.89	1600	.48	--	--	--	--
31...	--	12600	--	17.1	4420	.74	--	--	--	--
NOV										
01...	--	6760	--	9.19	1940	.57	--	--	--	--
03...	--	--	--	--	--	--	1.5	.10	2	8
07...	--	11700	--	15.9	2120	.31	--	--	--	--
29...	--	9850	--	13.4	1440	.37	--	--	--	--
DEC										
04...	--	10700	--	14.6	1850	.38	--	--	--	--
08...	--	--	--	--	--	--	.60	.04	--	--
12...	--	15800	--	21.5	2560	.37	--	--	--	--
23...	--	13200	--	18.0	3100	.27	--	--	--	--
JAN										
05...	--	--	--	--	--	--	.80	.14	--	--
23...	--	11500	--	15.6	3660	.51	--	--	--	--
29...	--	14700	--	20.0	2940	.31	--	--	--	--
31...	--	16900	--	23.0	4110	.26	--	--	--	--
FEB										
02...	--	--	--	--	--	--	1.1	<.03	1	11
03...	--	12400	--	16.9	3880	.31	--	--	--	--
12...	--	9040	--	12.3	6880	.29	--	--	--	--
19...	--	16000	--	21.8	8510	.05	--	--	--	--
MAR										
03...	--	--	--	--	--	--	1.3	.25	--	--
03...	--	9250	--	12.6	6120	.61	--	--	--	--
12...	--	5970	--	8.12	4610	.85	--	--	--	--
23...	--	12600	--	17.1	3740	.16	--	--	--	--
APR										
06...	--	--	--	--	--	--	1.8	.12	--	--
16...	--	10600	--	14.4	3640	.31	--	--	--	--
28...	--	19400	--	26.4	16200	.40	--	--	--	--
30...	--	2440	--	3.32	6040	.71	--	--	--	--
MAY										
04...	--	--	--	--	--	--	10	4.5	19	12
07...	--	12900	--	17.5	16500	--	--	--	--	--
17...	--	7760	--	10.6	20200	--	--	--	--	--
21...	--	738	--	1.00	19700	--	--	--	--	--
27...	--	6200	--	8.43	31000	--	--	--	--	--
JUN										
02...	--	--	--	--	--	--	4.9	4.2	--	--
02...	--	2150	--	2.92	24700	--	--	--	--	--
20...	--	11200	--	15.2	6930	--	--	--	--	--
27...	--	6640	--	9.03	14300	--	--	--	--	--
JUL										
06...	--	--	--	--	--	--	1.1	.12	--	--
07...	--	10200	--	13.9	4410	--	--	--	--	--
10...	--	2470	--	3.36	10900	--	--	--	--	--
26...	--	6320	--	8.60	2290	--	--	--	--	--
AUG										
03...	--	--	--	--	--	--	1.4	.34	15	1
09...	--	11200	--	15.2	2870	--	--	--	--	--
17...	--	7020	--	9.55	16500	--	--	--	--	--
26...	--	2690	--	3.66	13100	--	--	--	--	--
SEP										
02...	--	9800	--	13.3	20600	--	--	--	--	--
08...	--	--	--	--	--	--	1.2	2.1	--	--
16...	--	5450	--	7.41	10800	--	--	--	--	--
22...	--	14600	--	19.9	12500	--	--	--	--	--

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	16.0	4.0	---	7.0	10.0	14.0	26.0	27.0	28.5	32.0	27.0
2	18.0	18.0	7.5	---	6.0	12.0	10.0	24.0	26.5	24.0	33.0	30.0
3	22.0	15.0	8.0	---	7.5	11.5	16.0	27.0	28.0	24.5	32.0	---
4	23.0	13.0	2.0	---	10.0	6.5	14.0	25.5	25.0	29.0	28.0	25.0
5	21.0	13.0	6.0	---	2.0	4.5	17.0	24.0	25.0	30.0	30.0	23.0
6	12.0	8.0	4.5	---	4.5	11.0	22.0	26.0	24.0	28.0	24.0	28.0
7	13.0	14.0	2.0	---	6.0	16.5	24.0	21.0	22.0	32.0	32.0	28.5
8	17.5	13.0	4.5	---	10.0	16.5	23.0	29.0	21.5	24.0	31.0	29.0
9	11.0	17.0	9.5	---	12.0	17.5	13.0	26.0	25.0	---	30.0	25.5
10	16.0	15.5	3.0	---	13.0	18.5	18.5	25.0	23.0	30.0	32.0	21.0
11	20.5	7.0	---	---	10.0	13.0	19.0	24.0	23.0	---	24.0	29.0
12	23.0	5.0	5.0	---	8.0	6.0	20.0	26.0	26.0	30.0	29.0	25.5
13	23.0	2.0	7.0	---	9.0	16.5	20.0	25.0	---	30.0	23.5	24.0
14	23.0	5.0	9.0	---	11.0	20.0	18.0	19.0	32.0	30.5	26.0	22.0
15	17.0	5.0	9.0	---	9.0	19.0	22.5	27.0	31.0	32.0	27.0	22.5
16	9.0	5.0	9.5	---	10.0	15.5	18.5	26.5	28.0	26.0	29.5	22.0
17	12.5	---	5.0	---	13.0	15.5	21.0	25.0	31.0	28.0	25.0	22.0
18	12.0	12.0	---	---	14.0	17.0	23.0	24.0	---	32.5	24.0	22.0
19	12.0	15.0	11.0	---	7.0	9.0	25.5	23.5	30.0	32.0	23.5	26.0
20	16.0	---	1.0	---	8.5	9.5	23.0	23.0	29.5	33.0	22.0	23.0
21	16.5	7.0	2.0	---	15.0	14.0	16.0	18.0	30.0	27.0	31.0	25.0
22	17.0	9.0	5.0	---	14.5	17.0	17.5	19.0	30.0	25.0	30.5	28.0
23	15.0	11.0	6.0	3.0	9.5	19.0	13.5	23.0	29.0	25.0	32.0	24.0
24	12.0	13.0	8.5	7.0	13.0	---	16.5	25.0	26.0	32.0	27.0	18.0
25	14.0	16.0	7.0	7.0	9.5	16.0	20.0	25.5	24.0	28.0	28.0	26.0
26	12.0	---	3.5	9.0	4.0	15.0	22.0	23.5	25.0	26.0	29.5	29.0
27	9.0	1.0	10.0	10.0	6.0	15.5	21.0	23.5	31.5	30.0	24.0	28.5
28	13.0	0.0	7.5	1.0	12.0	20.0	25.5	22.0	31.0	25.5	25.0	25.0
29	9.5	0.0	7.0	0.0	---	20.5	26.0	25.0	29.5	---	25.0	30.0
30	8.0	4.0	0.0	1.0	---	17.0	18.0	28.5	28.0	26.0	29.0	28.0
31	15.0	---	---	4.5	---	15.0	---	25.0	---	30.0	29.0	---
MONTH	15.5	9.5	6.0	---	9.5	14.5	19.5	24.5	27.0	28.5	28.0	25.5
YEAR	MAX	33.0	MIN	0.0	MEAN	18.5						

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10500	11600	18700	---	24400	23000	19700	9700	7740	8650	13800	12500
2	14100	12300	19300	---	21900	23900	20100	7100	3720	9210	8710	16200
3	14200	12900	18100	---	20200	26700	23400	8840	3900	11400	12100	---
4	14900	13800	17500	---	19300	19700	23100	7380	6110	13500	14800	14100
5	14600	18500	18100	---	19800	19900	23000	10100	8260	15200	15200	12600
6	14200	19700	18200	---	23000	19800	22400	14400	10200	16200	16000	14400
7	14100	19400	17900	---	22000	20700	21500	20800	10500	16400	17300	16300
8	13600	18200	18000	---	19600	21100	21000	16100	12500	15600	17800	10400
9	13600	17600	19500	---	23100	20900	21100	13600	11500	---	18000	11400
10	12700	17200	20100	---	21100	21100	20900	13700	12100	4370	18000	12000
11	13200	16900	---	---	17400	20900	21500	14800	12500	---	17200	15400
12	14300	15700	25000	---	15100	10200	20700	16400	12000	4960	16900	17100
13	14800	16200	20700	---	15200	16300	19100	17800	---	6820	16200	17100
14	14900	15200	18900	---	16600	18800	16100	20000	11600	10700	5260	15700
15	14500	15500	18700	---	18400	21000	18400	13300	12900	13000	2670	17400
16	14400	16100	20000	---	19100	22000	17300	13300	13800	13800	7980	9220
17	14000	---	20700	---	19500	19500	10200	12700	14700	14400	11900	13200
18	13700	17000	---	---	24100	19500	13300	6550	14800	14800	12200	15200
19	13500	16600	20700	---	25500	18700	15600	8410	15500	15400	8840	16000
20	13300	---	22700	---	22800	20500	20600	8590	18000	15800	9140	21900
21	13200	17200	22600	---	22200	20600	18200	1390	16800	15900	10800	19800
22	12600	17600	22900	---	21000	20600	23400	2410	15200	15600	12400	23300
23	12400	---	21000	18900	21100	20300	19900	2620	14200	5220	12100	16000
24	12000	---	20400	20500	22000	---	11900	3890	13500	7580	5900	15200
25	12000	18500	20400	20200	21800	19400	16800	7270	14400	9110	7450	15600
26	11700	---	20500	19600	20700	18900	21700	8680	12100	10900	4780	16200
27	11100	19300	20000	20100	19900	18400	25700	10500	10700	12400	7050	16600
28	11400	17900	20400	21300	19400	17900	29900	8570	17200	12500	6080	16900
29	11100	16500	19900	23300	---	18600	21200	7450	14300	---	6300	17100
30	9940	17800	20400	26500	---	19000	4430	6890	8490	15800	9420	17600
31	20900	---	---	26700	---	20000	---	12700	---	12300	7620	---
MONTH	13400	16600	20000	---	20600	19900	19400	10500	12000	12100	11300	15600
YEAR	MAX	29900	MIN	1390	MEAN	15700						

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	27.0	---	31.5	31.0
2								---	27.5	---	32.5	30.5
3								---	27.5	---	32.0	31.0
4								---	28.0	---	29.0	28.5
5								---	28.5	---	29.5	28.0
6								---	28.0	---	31.0	30.0
7								---	25.5	---	32.5	30.5
8								---	25.5	---	33.0	30.0
9								---	26.0	---	32.0	28.0
10								---	27.5	---	31.5	26.5
11								---	27.0	---	24.5	28.0
12								29.0	27.5	---	24.0	27.5
13								23.5	26.0	---	26.0	26.0
14								22.5	27.5	---	28.0	23.0
15								22.5	29.5	---	29.0	23.5
16								23.5	28.0	---	30.5	26.0
17								23.0	28.5	---	30.0	27.5
18								25.0	27.5	---	27.5	27.5
19								23.5	28.0	26.0	26.0	26.5
20								21.5	28.5	31.5	28.0	25.0
21								19.5	27.5	30.5	31.0	25.0
22								21.5	27.5	28.5	32.0	20.0
23								24.0	26.5	34.0	31.0	16.5
24								26.0	26.5	35.0	28.0	17.0
25								26.0	27.0	34.0	30.5	18.0
26								25.5	29.0	28.0	30.5	19.0
27								23.0	30.0	25.5	29.5	---
28								26.5	31.0	28.0	27.5	---
29								28.0	29.0	30.0	27.0	---
30								29.0	28.0	32.5	29.5	---
31								27.0	---	29.0	30.0	---
MEAN								24.5	27.5	30.0	29.5	26.0
WTR YR 1977	MEAN	27.5		MAX	35.0		MIN	16.5				

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	11600	---	26000	---	22900	---	---	9310	---	13000	12300
2	---	12300	---	26200	22000	23900	---	---	4850	9640	8950	15200
3	---	12900	---	26600	20200	26700	---	---	---	11300	11000	14900
4	---	---	---	26400	19500	---	---	---	---	12700	14800	14200
5	---	---	---	26600	19500	---	---	---	---	14800	14800	13000
6	---	---	---	26600	23200	---	---	---	---	16000	16100	14200
7	14200	---	---	25700	22000	20700	---	---	---	16200	16900	15800
8	13500	---	18300	22100	19600	21100	21100	---	---	16100	17500	10700
9	13600	---	16600	21600	23000	---	21100	---	---	8960	17800	11200
10	12800	17200	15900	21300	20900	---	20700	---	---	4410	17600	12300
11	13300	16900	16800	20900	17300	20900	---	---	---	4940	17500	15100
12	14300	15700	16600	20600	15100	10300	20700	---	---	4790	16700	16800
13	14700	16200	16400	20600	15400	---	19000	18600	---	6250	16100	16800
14	14900	15100	16400	20300	16700	---	16200	20100	---	9750	---	15500
15	14500	15500	16400	20000	18300	---	18300	13200	---	12400	---	16600
16	14400	16100	16400	19900	19200	---	17200	13400	---	13800	---	10500
17	14000	---	16300	19800	19600	---	10100	12800	---	14500	11900	14000
18	13800	---	16300	19500	24100	16600	13400	6590	---	14500	12400	15400
19	13500	---	16300	19400	25500	18800	15600	8330	---	15200	9160	15900
20	13300	---	16300	19100	22800	20600	20600	8550	---	15300	9260	21000
21	13000	---	16100	19000	22200	---	18300	---	---	16100	10400	20900
22	12600	---	16200	18900	20900	20600	---	---	---	15700	12400	23500
23	12400	---	16600	19000	---	---	17900	---	---	8240	11400	16100
24	12000	---	16300	20300	---	---	12000	---	---	8300	---	15300
25	12000	---	20300	20500	---	19600	16700	6790	---	9170	6870	15600
26	11800	---	20300	19300	---	18900	21700	8220	---	10900	---	16300
27	11100	---	20000	20000	---	18500	30000	9890	---	12300	---	---
28	11500	---	20600	21200	19400	---	29900	8650	---	12900	---	---
29	11100	---	20000	23400	---	---	---	7100	---	14000	6340	---
30	9910	---	20400	26400	---	---	---	6400	---	15700	8860	---
31	20900	---	21900	26600	---	---	---	10300	---	12400	7480	---
MEAN	13300	15000	17700	22100	20300	20000	19000	10600	7080	11900	12700	15400
WTR YR 1977	MEAN	16200		MAX	30000		MIN	4410				

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	3700	---	9200	---	8000	---	---	2800	---	4200	4000
2	---	4000	---	9300	7700	8400	---	---	1400	3000	2700	5100
3	---	4200	---	9400	7000	9400	---	---	---	3600	3500	5000
4	---	---	---	9300	6700	---	---	---	---	4100	4900	4700
5	---	---	---	9400	6700	---	---	---	---	4900	4900	4200
6	---	---	---	9400	8100	---	---	---	---	5400	5400	4700
7	4700	---	---	9100	7700	7200	---	---	---	5500	5700	5300
8	4400	---	6300	7700	6800	7300	7300	---	---	5400	6000	3400
9	4500	---	5600	7500	8000	---	7300	---	---	2700	6100	3600
10	4200	5800	5300	7400	7200	---	7200	---	---	1200	6000	4000
11	4400	5700	5700	7200	5900	7200	---	---	---	1400	6000	5000
12	4700	5300	5600	7100	5000	3200	7200	---	---	1300	5600	5700
13	4900	5500	5500	7100	5200	---	6500	6400	---	1800	5400	5700
14	5000	5000	5500	7000	5600	---	5500	6900	---	3000	---	5200
15	4800	5200	5500	6900	6300	---	6300	4300	---	4000	---	5600
16	4800	5400	5500	6900	6800	---	5800	4400	---	4500	---	3300
17	4600	---	5500	6800	6800	---	3100	4200	---	4800	3800	4600
18	4500	---	5500	6700	8500	5600	4400	1800	---	4800	4000	5200
19	4400	---	5500	6700	9000	6400	5200	2500	---	5100	2800	5300
20	4400	---	5500	6600	8600	7100	7100	2600	---	5100	2800	7300
21	4200	---	5400	6500	7700	---	6300	---	---	5400	3300	7200
22	4100	---	5500	6500	7200	7100	---	---	---	5300	4000	6200
23	4000	---	5600	6500	---	---	6100	---	---	2400	3600	5400
24	3900	---	5500	7000	---	---	3900	---	---	2500	---	5100
25	3900	---	7000	7100	---	6800	5600	1900	---	2800	1900	5200
26	3800	---	7000	6600	---	6500	7500	2400	---	3400	---	5500
27	3500	---	6900	6900	---	6300	11000	3100	---	4000	---	---
28	3700	---	7100	7400	6700	---	11000	2600	---	4200	---	---
29	3500	---	6900	8200	---	---	---	2000	---	4600	1800	---
30	3100	---	7100	9300	---	---	---	1800	---	5300	2700	---
31	7200	---	7600	9400	---	---	---	3200	---	4000	2100	---
MEAN	4400	5000	6000	7700	7000	6900	6500	3300	2100	3900	4100	5100
WTR YR 1977	MEAN	5500	MAX	11000	MIN	1200						

DISSOLVED SULFATE (SU4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	440	---	730	---	670	---	---	390	---	470	450
2	---	450	---	740	650	690	---	---	300	400	380	510
3	---	470	---	740	610	750	---	---	---	430	430	510
4	---	---	---	740	600	---	---	---	---	460	500	490
5	---	---	---	740	600	---	---	---	---	500	500	470
6	---	---	---	740	680	---	---	---	---	530	530	490
7	490	---	---	730	650	620	---	---	---	530	550	520
8	480	---	580	650	600	630	630	---	---	530	560	420
9	480	---	540	640	670	---	630	---	---	380	570	430
10	460	550	530	640	630	---	620	---	---	290	560	450
11	470	550	540	630	550	630	---	---	---	300	560	510
12	490	520	540	620	510	410	620	---	---	300	540	540
13	500	530	540	620	520	---	590	580	---	330	530	540
14	510	510	540	620	540	---	530	610	---	400	---	520
15	500	520	540	610	580	---	580	470	---	450	---	540
16	500	530	540	610	590	---	550	480	---	480	---	420
17	490	---	530	610	600	---	410	460	---	500	440	490
18	480	---	530	600	690	540	480	340	---	500	450	520
19	480	---	530	600	720	590	520	370	---	510	390	530
20	470	---	530	590	670	620	620	380	---	510	390	630
21	470	---	530	590	650	---	580	---	---	530	410	630
22	460	---	530	590	630	620	---	---	---	520	450	680
23	450	---	540	590	---	---	570	---	---	370	430	530
24	450	---	530	620	---	---	450	---	---	370	---	510
25	450	---	620	620	---	600	540	340	---	390	340	520
26	440	---	620	600	---	590	640	370	---	420	---	530
27	430	---	610	610	---	580	810	400	---	450	---	---
28	440	---	620	630	600	---	810	380	---	470	---	---
29	430	---	610	680	---	---	---	350	---	490	330	---
30	400	---	620	740	---	---	---	330	---	520	380	---
31	630	---	650	740	---	---	---	410	---	450	350	---
MEAN	470	510	560	650	620	610	590	420	350	440	460	510
WTR YR 1977	MEAN	530	MAX	810	MIN	290						

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1080	---	1520	---	2380	---	---	21800	---	2300	10100
2	---	1020	---	1680	---	2450	---	---	21700	1890	1060	10200
3	---	953	---	1700	---	3320	---	---	---	1740	1000	8840
4	---	---	---	1930	---	---	---	---	---	1530	1110	7760
5	---	---	---	1620	---	---	---	---	---	1470	833	5920
6	---	---	---	1830	---	---	---	---	---	1390	729	5980
7	825	---	---	2190	---	1400	---	---	---	1260	754	6670
8	796	---	1050	2970	2790	1340	1010	---	---	1280	680	3930
9	826	---	937	5410	3460	---	966	---	---	3700	593	3350
10	737	940	973	16400	3090	---	836	---	---	5510	518	2950
11	701	954	1280	11100	2410	2000	---	---	---	2200	502	3210
12	673	916	1160	10900	2660	1470	739	---	---	874	499	3310
13	635	995	1020	10800	2950	---	877	3080	---	875	933	2990
14	607	891	1040	6920	2830	---	965	8400	---	1090	---	2530
15	544	927	1050	9020	2870	---	1040	4660	---	1180	---	2740
16	480	933	1080	3600	2780	---	4020	3900	---	1230	---	2030
17	447	---	1100	8980	2460	---	2870	7670	---	1130	9160	3320
18	425	---	1100	2680	2820	1010	2910	3910	---	985	5030	3850
19	404	---	1100	3650	2670	1040	2510	4100	---	936	2310	3620
20	404	---	1160	5510	2200	1070	3890	4220	---	868	1980	4650
21	397	---	1280	2840	2020	---	3440	---	---	846	2000	4530
22	376	---	1250	4140	1830	882	---	---	---	773	2320	4800
23	378	---	1190	2070	---	---	12400	---	---	771	3900	2900
24	369	---	1320	2140	---	---	3970	---	---	729	---	2380
25	369	---	1610	1860	---	900	4050	10800	---	612	6720	2130
26	369	---	1440	---	---	860	3990	10500	---	606	---	1960
27	369	---	1360	---	---	1020	5290	14200	---	583	---	---
28	470	---	1340	---	2280	---	6360	10600	---	612	---	---
29	652	---	1300	---	---	---	---	9560	---	658	3100	---
30	946	---	1270	---	---	---	---	9770	---	1650	3230	---
31	2660	---	944	---	---	---	---	19800	---	972	6800	---
MEAN	634	961	1140	4940	2630	1510	3270	8340	21800	1330	2420	4490
WTR YR 1977	MEAN	2980	MAX	21800	MIN	369						

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	128.0	---	120.0	---	199.0	---	---	3030.0	---	258.0	1140.0
2	---	114.0	---	134.0	---	201.0	---	---	4640.0	252.0	150.0	1020.0
3	---	107.0	---	134.0	---	265.0	---	---	---	208.0	123.0	902.0
4	---	---	---	154.0	---	---	---	---	---	171.0	113.0	811.0
5	---	---	---	128.0	---	---	---	---	---	150.0	85.0	662.0
6	---	---	---	144.0	---	---	---	---	---	136.0	71.5	623.0
7	86.0	---	---	175.0	---	121.0	---	---	---	122.0	72.8	654.0
8	86.8	---	97.1	251.0	246.0	116.0	86.8	---	---	126.0	63.5	485.0
9	88.1	---	90.4	461.0	289.0	---	83.3	---	---	521.0	55.4	401.0
10	80.7	89.1	97.3	1420.0	270.0	---	72.0	---	---	1330.0	48.4	332.0
11	74.9	92.1	121.0	973.0	224.0	175.0	---	---	---	471.0	46.9	328.0
12	70.1	89.9	112.0	949.0	271.0	188.0	63.6	---	---	202.0	48.1	313.0
13	64.8	95.9	101.0	942.0	295.0	---	79.6	279.0	---	160.0	91.6	283.0
14	62.0	90.9	102.0	613.0	273.0	---	93.0	743.0	---	145.0	---	253.0
15	56.7	92.7	104.0	797.0	265.0	---	95.5	509.0	---	132.0	---	264.0
16	49.9	91.6	106.0	318.0	249.0	---	382.0	425.0	---	131.0	---	259.0
17	47.6	---	106.0	805.0	217.0	---	380.0	840.0	---	117.0	1060.0	353.0
18	45.4	---	106.0	240.0	229.0	97.7	318.0	739.0	---	103.0	566.0	385.0
19	44.1	---	106.0	327.0	214.0	95.6	251.0	606.0	---	93.6	322.0	362.0
20	43.1	---	112.0	492.0	185.0	93.7	340.0	617.0	---	86.6	276.0	401.0
21	44.4	---	126.0	258.0	170.0	---	316.0	---	---	83.0	249.0	396.0
22	42.2	---	120.0	376.0	160.0	77.0	---	---	---	75.8	261.0	398.0
23	42.5	---	115.0	186.0	---	---	1160.0	---	---	119.0	466.0	285.0
24	42.5	---	127.0	189.0	---	---	458.0	---	---	108.0	---	238.0
25	42.5	---	142.0	162.0	---	79.4	391.0	1940.0	---	85.3	1200.0	213.0
26	42.8	---	127.0	---	---	78.1	340.0	1620.0	---	74.8	---	189.0
27	45.3	---	120.0	---	---	94.0	389.0	1840.0	---	65.6	---	---
28	55.8	---	117.0	---	204.0	---	468.0	1550.0	---	68.5	---	---
29	80.1	---	115.0	---	---	---	---	1670.0	---	70.1	568.0	---
30	122.0	---	110.0	---	---	---	---	1790.0	---	161.0	455.0	---
31	233.0	---	80.7	---	---	---	---	2540.0	---	109.0	1130.0	---
MEAN	67.7	99.1	111.0	430.0	235.0	134.0	304.0	1180.0	3840.0	189.0	324.0	460.0
WTR YR 1977	MEAN	340.0	MAX	4640.0	MIN	42.2						

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	6970	---	16300	---	14300	---	---	5490	---	7880	7430
2	---	7430	---	16400	13700	14900	---	---	2610	5710	5260	9300
3	---	7820	---	16700	12500	16700	---	---	---	6780	6590	9110
4	---	---	---	16500	12100	---	---	---	---	7690	9040	8660
5	---	---	---	16700	12100	---	---	---	---	9040	9040	7680
6	---	---	---	16700	14500	---	---	---	---	9820	9880	8660
7	8660	---	---	16100	13700	12900	---	---	---	9950	10400	9690
8	8200	---	11300	13800	12100	13100	13100	---	---	9880	10800	6390
9	8270	---	10200	13400	14300	---	13100	---	---	5270	11000	6720
10	7750	10600	9760	13200	13000	---	12900	---	---	2330	10900	7430
11	8070	10400	10300	13000	10700	13000	---	---	---	2670	10800	9240
12	8720	9630	10200	12800	9240	6130	12900	---	---	2570	10300	10300
13	8980	9950	10100	12800	9430	---	11600	11500	---	3520	9880	10300
14	9110	9240	10100	12600	10300	---	9950	12500	---	5780	---	9500
15	8850	9500	10100	12400	11300	---	11300	8010	---	7490	---	10200
16	8790	9880	10100	12300	11900	---	10600	8140	---	8400	---	6260
17	8530	---	10000	12300	12100	---	6000	7750	---	8850	7170	8530
18	8400	---	10000	12100	15100	10200	8140	3740	---	8850	7490	9430
19	8200	---	10000	12000	16000	11600	9560	4860	---	9300	5400	9760
20	8070	---	10000	11800	14200	12800	12800	5000	---	9370	5460	13100
21	7880	---	9880	11800	13800	---	11300	---	---	9880	6200	13000
22	7620	---	9950	11700	13000	12800	---	---	---	9630	7490	14700
23	7490	---	10200	11800	---	---	11000	---	---	4800	6850	9880
24	7230	---	10000	12600	---	---	7250	---	---	4840	---	9370
25	7230	---	12600	12700	---	12100	10300	3860	---	5400	3920	4560
26	7100	---	12600	12000	---	11700	13500	4790	---	6520	---	10000
27	6650	---	12400	12400	---	11400	18900	5870	---	7430	---	---
28	6910	---	12800	15200	12000	---	18800	5070	---	7820	---	---
29	6650	---	12400	14600	---	---	---	4060	---	8530	3570	---
30	5880	---	12700	16500	---	---	---	3610	---	9630	5200	---
31	13000	---	13600	16700	---	---	---	6130	---	7490	4310	---
MEAN	8090	9140	10900	13700	12600	12400	11700	6330	4050	7170	7700	9400
WTR YR 1977	MEAN	9930	MAX	18900	MIN	2330						

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	2030	---	2680	---	4250	---	---	42700	---	4320	18800
2	---	1890	---	2970	---	4340	---	---	40400	3590	2070	18600
3	---	1770	---	3020	---	5910	---	---	---	3280	1890	16100
4	---	---	---	3430	---	---	---	---	---	2870	2050	14300
5	---	---	---	2690	---	---	---	---	---	2710	1540	11100
6	---	---	---	3250	---	---	---	---	---	2520	1330	11000
7	1520	---	---	3870	---	2510	---	---	---	2280	1380	12200
8	1480	---	1890	5330	4970	2410	1800	---	---	2350	1220	7380
9	1520	---	1710	9660	6180	---	1730	---	---	7230	1070	6260
10	1360	1720	1790	29500	5580	---	1500	---	---	10700	942	5480
11	1290	1740	2310	20100	4360	5620	---	---	---	4200	904	5940
12	1250	1660	2120	19600	4910	2810	1320	---	---	1730	918	5980
13	1160	1800	1880	19500	5350	---	1590	5530	---	1710	1710	5400
14	1110	1650	1910	12500	5200	---	1750	15200	---	2090	---	4620
15	1000	1690	1940	16200	5160	---	1860	8670	---	2200	---	4980
16	878	1710	1990	6410	5010	---	7360	7210	---	2290	---	3850
17	829	---	2000	16200	4380	---	5560	14100	---	2040	17300	6150
18	794	---	2000	4840	5010	1850	5380	8130	---	1820	9420	6980
19	753	---	2000	6540	4750	1860	4620	7970	---	1710	4460	6670
20	741	---	2110	9840	3910	1940	7020	8110	---	1590	3860	8350
21	745	---	2350	5160	3610	---	6160	---	---	1550	3770	8180
22	700	---	2260	7460	3300	1590	---	---	---	1400	4350	8610
23	708	---	2180	3760	---	---	22400	---	---	1540	7420	5310
24	683	---	2400	3840	---	---	7360	---	---	1410	---	4380
25	683	---	2690	3330	---	1600	7450	22000	---	1180	13900	3920
26	690	---	2590	---	---	1550	7180	21000	---	1160	---	3560
27	700	---	2440	---	---	1850	9080	26900	---	1080	---	---
28	877	---	2420	---	4080	---	10900	20700	---	1140	---	---
29	1240	---	2340	---	---	---	---	19400	---	1220	6150	---
30	1790	---	2260	---	---	---	---	19600	---	2990	6220	---
31	4810	---	1690	---	---	---	---	37900	---	1820	14000	---
MEAN	1170	1770	2140	8870	4740	2720	5900	16200	41600	2510	4670	8230
WTR YR 1977	MEAN	5540	MAX	42700	MIN	683						

ARKANSAS RIVER BASIN

07159750 COTTONWOOD CREEK AT SEWARD, OK

LOCATION.--Lat 35°47'43", long 97°29'32", in SW 1/4 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) above mean sea level.

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, 11,100 ft³/s (314 m³/s) at 1745 May 21, gage height, 21.93 ft (6.684 m), no other peak above base of 3,000 ft³/s (85.0 m³/s); minimum daily, 6.3 ft³/s (0.18 m³/s) Oct. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	21	17	16	18	20	18	15	112	49	41	19
2	10	17	18	16	18	19	17	15	89	373	28	16
3	9.9	16	18	16	19	17	17	14	76	87	20	15
4	9.2	15	19	17	19	18	17	14	68	43	17	13
5	10	14	19	18	19	19	17	16	64	31	16	14
6	15	14	18	19	18	18	17	32	56	26	12	16
7	15	14	18	19	18	17	17	56	48	24	12	22
8	8.7	13	18	18	18	17	20	33	43	23	12	18
9	7.4	11	18	18	18	17	20	22	40	26	11	16
10	7.5	11	18	18	17	18	17	18	37	31	11	15
11	7.1	12	18	19	17	21	13	16	37	24	10	15
12	7.0	12	19	20	34	44	13	17	33	22	12	16
13	7.1	12	18	23	92	29	29	15	32	21	14	20
14	7.0	13	18	25	42	24	23	14	31	18	14	47
15	6.4	13	18	26	27	20	14	20	33	16	13	38
16	6.3	12	18	25	23	18	12	16	31	13	12	29
17	6.4	12	17	23	19	17	13	23	24	12	11	21
18	6.9	12	17	23	17	17	14	56	21	13	15	17
19	7.6	13	17	23	17	16	17	29	22	13	16	17
20	10	20	17	22	17	16	18	478	25	12	26	17
21	12	17	17	22	17	15	138	7060	24	11	34	16
22	12	15	17	23	15	15	144	4360	22	13	23	16
23	13	18	17	23	16	15	62	1060	22	15	20	19
24	13	20	17	23	22	16	46	554	30	12	18	15
25	12	19	17	23	22	15	34	498	42	14	17	13
26	13	18	17	22	19	15	27	400	46	16	15	12
27	14	18	17	22	18	17	29	1090	62	22	14	11
28	14	19	18	21	21	24	27	1450	48	75	31	11
29	15	18	17	21	---	35	17	319	76	39	154	11
30	29	18	17	15	---	25	16	165	70	25	42	11
31	50	---	17	17	---	19	---	147	---	20	25	---
TOTAL	372.5	457	546	636	637	613	883	18022	1364	1139	716	536
MEAN	12.0	15.2	17.6	20.5	22.8	19.8	29.4	581	45.5	36.7	23.1	17.9
MAX	50	21	19	26	92	44	144	7060	112	373	154	47
MIN	6.3	11	17	15	15	15	12	14	21	11	10	11
AC-FT	739	906	1080	1260	1260	1220	1750	35750	2710	2260	1420	1060
CAL YR 1976 TOTAL	12652.3		MEAN 34.6	MAX 642	MIN 6.1	AC-FT 25100						
WTR YR 1977 TOTAL	25921.5		MEAN 71.0	MAX 7060	MIN 6.3	AC-FT 51420						

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, 26.5°C July 22, 24-25, 1975; minimum daily, 0.0°C Jan. 7, 8, 9, 11, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,480 micromhos Jan. 13; minimum daily, 190 micromhos May 21.

WATER TEMPERATURE: Maximum daily, 26.0°C on several days during summer months; minimum daily, 2.0°C on many days in Jan. and Feb.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
OCT											
05...	0725	--	--	10	1020	7.8	--	--	--	--	--
13...	0720	--	--	6.9	1150	7.3	--	--	--	--	--
21...	1100	--	--	11	1080	7.5	7.0	--	12.8	108	50
21...	1101	1028	9740	11	1080	7.5	7.0	36	12.8	108	--
29...	0740	--	--	14	1250	7.2	--	--	--	--	--
NOV											
03...	0730	--	--	16	948	8.0	--	--	--	--	--
12...	0710	--	--	12	1160	8.0	--	--	--	--	--
16...	0930	--	--	12	1300	7.7	4.0	--	6.5	50	32
16...	0931	1028	9740	12	1300	7.7	4.0	--	6.5	50	--
29...	0735	--	--	19	1380	6.9	--	--	--	--	--
DEC											
06...	0745	--	--	19	1290	8.2	--	--	--	--	--
15...	0745	--	--	18	1340	8.0	--	--	--	--	--
21...	1300	--	--	17	1400	7.4	2.0	--	8.4	62	47
21...	1301	1028	9740	17	1400	7.4	2.0	7	8.4	62	--
31...	0745	--	--	16	1400	7.5	--	--	--	--	--
JAN											
13...	0750	--	--	24	1480	7.3	--	--	--	--	--
19...	0750	--	--	23	1380	7.9	--	--	--	--	--
20...	1300	--	--	22	1500	8.1	1.5	--	5.8	58	29
20...	1301	1028	9740	22	1500	8.1	1.5	2	5.8	42	--
28...	0740	--	--	21	1270	8.0	--	--	--	--	--
FEB											
04...	0755	--	--	20	1280	8.2	--	--	--	--	--
17...	0750	--	--	20	1110	7.7	--	--	--	--	--
17...	1100	--	--	20	1000	7.4	4.0	--	8.0	62	13
17...	1101	1028	9740	20	1000	7.4	4.0	9	8.0	62	--
25...	0740	--	--	22	1200	7.7	--	--	--	--	--
MAR											
02...	0750	--	--	19	1250	7.9	--	--	--	--	--
12...	0735	--	--	51	1150	7.3	--	--	--	--	--
13...	0705	--	--	31	1340	7.2	--	--	--	--	--
16...	1745	--	--	18	1250	7.3	11.0	--	4.2	39	51
16...	1746	1028	9740	18	1250	7.3	11.0	31	4.2	39	--
APR											
13...	0655	--	--	30	1400	6.9	--	--	--	--	--
21...	1030	--	--	180	675	7.4	17.5	--	.3	3	180
21...	1031	1028	9740	180	675	7.4	17.5	85	.3	3	--
23...	0740	--	--	66	994	7.2	--	--	--	--	--
28...	0735	--	--	31	1190	7.0	--	--	--	--	--
MAY											
01...	0735	--	--	15	1270	6.7	--	--	--	--	--
11...	1600	--	--	17	1150	7.6	20.0	--	2.2	25	39
11...	1601	1028	9740	17	1150	7.6	20.0	47	2.1	24	--
21...	0705	--	--	2380	190	6.9	--	--	--	--	--
30...	0600	--	--	150	768	7.4	--	--	--	--	--
JUN											
07...	0755	--	--	48	1150	7.4	--	--	--	--	--
16...	1245	--	--	32	1350	7.8	25.0	--	4.5	56	50
16...	1246	1028	9740	32	1350	7.8	25.0	51	4.5	56	--
26...	0655	--	--	46	1340	7.1	--	--	--	--	--

07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
JUL											
20...	1515	--	--	9.4	1300	7.8	27.0	--	2.0	26	44
20...	1516	1028	9740	9.4	1300	7.8	27.0	16	2.0	26	--
28...	0750	--	--	88	1310	7.0	--	--	--	--	--
31...	0735	--	--	21	1030	7.0	--	--	--	--	--
AUG											
17...	1325	--	--	11	1180	7.4	25.0	--	2.0	24	--
17...	1335	1028	9740	11	1180	7.4	25.0	36	2.0	24	--
20...	0740	--	--	16	1200	7.0	--	--	--	--	--
24...	0740	--	--	19	1010	7.1	--	--	--	--	--
30...	0755	--	--	42	576	7.1	--	--	--	--	--
SEP											
01...	0805	--	--	17	721	7.8	--	--	--	--	--
05...	1030	--	--	14	1010	7.6	--	--	--	--	--
14...	0755	--	--	48	1370	7.5	--	--	--	--	--
23...	1400	1028	9740	19	950	7.3	23.0	57	3.4	41	--
27...	1700	--	--	11	127	7.5	23.5	--	1.9	23	--

DATE	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)
OCT										
05...	--	230	84	25	120	52	3.4	9.9	178	0
13...	--	240	95	26	130	53	3.6	11	179	0
21...	15	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
29...	--	260	96	30	140	52	3.8	12	204	0
NOV										
03...	--	240	100	27	100	46	2.8	8.9	166	0
12...	--	300	110	33	120	45	3.0	11	230	0
16...	3.0	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
29...	--	310	130	33	150	50	3.7	12	211	0
DEC										
06...	--	320	150	36	140	48	3.4	10	215	0
15...	--	360	170	39	140	45	3.2	9.7	234	0
21...	3.0	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
31...	--	360	170	39	140	45	3.2	10	231	0
JAN										
13...	--	350	160	40	150	47	3.5	11	234	0
19...	--	360	170	40	140	45	3.2	9.4	229	0
20...	10	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
28...	--	330	150	36	130	46	3.1	8.3	213	0
FEB										
04...	--	340	160	37	140	47	3.3	8.6	215	0
17...	--	330	140	34	100	39	2.4	6.0	229	0
17...	4.0	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
25...	--	330	140	35	120	43	2.9	8.1	241	0
MAR										
02...	--	340	150	35	130	45	3.1	8.8	230	0
12...	--	280	79	29	120	47	3.1	9.7	250	0
13...	--	340	170	35	140	46	3.3	10	210	0
16...	23	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
APR										
13...	--	360	160	36	150	47	3.5	10	240	0
21...	21	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
23...	--	300	140	30	90	39	2.3	5.6	200	0
28...	--	320	150	33	120	44	2.9	8.1	210	0
MAY										
01...	--	330	140	33	130	45	3.1	9.1	230	0
11...	13	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
21...	--	59	20	5.3	12	29	.7	3.9	48	0

07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)
MAY										
30...	--	270	110	26	57	31	1.5	4.7	190	0
JUN										
07...	--	410	150	38	94	33	2.0	6.3	310	0
16...	19	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
26...	--	380	140	38	130	42	2.9	9.0	300	0
JUL										
20...	9.0	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
28...	--	300	110	34	140	49	3.5	11	230	0
31...	--	280	120	29	100	43	2.6	8.2	190	0
AUG										
17...	19	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
20...	--	280	120	32	130	49	3.4	10	200	0
24...	--	260	120	30	110	47	3.0	8.5	170	0
30...	--	150	59	15	56	44	2.0	5.7	110	0
SEP										
01...	--	180	70	20	80	47	2.6	6.8	140	0
05...	--	250	90	27	120	50	3.3	9.2	190	0
14...	--	380	190	40	150	45	3.3	9.6	230	0
23...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
DATE	ALKA- LITY AS CACO3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)
OCT										
05...	146	140	130	--	599	--	.81	16.2	10	--
13...	147	170	140	--	669	--	.91	12.5	12	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	.7	--	--	--	--	--	11
29...	167	170	160	--	720	--	.98	27.2	11	--
NOV										
03...	136	140	110	--	571	--	.78	24.7	7.5	--
12...	189	140	140	--	703	--	.96	22.8	9.5	--
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	11
29...	173	180	160	--	806	--	1.10	41.3	14	--
DEC										
06...	176	190	160	--	798	--	1.09	40.9	12	--
15...	192	210	150	--	846	--	1.15	41.1	11	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	.5	--	--	--	--	--	11
31...	189	210	160	--	854	--	1.16	36.9	11	--
JAN										
13...	192	220	180	--	898	--	1.22	58.2	14	--
19...	188	230	160	--	852	--	1.16	52.9	11	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	.5	--	--	--	--	--	9.8
28...	175	200	140	--	760	--	1.03	43.1	9.7	--
FEB										
04...	180	210	150	--	813	--	1.11	43.9	9.7	--
17...	188	170	110	--	699	--	.95	37.7	4.8	--
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	7.5
25...	198	170	130	--	758	--	1.03	45.0	7.3	--
MAR										
02...	190	210	140	--	777	--	1.06	39.9	10	--
12...	210	150	120	--	675	--	.92	92.9	9.5	--
13...	170	230	150	--	821	--	1.12	68.7	11	--
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	.5	--	690	--	--	--	9.9
APR										
13...	197	210	150	--	867	--	1.18	70.2	11	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	18
23...	164	200	84	--	633	--	.86	113	4.2	--
28...	172	190	120	--	731	--	.99	61.2	10	--
MAY										
01...	190	180	130	--	775	--	1.05	31.4	--	--
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	.2	--	--	--	--	--	12
21...	39	26	21	--	117	--	.16	752	--	--

07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	ALKA- LITY AS CACO3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)
MAY										
30...	160	130	63	--	477	--	.65	193	--	--
JUN										
07...	250	180	110	--	725	--	.99	94.0	--	--
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	.4	--	--	--	--	--	6.9
26...	250	190	160	--	824	--	1.12	102	--	--
JUL										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	.5	--	--	--	--	--	7.7
28...	190	170	160	--	763	--	1.04	181	--	--
31...	160	160	110	--	636	--	.87	36.1	--	--
AUG										
17...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	.5	--	--	--	--	--	8.6
20...	160	180	150	--	717	--	.98	31.0	--	--
24...	140	160	120	--	606	--	.82	31.1	--	--
30...	90	86	59	--	331	--	.45	37.5	--	--
SEP										
01...	110	110	86	--	428	--	.58	19.6	--	--
05...	160	130	130	--	608	--	.83	23.0	--	--
14...	190	290	150	--	868	--	1.18	112	--	--
23...	--	--	--	.5	--	--	--	--	--	8.1
27...	--	--	--	--	--	--	--	--	--	--
	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT										
05...	.01	--	--	--	--	--	--	--	--	--
13...	5.9	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	900	--
29...	.01	--	--	--	--	--	--	--	--	--
NOV										
03...	3.7	--	--	--	--	--	--	--	--	--
12...	6.1	--	--	--	--	--	--	--	--	--
16...	--	--	--	0	--	0	--	11	--	130
16...	--	--	--	--	--	--	--	--	--	--
29...	6.5	--	--	--	--	--	--	--	--	--
DEC										
06...	--	--	--	--	--	--	--	--	--	--
15...	5.6	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	480	--
31...	6.4	--	--	--	--	--	--	--	--	--
JAN										
13...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	170	--
28...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	5.3	--	--	--	--	--	--	--	--	--
17...	2.5	--	--	--	--	--	--	--	--	--
17...	--	--	--	1	--	0	--	5	--	40
17...	--	4	2	--	32	--	13	--	470	--
25...	5.2	--	--	--	--	--	--	--	--	--
MAR										
02...	5.6	--	--	--	--	--	--	--	--	--
12...	7.2	--	--	--	--	--	--	--	--	--
13...	7.1	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	900	--
APR										
13...	8.7	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	5600	--
23...	1.6	--	--	--	--	--	--	--	--	--
28...	5.4	--	--	--	--	--	--	--	--	--
MAY										
01...	7.2	--	--	--	--	--	--	--	--	--
11...	--	--	--	1	--	0	--	0	--	--
11...	--	7	1	--	13	--	10	--	770	--
21...	1.3	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

ARKANSAS RIVER BASIN

07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
MAY										
30...	--	--	--	--	--	--	--	--	--	--
JUN										
07...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	970	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
JUL										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	780	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--
AUG										
17...	--	16	--	20	--	--	--	--	--	30
17...	<5	--	510	--	<.5	14	<1	2	13	--
20...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
SEP										
01...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
23...	--	--	310	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
NOV								
16...	.00	.00	.00	0	.00	.05	.02	.01
FEB								
17...	.00	.00	.00	0	.00	.67	.05	.19
MAY								
11...	.00	.00	.00	0	.00	.50	.08	.16
AUG								
17...	.00	.00	.00	0	.00	.03	.01	.01

DATE	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDO- SULFAN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR- EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)
NOV									
16...	.17	.00	.00	.00	.00	.00	.00	.01	.00
FEB									
17...	.07	.00	.00	.00	.00	.00	.00	.00	.01
MAY									
11...	.13	.00	.00	.00	.00	.00	.00	.00	.00
AUG									
17...	.17	.00	.00	.00	.00	.00	.00	.00	.00

DATE	TIME	TOTAL PCB (UG/L)	POLY- CHLOR- BINATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)
NOV								
16...	0930	.0	.00	.00	.0	.00	.00	.00
FEB								
17...	1100	.0	.00	.00	.0	.00	.00	.00
MAY								
11...	1600	.0	.00	.00	.0	.00	.00	.00
AUG								
17...	1325	.0	.00	.00	.0	.00	.00	.00

07159750 COTTONWOOD CREEK AT SEWARD, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	10.0	3.0	3.0	2.0	8.0	14.0	21.0	22.0	24.0	26.0	24.0
2	17.0	10.0	5.0	3.0	2.0	10.0	14.0	21.0	22.0	24.0	26.0	24.0
3	17.0	11.0	3.0	2.0	2.0	9.0	14.0	20.0	22.0	24.0	26.0	24.0
4	17.0	11.0	4.0	3.0	2.0	9.0	14.0	21.0	23.0	24.0	26.0	24.0
5	17.0	9.0	4.0	3.0	3.0	8.0	12.0	21.0	23.0	24.0	26.0	24.0
6	16.0	10.0	5.0	2.0	4.0	8.0	12.0	21.0	23.0	---	26.0	24.0
7	15.0	11.0	3.0	2.0	5.0	8.0	16.0	22.0	23.0	26.0	26.0	24.0
8	13.0	9.0	3.0	3.0	5.0	9.0	17.0	22.0	22.0	26.0	26.0	24.0
9	13.0	9.0	4.0	2.0	5.0	12.0	17.0	22.0	23.0	26.0	26.0	24.0
10	13.0	9.0	6.0	2.0	7.0	12.0	17.0	22.0	23.0	26.0	26.0	23.0
11	14.0	9.0	4.0	2.0	9.0	15.0	17.0	21.0	23.0	26.0	26.0	23.0
12	16.5	8.0	4.0	2.0	9.0	12.0	18.0	20.0	23.0	26.0	26.0	23.0
13	16.0	6.0	4.0	2.0	10.0	15.0	18.0	20.0	23.0	26.0	26.0	23.0
14	15.0	5.0	4.0	2.0	10.0	12.0	18.0	20.0	24.0	26.0	26.0	23.0
15	15.0	5.0	4.0	2.0	9.0	13.0	18.0	20.0	25.0	26.0	26.0	21.0
16	14.0	5.0	4.0	2.0	8.0	12.0	18.0	20.0	25.0	26.0	26.0	22.0
17	13.0	5.0	4.0	2.0	7.0	19.0	19.0	21.0	25.0	26.0	26.0	22.0
18	13.0	6.0	5.0	2.0	8.0	14.0	19.0	22.0	25.0	26.0	26.0	22.0
19	12.0	7.5	6.0	2.0	8.0	14.0	19.0	22.0	25.0	26.0	24.0	22.0
20	9.0	8.0	5.0	2.0	8.0	12.0	19.0	21.0	25.0	26.0	24.0	21.0
21	14.0	8.0	3.0	2.0	9.0	12.0	19.0	19.0	25.0	26.0	24.0	21.0
22	10.0	6.0	3.0	2.0	10.0	11.0	18.0	20.0	25.0	26.0	24.0	21.0
23	13.0	7.0	3.0	2.0	11.0	12.0	17.0	21.0	25.0	26.0	24.0	21.0
24	16.0	8.0	3.0	2.0	11.0	13.0	17.0	22.0	25.0	26.0	24.0	21.0
25	13.5	7.0	4.0	2.0	11.0	14.0	18.0	22.0	24.0	26.0	24.0	21.0
26	11.0	10.0	3.0	2.0	10.0	16.0	17.0	23.0	24.0	26.0	24.0	22.0
27	12.0	9.0	4.0	2.0	8.0	16.0	17.0	22.0	24.0	26.0	24.0	22.0
28	11.0	5.0	5.0	2.0	7.0	16.0	18.0	22.0	25.0	26.0	24.0	23.0
29	12.0	3.0	4.0	2.0	---	15.0	21.0	22.0	25.0	26.0	24.0	23.0
30	9.5	3.0	4.0	2.0	---	15.0	21.0	23.0	25.0	26.0	24.0	23.0
31	10.0	---	4.0	2.0	---	14.0	---	23.0	---	26.0	24.0	---
MONTH	13.5	7.5	4.0	2.0	7.0	12.5	17.0	21.5	24.0	25.5	25.0	22.5
YEAR	MAX	26.0	MIN	2.0	MEAN	15.0						

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	1220	1300	1360	1260	1230	1180	1270	764	685	929	721
2	1070	988	1300	1350	1240	1250	1180	1270	928	382	855	782
3	1050	948	1310	1350	1240	1240	1210	1210	1030	676	924	885
4	1050	1020	1320	1350	1280	1220	1230	1200	1060	704	718	961
5	1020	1060	1320	1350	1270	1270	1240	1190	1090	782	822	1010
6	1060	1080	1290	1340	1270	1250	1240	1100	1110	---	1000	1060
7	1120	1140	1300	1370	1260	1260	1260	1250	1150	932	1090	1070
8	1200	1120	1300	1340	1260	1260	1260	1200	1180	957	1080	1090
9	1180	1160	1300	1390	1270	1250	1290	992	1220	997	1070	1080
10	1080	1180	1320	1420	1260	1240	1270	1030	1240	1120	1070	1070
11	1000	1170	1300	1410	1270	1250	1250	1120	1260	1230	1080	1090
12	1080	1160	1320	1420	1230	1150	1250	1130	1270	1250	1070	1130
13	1150	1170	1330	1480	1260	1340	1400	1180	1270	1220	1110	1140
14	1170	1130	1380	1400	1120	1340	1360	1210	1290	1190	1120	1370
15	1180	1140	1340	1380	1190	1160	1350	1200	1280	1180	1160	1090
16	1180	1200	1330	1440	1150	1160	1340	1150	1300	1180	1150	1000
17	1180	1240	1330	1450	1110	1190	1340	1150	1300	1160	1150	989
18	1190	1230	1320	1430	1120	1200	1330	1140	1320	1200	1140	1060
19	1160	1260	1350	1380	1130	1210	1310	1150	1330	1190	1190	1100
20	1170	1310	1320	1380	1160	1230	1280	712	1320	1220	1200	1140
21	1190	1290	1350	1360	1150	1230	1140	190	1330	1220	1120	1150
22	1190	1320	1360	1360	1160	1240	1030	277	1340	1220	924	1130
23	1230	1320	1340	1320	1160	1260	994	552	1330	1240	903	1100
24	1220	1350	1320	1300	1210	1300	1040	640	1320	1250	1010	1120
25	1220	1340	1340	1290	1200	1290	1090	639	1300	1250	1010	1150
26	1210	1350	1340	1280	1210	1280	1130	655	1340	1260	1130	1150
27	1220	1370	1330	1280	1200	1280	1120	455	1340	1290	1180	1180
28	1240	1370	1340	1270	1190	1270	1190	342	1230	1310	1200	1180
29	1250	1380	1360	1310	---	1290	1230	623	1240	833	674	1210
30	1190	1370	1360	1320	---	1290	1300	768	1300	851	576	1160
31	1250	---	1400	1330	---	1300	---	872	---	1030	822	---
MONTH	1150	1210	1330	1360	1210	1250	1230	931	1230	1070	1020	1080
YEAR	MAX	1480	MIN	190	MEAN	1170						

ARKANSAS RIVER BASIN

07160000 CIMARRON RIVER NEAR GUTHRIE, OK

LOCATION.--Lat 35°55'10", long 97°25'35", in NE 1/4 SE 1/4 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
20...	1028	9740	1500	9500	8.6	14.5	21	10.5	104	49	711
NOV											
16...	1028	9740	1145	9500	8.2	3.5	5	12.0	92	39	991
DEC											
21...	1028	9740	1115	10300	7.8	.0	4	13.1	92	--	--
JAN											
20...	1028	9740	1216	11500	8.0	1.0	5	15.6	112	45	880
FEB											
16...	1028	9740	1530	11000	8.2	8.5	14	12.0	105	37	623
MAR											
16...	1028	9740	1600	14500	8.1	15.0	17	11.6	116	31	787
APR											
21...	1028	9740	1200	11500	8.5	17.5	88	10.8	115	25	715
MAY											
11...	1028	9740	1449	15000	8.1	24.5	325	7.9	96	40	770
JUN											
16...	1028	9740	1145	8000	8.2	27.0	76	7.5	95	35	604
JUL											
20...	1028	9740	1315	12000	8.5	31.0	17	9.0	125	35	802
AUG											
17...	1028	9740	1130	3600	7.6	26.0	40	7.1	90	199	282
SEP											
23...	1028	9740	1200	1400	8.4	23.0	245	8.4	100	71	1039

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT											
20...	--	--	--	300	--	149	--	--	--	--	--
NOV											
16...	3	40	4	240	19	129	.9	17	1	8	4
DEC											
21...	--	--	--	170	--	99	--	--	--	--	--
JAN											
20...	--	--	--	310	--	117	--	--	--	--	--
FEB											
16...	7	69	17	<100	24	80	.5	32	--	11	7
MAR											
16...	--	--	--	430	--	180	--	--	--	--	--
APR											
21...	--	--	--	790	--	210	--	--	--	--	--
MAY											
11...	12	27	31	1260	61	560	.6	59	3	16	25
JUN											
16...	--	--	--	1070	--	170	--	--	--	--	--
JUL											
20...	--	--	--	450	--	210	--	--	--	--	--
AUG											
17...	90	241	112	4200	45	1100	<.5	120	2	10	190
SEP											
23...	--	--	--	19200	--	330	--	--	--	--	--

ARKANSAS RIVER BASIN

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07160000 CIMARRON RIVER NEAR GUTHRIE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLU- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 20...	16	66	2020	9.3	--	3358	.4	6274	2.0	.58	--
NOV 16...	169	132	2200	7.5	--	3880	.5	6735	1.5	.86	<1
DEC 21...	--	--	--	--	--	--	.4	--	1.9	--	--
JAN 20...	197	79	2550	8.1	556	4080	.4	7799	2.1	.85	--
FEB 16...	155	65	2130	8.1	182	3658	.4	6865	3.9	1.6	5
MAR 16...	181	76	2900	8.5	444	4384	.5	7973	2.5	.62	--
APR 21...	196	61	2070	9.5	506	3693	.4	6560	1.6	.27	--
MAY 11...	229	67	2430	23	510	4054	.4	7109	2.5	.93	24
JUN 16...	156	48	1100	18	883	2271	.3	4464	1.7	.30	--
JUL 20...	207	58	2040	15	550	3198	.4	6500	1.8	.52	--
AUG 17...	193	47	275	17	234	418	.3	2058	7.4	3.6	66
SEP 23...	272	78	4000	20	562	5412	.4	11990	.99	.54	--

ARKANSAS RIVER BASIN

07160500 SKELETON CREEK NEAR LOVELL, OK

LOCATION.--Lat 36°03'36", long 97°35'05", in NW 1/4 SW 1/4 sec.1, T.18 N., R.4 W., Logan County, Hydro-logic Unit 11050002, near right bank on downstream side of pier of bridge on State Highway 74, 2 mi (3.2 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) above mean sea level (State Highway Department bench mark). 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 fair, except January to April which is poor.

AVERAGE DISCHARGE.--28 years, 117 ft³/s (3.313 m³/s), 84,770 acre-ft/yr (105 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, 7,320 ft³/s (207 m³/s) at 0100 May 22, gage height, 25.43 ft (7.751 m), no other peak above base of 2,300 ft³/s (65.1 m³/s); minimum daily, 4.0 ft³/s (0.11 m³/s) Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	30	8.0	10	11	8.0	8.0	238	728	17	8.8	7.2
2	7.7	13	8.0	10	9.0	8.0	8.0	42	213	13	16	5.9
3	7.3	8.9	8.0	10	9.0	8.0	7.0	29	60	14	14	8.6
4	5.4	9.4	8.0	10	9.0	8.0	7.0	20	37	9.6	17	7.5
5	15	8.7	8.5	10	13	8.0	7.0	15	28	7.3	12	6.1
6	10	8.5	8.5	10	10	8.0	7.0	13	21	6.5	8.2	12
7	6.9	8.9	8.5	10	9.0	8.0	9.2	12	20	6.4	8.8	16
8	5.4	9.1	8.5	10	9.0	8.0	8.9	11	18	15	7.7	10
9	7.2	9.4	8.5	10	9.0	8.0	7.8	10	16	888	6.4	8.6
10	7.0	8.2	8.5	9.0	9.0	7.9	8.0	10	14	375	5.5	6.0
11	6.6	8.2	8.5	9.0	15	8.0	8.0	9.7	13	41	6.1	6.6
12	4.6	9.1	8.5	10	60	16	8.0	11	12	25	28	7.1
13	5.2	8.3	8.5	12	45	14	8.0	12	86	19	30	6.4
14	4.3	13	8.5	10	32	12	8.0	9.8	104	14	296	19
15	5.0	12	8.2	9.0	23	13	8.0	9.8	25	13	190	20
16	4.6	9.6	8.7	9.0	16	9.7	9.0	9.4	16	11	28	12
17	7.2	8.7	9.1	9.0	12	9.0	35	16	13	11	16	79
18	8.0	8.4	9.0	9.0	10	8.0	30	213	11	8.4	13	19
19	9.8	10	7.2	9.0	9.0	8.0	25	45	13	10	14	11
20	9.9	10	10	11	8.0	8.0	20	49	9.2	8.5	12	6.5
21	8.8	9.5	14	10	6.0	8.0	17	4540	8.8	7.5	13	6.1
22	8.3	8.3	13	9.0	8.0	7.0	13	6360	9.4	11	13	7.5
23	8.5	8.1	11	9.0	8.0	7.0	19	2730	11	13	12	7.5
24	9.5	7.2	9.5	9.0	8.0	7.0	51	2450	25	22	24	5.3
25	9.6	7.7	14	9.0	8.0	7.0	22	643	24	13	16	4.0
26	11	8.0	15	9.0	8.0	7.0	11	100	190	11	12	6.0
27	11	8.0	16	9.0	10	9.0	9.0	363	48	8.6	11	5.0
28	11	8.0	12	9.0	8.0	12	6.7	758	31	8.6	8.4	5.5
29	11	8.0	11	9.0	---	10	6.9	165	17	9.9	24	6.0
30	14	8.0	10	11	---	9.0	739	67	17	8.0	19	5.0
31	60	---	9.0	14	---	8.0	---	332	---	7.1	11	---
TOTAL	308.4	292.2	303.7	303.0	393.0	276.6	1129.5	19292.7	1838.4	1632.4	900.9	332.4
MEAN	9.95	9.74	9.80	9.77	14.0	8.92	37.7	622	61.3	52.7	29.1	11.1
MAX	60	30	16	14	60	16	739	6360	728	888	296	79
MIN	4.3	7.2	7.2	9.0	8.0	7.0	6.7	9.4	8.8	6.4	5.5	4.0
AC-FT	612	580	602	601	780	549	2240	38270	3650	3240	1790	659
CAL YR 1976	TOTAL	13676.6	MEAN	37.4	MAX	1500	MIN	1.1	AC-FT	27130		
WTR YR 1977	TOTAL	27003.2	MEAN	74.0	MAX	6360	MIN	4.0	AC-FT	53560		

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
UCT											
20...	1028	9740	1330	2200	8.1	9.0	49	11.0	96	37	566
NOV											
16...	1028	9740	1300	2170	8.0	3.5	14	11.0	85	40	215
DEC											
21...	1028	9740	1000	2800	7.5	.0	6	12.2	85	34	591
JAN											
20...	1028	9740	1130	3000	7.6	1.0	6	11.5	83	43	686
FEB											
16...	1028	9740	1220	1000	8.6	3.0	101	15.4	118	71	248
MAR											
16...	1028	9740	1440	2200	7.9	15.0	60	9.6	96	51	508
APR											
20...	1028	9740	1345	2900	7.7	21.0	63	6.1	70	46	637
MAY											
11...	1028	9740	1315	2300	7.7	23.0	110	6.2	73	38	530
JUN											
16...	1028	9740	1030	1080	7.9	26.0	120	5.4	68	31	239
JUL											
20...	1028	9740	1140	2400	8.2	28.5	20	6.6	88	30	534
AUG											
17...	1028	9740	1030	560	7.7	26.0	180	5.8	72	25	125
SEP											
23...	1028	9740	1115	950	7.8	23.0	120	7.0	104	25	259
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT											
20...	150	39	305	16	--	344	1.9	1675	3.0	.52	--
NOV											
16...	54	18	280	15	--	324	1.2	1342	5.6	3.9	10
DEC											
21...	168	43	300	2.6	--	457	1.4	1893	11	3.2	--
JAN											
20...	170	48	200	17	692	358	1.7	1980	16	5.0	--
FEB											
16...	70	22	152	8.4	460	151	.8	726	7.6	1.7	6
MAR											
16...	129	39	370	17	329	387	.3	1438	6.4	2.6	--
APR											
20...	202	48	340	20	760	542	1.5	1831	6.6	4.6	--
MAY											
11...	143	38	290	21	457	330	.9	1430	3.4	1.5	<1
JUN											
16...	61	21	140	11	109	166	.3	608	2.1	.67	--
JUL											
20...	143	33	286	15	477	316	.6	1402	2.1	.50	--
AUG											
17...	37	10	55	8.2	49	68	.3	337	2.2	.82	19
SEP											
23...	57	22	150	9.0	105	180	.6	677	1.1	1.3	--

ARKANSAS RIVER BASIN

07160500 SKELETON CREEK NEAR LOVELL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRU- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	600	--	139	--	--	--	--	--
NOV 16...	2	50	18	490	22	124	.8	36	3	2	48
DEC 21...	--	--	--	190	--	81	--	--	--	--	--
JAN 20...	--	--	--	270	--	197	--	--	--	--	--
FEB 16...	3	59	9	300	11	150	1.0	10	--	6	27
MAR 16...	--	--	--	1130	--	780	--	--	--	--	--
APR 20...	--	--	--	940	--	680	--	--	--	--	--
MAY 11...	3	25	15	630	19	480	.7	33	6	<1	32
JUN 16...	--	--	--	730	--	290	--	--	--	--	--
JUL 20...	--	--	--	550	--	180	--	--	--	--	--
AUG 17...	2	42	14	3900	10	280	<.5	29	1	<2	56
SEP 23...	--	--	--	12500	--	340	--	--	--	--	--

07161000 CIMARRON RIVER AT PERKINS, OK

LOCATION.--Lat 35°57'32", long 97°01'49", in SW 1/4 SW 1/4 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).

DRAINAGE AREA.--17,852 mi² (46,237 km²) of which 4,926 mi² (12,758 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1939 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at same site since 1927 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 819.88 ft (249.899 m) above mean sea level (levels by Corps of Engineers). Prior to June 26, 1940, and Jan. 9, to Apr. 7, 1957, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--38 years, 1,182 ft³/s (33.47 m³/s), 856,400 acre-ft/yr (1.06 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, 48,500 ft³/s (1370 m³/s) at 1600 May 22, gage height, 13.05 ft (3.978 m), no other peaks above base of 16,000 ft³/s (453 m³/s); minimum daily, 67 ft³/s (1.90 m³/s) Aug. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	520	169	110	103	160	186	157	766	2680	968	151	724
2	352	234	100	100	202	208	140	1100	3910	1110	186	1560
3	278	202	109	98	215	212	126	530	4920	807	244	831
4	232	172	115	96	199	184	115	506	3640	655	287	613
5	234	149	124	94	186	177	112	402	2200	455	226	694
6	232	139	134	98	197	215	115	702	1640	360	180	576
7	205	131	129	105	180	201	112	719	1310	304	141	491
8	177	121	125	100	190	177	102	513	1090	261	112	485
9	162	117	118	98	208	155	96	539	941	229	89	481
10	144	108	124	96	211	149	87	595	807	759	80	431
11	133	110	114	94	222	155	86	446	707	949	71	348
12	122	105	114	92	270	132	80	363	640	1360	67	281
13	114	105	116	90	267	131	82	311	597	840	91	255
14	107	103	127	112	290	180	79	289	580	552	165	240
15	99	106	133	100	347	196	94	257	807	421	183	231
16	88	111	127	98	300	161	108	253	607	329	757	250
17	81	116	127	96	280	161	132	791	494	281	2830	260
18	79	117	126	140	267	177	141	780	436	229	1750	637
19	80	114	129	200	243	142	278	1090	390	208	1010	695
20	76	111	121	228	220	126	321	2080	364	186	690	499
21	75	106	108	210	207	117	399	26800	342	177	556	370
22	74	107	123	189	199	109	365	43100	324	194	471	339
23	76	113	122	240	187	109	395	18900	312	200	420	326
24	80	110	130	248	170	106	352	14800	309	157	365	319
25	79	111	132	233	174	106	528	8630	349	151	565	290
26	79	119	121	201	176	109	490	4580	430	186	1220	258
27	79	105	132	194	186	132	375	4690	539	183	1640	233
28	78	92	129	179	187	157	308	4920	515	157	1610	222
29	94	100	125	170	---	142	272	4850	785	142	1540	222
30	133	106	117	160	---	136	272	2850	914	151	901	194
31	152	---	103	140	---	151	---	2930	---	161	641	---
TOTAL	4514	3709	3764	4402	6140	4799	6319	150082	33579	13122	19239	13355
MEAN	146	124	121	142	219	155	211	4841	1119	423	621	445
MAX	520	234	134	248	347	215	528	43100	4920	1360	2830	1560
MIN	74	92	100	90	160	106	79	253	309	142	67	194
AC-FT	8950	7360	7470	8730	12180	9520	12530	297700	66600	26030	38160	26490
CAL YR 1976	TOTAL	181659	MEAN 496	MAX 11700	MIN 34	AC-FT 360300						
WTR YR 1977	TOTAL	263024	MEAN 721	MAX 43100	MIN 67	AC-FT 521700						

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 Jan. 19-20, 1970, Dec. 31, 1976, Jan. 2, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 18,400 micromhos May 1; minimum daily, 804 micromhos May 21.

WATER TEMPERATURE: Maximum daily, 33.5°C July 24; minimum daily, -1.0°C Dec. 31, Jan. 2.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
OCT											
05...	--	--	0830	244	5070	8.0	--	--	--	--	--
15...	--	--	0730	98	9040	7.9	--	--	--	--	--
19...	--	--	1100	81	8330	7.8	8.0	10	13.6	114	--
19...	1028	9740	1101	81	8330	8.8	8.0	--	13.6	114	--
25...	--	--	0745	78	8300	7.6	--	--	--	--	--
NOV											
05...	--	--	0730	151	9360	8.4	--	--	--	--	--
15...	--	--	0730	103	10300	8.3	--	--	--	--	--
22...	--	--	1330	106	9670	8.6	7.0	5	13.2	111	--
22...	1028	9740	1331	106	9670	8.6	7.0	--	13.2	111	26
25...	--	--	0730	106	9220	8.4	--	--	--	--	--
DEC											
05...	--	--	0800	120	10100	8.4	--	--	--	--	--
16...	--	--	0740	126	11900	8.2	--	--	--	--	--
20...	--	--	1230	126	13000	8.3	1.5	7	14.2	103	--
20...	1028	9740	1231	126	13000	8.3	1.5	--	14.2	103	10
25...	--	--	0745	136	12900	8.2	--	--	--	--	--
JAN											
03...	--	--	0915	98	12800	8.4	--	--	--	--	--
13...	--	--	1245	90	11600	8.4	--	--	--	--	--
25...	--	--	0800	248	11200	7.9	--	--	--	--	--
27...	--	--	0900	197	13500	8.1	2.0	5	11.3	84	--
27...	1028	9740	1030	197	13500	8.2	2.0	--	11.3	84	76
FEB											
04...	--	--	0800	200	15600	8.3	--	--	--	--	--
15...	--	--	0800	352	10900	7.6	--	--	--	--	--
23...	--	--	1200	186	16000	8.5	10.0	8	9.9	92	--
23...	1028	9740	1201	186	16000	8.5	10.0	--	9.9	92	50
25...	--	--	0800	173	15700	8.3	--	--	--	--	--
MAR											
05...	--	--	0745	173	13500	8.2	--	--	--	--	--
16...	--	--	0700	161	16100	8.1	--	--	--	--	--
28...	--	--	0700	157	9860	7.6	--	--	--	--	--
29...	1028	9740	1130	142	11200	7.2	16.0	--	15.6	164	56
29...	--	--	1200	142	11200	7.2	16.0	8	15.6	164	--
APR											
05...	--	--	0700	112	11800	7.4	--	--	--	--	--
14...	--	--	0700	78	12600	7.3	--	--	--	--	--
25...	--	--	0700	465	11200	7.2	--	--	--	--	--
27...	--	--	1000	383	8750	7.8	18.0	700	8.5	91	--
27...	1028	9740	1001	383	8750	7.8	18.0	--	8.5	91	38
MAY											
04...	--	--	0700	536	7810	7.4	--	--	--	--	--
15...	--	--	0700	268	11700	7.6	--	--	--	--	--
25...	--	--	0700	9940	1360	7.6	--	--	--	--	--
JUN											
05...	--	--	0700	2340	3110	7.7	--	--	--	--	--

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
JUN											
15...	--	--	0700	810	8960	7.5	--	--	--	--	--
21...	1028	9740	1030	347	9400	8.4	27.5	--	8.0	102	36
21...	--	--	1215	347	9400	8.4	28.5	55	8.4	110	--
24...	--	--	0700	310	3150	7.3	--	--	--	--	--
JUL											
05...	--	--	0700	485	5730	7.6	--	--	--	--	--
15...	--	--	0700	431	4960	7.7	--	--	--	--	--
24...	--	--	0700	157	9800	7.4	--	--	--	--	--
29...	--	--	1015	142	7700	8.2	28.0	55	8.1	105	--
29...	1028	9740	1230	142	8100	8.2	30.0	--	9.8	131	44
AUG											
05...	--	--	0700	240	9460	7.7	--	--	--	--	--
15...	--	--	0700	136	7940	7.5	--	--	--	--	--
23...	1028	9740	1700	397	7800	8.2	30.0	--	7.5	101	44
25...	--	--	0700	388	8780	8.0	--	--	--	--	--
26...	--	--	1200	1160	3550	7.8	28.0	2700	6.5	86	--
SEP											
05...	--	--	0700	666	10700	7.8	--	--	--	--	--
15...	--	--	0700	225	10200	8.2	--	--	--	--	--
25...	--	--	0730	294	17500	8.1	--	--	--	--	--
28...	--	--	1300	222	12000	8.5	26.0	120	10.9	140	--
28...	1028	9740	1515	222	12000	8.5	29.0	--	10.9	147	38
DATE	FECAL COLI- FORM ,7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
OCT											
05...	--	--	410	290	120	27	880	82	19	7.0	143
15...	--	--	580	390	150	51	1700	86	31	8.4	234
19...	--	610	630	430	170	50	1600	84	28	7.2	244
19...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	500	380	110	55	1500	86	29	7.7	152
NOV											
05...	--	--	630	410	160	56	1800	86	31	8.1	256
15...	--	--	640	430	160	59	2000	87	34	7.5	263
22...	<1	<1	630	390	160	56	1800	86	31	7.7	279
22...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	640	390	160	59	1700	85	29	7.8	282
DEC											
05...	--	--	650	400	160	62	2000	87	34	7.9	292
16...	--	--	730	490	180	67	2400	88	39	7.5	285
20...	<1	<1	680	460	170	62	2300	88	38	11	274
20...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	730	510	180	69	2600	88	42	9.6	274
JAN											
03...	--	--	780	520	190	73	2600	88	41	11	291
13...	--	--	830	460	210	73	2500	87	38	13	393
25...	--	--	640	440	160	59	2200	88	38	7.3	247
27...	<1	174	700	480	180	60	2500	89	41	7.1	265
27...	--	--	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	790	580	200	71	3200	90	49	8.1	264
15...	--	--	560	360	140	50	2200	89	41	8.5	239
23...	84	835	780	560	190	73	3300	90	52	8.1	253
23...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	750	540	190	68	3300	90	52	8.9	261
MAR											
05...	--	--	750	540	190	67	2800	89	44	8.7	260
16...	--	--	880	660	220	80	3400	89	50	9.9	270
28...	--	--	610	410	150	56	2000	88	35	7.9	240
29...	--	--	--	--	--	--	--	--	--	--	--
29...	860	223	660	490	160	63	2200	88	37	7.9	210
APR											
05...	--	--	680	490	160	69	2400	88	40	8.8	240
14...	--	--	720	520	170	72	2500	88	41	9.5	250
25...	--	--	680	510	180	56	2300	88	38	9.2	210
27...	--	--	580	430	160	44	2100	89	38	8.3	180
27...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	--	750	590	230	43	1500	81	24	8.0	200
15...	--	--	490	300	190	<3.5	2400	91	47	9.6	230
25...	--	--	200	110	60	11	200	68	6.2	5.1	110
JUN											
05...	--	--	720	570	180	66	1900	85	31	9.0	190

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	FECAL COLI- FORM ,TUM-MF (COL./ 100 ML)	FECAL STREP- TOCOC KF AGAR (COL. PER 100 ML)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
JUN											
15...	--	--	720	560	190	59	1700	84	28	9.4	190
21...	--	--	--	--	--	--	--	--	--	--	--
21...	>600	440	710	530	190	58	1800	84	29	9.1	220
24...	--	--	410	280	120	26	490	72	11	8.2	150
JUL											
05...	--	--	440	300	120	35	1100	84	23	7.3	180
15...	--	--	420	300	120	29	860	81	18	8.2	150
24...	--	--	680	510	180	55	1700	84	28	9.5	200
29...	B60	130	610	420	160	50	1500	84	27	8.6	230
29...	--	--	--	--	--	--	--	--	--	--	--
AUG											
05...	--	--	680	520	180	57	1900	86	32	9.4	200
15...	--	--	660	500	170	57	1600	84	27	10	200
23...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	580	420	160	43	1800	87	33	9.7	190
26...	8000	11000	250	140	72	18	820	87	22	6.9	140
SEP											
05...	--	--	490	390	140	35	2500	92	49	9.4	130
15...	--	--	700	510	190	54	2100	87	35	9.7	230
25...	--	--	930	750	250	74	3800	90	54	12	220
28...	88	B36	770	560	210	59	2200	86	35	11	250
28...	--	--	--	--	--	--	--	--	--	--	--
DATE	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	
OCT											
05...	0	117	2.3	310	1400	--	--	2880	--	--	
15...	0	192	4.7	340	2800	--	--	5220	--	--	
19...	0	200	6.2	370	2500	.4	6.1	5040	--	4820	
19...	--	--	--	--	--	--	--	--	--	--	
25...	0	125	6.1	320	2400	--	--	4760	--	--	
NOV											
05...	7	222	1.7	380	2800	--	--	5420	--	--	
15...	0	216	2.1	370	3100	--	--	6030	--	--	
22...	4	236	1.2	380	2800	.4	4.3	5610	--	5350	
22...	--	--	--	--	--	--	--	--	--	--	
25...	11	250	1.9	360	2700	--	--	5360	--	--	
DEC											
05...	11	258	2.0	430	3100	--	--	5650	--	--	
16...	0	234	2.9	470	3700	--	--	6790	--	--	
20...	0	225	2.2	440	3600	.5	3.3	6910	--	6720	
20...	--	--	--	--	--	--	--	--	--	--	
25...	0	225	2.8	430	4000	--	--	7700	--	--	
JAN											
03...	12	259	2.0	480	4200	--	--	7610	--	--	
13...	25	364	2.8	560	4000	--	--	7380	--	--	
25...	0	203	5.0	400	3500	--	--	6480	--	--	
27...	0	217	3.4	440	4000	.4	5.7	7470	--	7320	
27...	--	--	--	--	--	--	--	--	--	--	
FEB											
04...	0	220	2.1	510	5100	--	--	9490	--	--	
15...	0	196	9.6	390	3500	--	--	6450	--	--	
23...	7	220	1.4	480	4900	.6	2.4	9680	--	9090	
23...	--	--	--	--	--	--	--	--	--	--	
25...	0	214	2.1	500	5300	--	--	9510	--	--	
MAR											
05...	0	210	2.6	500	4200	--	--	8030	--	--	
16...	0	220	3.4	590	5100	--	--	9760	--	--	
28...	0	200	9.6	410	2900	--	--	5720	--	--	
29...	--	--	--	--	--	--	--	--	--	--	
29...	0	170	21	420	3400	.5	.2	6550	--	6360	
APR											
05...	0	197	15	500	3600	--	--	7060	--	--	
14...	0	205	20	490	4000	--	--	7630	--	--	
25...	0	172	21	460	3400	--	--	6650	--	--	
27...	0	148	4.6	440	3200	.5	8.9	6160	--	6050	
27...	--	--	--	--	--	--	--	--	--	--	
MAY											
04...	0	160	13	280	2400	--	--	4530	--	--	
15...	0	190	9.2	420	3800	--	--	6950	--	--	
25...	0	90	4.4	100	320	--	--	761	--	--	
JUN											
05...	0	156	6.1	440	3100	--	--	5940	--	--	

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
JUN										
15...	0	156	9.6	450	2600	--	--	5280	--	--
21...	--	--	--	--	--	--	--	--	--	--
21...	0	180	1.4	440	2800	.5	13	5420	--	5420
24...	0	123	12	300	760	--	--	1790	--	--
JUL										
05...	0	150	7.2	280	1700	--	--	3230	--	--
15...	0	120	4.8	310	1400	--	--	2850	--	--
24...	0	160	13	400	2600	--	--	5710	--	--
29...	0	190	2.3	250	2400	.4	11	4750	--	4490
29...	--	--	--	--	--	--	--	--	--	--
AUG										
05...	0	160	6.4	500	2900	--	--	5140	--	--
15...	0	160	10	530	2300	--	--	4550	--	--
23...	--	--	--	--	--	--	--	--	--	--
25...	0	160	3.0	380	2700	--	--	5080	--	--
26...	0	110	3.6	150	1200	.4	8.2	2370	--	2340
SEP										
05...	0	110	3.3	310	3900	--	--	6250	--	--
15...	0	190	2.3	420	3200	--	--	6030	--	--
25...	0	180	2.8	600	5600	--	--	10700	--	--
28...	0	210	1.3	430	3900	.5	13	7220	--	6950
28...	--	--	--	--	--	--	--	--	--	--
DATE	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)
OCT										
05...	3.92	1900	--	.97	--	--	--	--	--	--
15...	7.10	1380	--	.68	--	--	--	--	--	--
19...	6.85	1100	--	.10	--	--	--	--	--	--
19...	--	--	--	--	--	.87	.97	4.3	.43	--
25...	6.47	1000	--	.59	--	.87	--	--	--	--
NOV										
05...	7.37	2210	--	2.1	--	--	--	--	.95	--
15...	8.20	1680	--	1.1	--	--	--	--	.55	--
22...	7.63	1610	--	.51	--	.37	.88	3.9	.73	--
22...	--	--	--	--	--	1.2	--	--	--	--
25...	7.29	1530	--	1.7	--	--	--	--	1.0	--
DEC										
05...	7.68	1830	--	2.6	--	--	--	--	--	--
16...	9.23	2310	--	1.9	--	--	--	--	--	--
20...	9.40	2350	--	1.3	--	.80	2.1	9.3	.54	--
20...	--	--	--	--	--	1.3	--	--	--	--
25...	10.5	2830	--	2.0	--	--	--	--	--	--
JAN										
03...	10.4	2010	--	2.8	--	--	--	--	--	--
13...	10.0	1790	--	4.9	--	--	--	--	--	--
25...	8.81	4340	--	2.5	--	--	--	--	--	--
27...	10.2	3970	--	1.2	--	.60	1.8	8.0	.69	--
27...	--	--	--	--	--	1.2	--	--	--	--
FEB										
04...	12.9	5130	--	1.9	--	--	--	--	.63	--
15...	8.77	6130	--	1.9	--	--	--	--	.83	--
23...	13.2	4860	--	.20	--	.41	.61	2.7	.29	--
23...	--	--	--	--	--	1.3	--	--	--	--
25...	12.9	4440	--	.50	--	--	--	--	.51	--
MAR										
05...	10.9	3750	--	1.2	--	--	--	--	.56	--
16...	13.3	4240	--	1.7	--	--	--	--	.72	--
28...	7.78	2430	--	1.4	--	--	--	--	.74	--
29...	--	--	--	--	--	2.9	--	--	--	--
29...	8.91	2510	--	.00	--	2.0	2.0	8.9	.69	--
APR										
05...	9.60	2140	--	1.3	--	--	--	--	.78	--
14...	10.4	1610	--	1.5	--	--	--	--	.82	--
25...	9.04	8350	--	2.3	--	--	--	--	.94	--
27...	8.38	6370	--	.93	--	2.7	3.6	16	.65	--
27...	--	--	--	--	--	3.8	--	--	--	--
MAY										
04...	6.16	6560	--	--	--	--	--	--	1.4	--
15...	9.45	5030	--	--	--	--	--	--	.97	--
25...	1.04	20400	--	--	--	--	--	--	1.4	--
JUN										
05...	8.08	37500	--	--	--	--	--	--	.22	--

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	DIS- SOLVED SOLIDS (TONS PER AC=FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)
JUN										
15...	7.18	11500	--	--	--	--	--	--	.31	--
21...	--	--	--	--	--	1.5	--	--	--	--
21...	7.37	5080	.01	--	--	1.3	1.3	5.8	.18	--
24...	2.43	1500	--	--	--	--	--	--	3.4	--
JUL										
05...	4.39	4230	--	--	--	--	--	--	.54	--
15...	3.88	3320	--	--	--	--	--	--	.41	--
24...	7.77	2420	--	--	--	--	--	--	.27	--
29...	6.46	1820	.05	--	--	2.1	2.2	9.5	.38	--
29...	--	--	--	--	--	2.2	--	--	--	--
AUG										
05...	6.99	3330	--	--	--	--	--	--	.71	--
15...	6.19	1670	--	--	--	--	--	--	.51	--
23...	--	--	--	--	--	1.9	--	--	--	--
25...	6.91	5320	--	--	--	--	--	--	.82	--
26...	3.22	7420	2.0	--	--	1.3	3.3	15	5.8	--
SEP										
05...	8.50	11200	--	--	--	--	--	--	2.7	--
15...	8.20	3660	--	--	--	--	--	--	.66	--
25...	14.6	8490	--	--	--	--	--	--	.67	--
28...	9.82	4330	.48	--	.13	--	--	--	.44	.24
28...	--	--	--	--	--	2.2	--	--	--	--
	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDE D ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)	SUS- PENDE D SEDI- MENT (MG/L)	SUS- PENDE D SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT										
19...	--	--	--	--	--	--	220000	88	19	106
19...	--	--	--	--	--	--	--	--	--	--
NOV										
22...	1	--	20	10	10	5.6	6200	191	55	99
22...	--	4	--	--	--	--	--	--	--	--
DEC										
20...	--	--	--	--	--	--	6300	405	138	3
20...	--	--	--	--	--	--	--	--	--	--
JAN										
27...	--	--	--	--	--	--	5900	258	137	98
27...	--	--	--	--	--	--	--	--	--	--
FEB										
23...	2	--	70	30	40	5.7	6200	101	51	69
23...	--	11	--	--	--	--	--	--	--	--
MAR										
29...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	351	135	83
APR										
27...	--	--	--	--	--	--	--	962	995	97
27...	--	--	--	--	--	--	--	--	--	--
JUN										
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	62000	174	163	96
JUL										
29...	--	--	--	--	--	--	52000	132	51	80
29...	--	--	--	--	--	--	--	--	--	--
AUG										
23...	--	7	--	--	--	--	--	--	--	--
26...	0	--	360	350	10	82	4800	4400	13800	97
SEP										
28...	--	--	--	--	--	--	93000	362	217	98
28...	--	--	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDE MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDE MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDE SELE- NIUM (SE) (UG/L)
OCT										
19...	--	--	--	--	--	--	--	--	--	--
19...	--	145	--	--	--	--	--	--	--	--
NOV										
22...	2	80	20	60	.0	.0	.0	--	1	0
22...	--	--	--	--	--	--	--	19	--	--
DEC										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	83	--	--	--	--	--	--	--	--
JAN										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	70	--	--	--	--	--	--	--	--
FEB										
23...	2	110	20	90	.0	--	--	--	1	0
23...	--	--	--	--	--	--	--	33	--	--
MAR										
29...	--	180	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
APR										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	640	--	--	--	--	--	--	--	--
JUN										
21...	--	160	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
JUL										
29...	--	--	--	--	--	--	--	--	--	--
29...	--	<10	--	--	--	--	--	--	--	--
AUG										
23...	--	--	--	--	--	--	--	27	--	--
26...	3	3000	3000	0	.4	.4	.0	--	2	2
SEP										
28...	--	--	--	--	--	--	--	--	--	--
28...	--	20	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDE COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDE COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE LEAD (PB) (UG/L)
OCT											
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	200	--	--	--
NOV											
22...	0	50	49	1	10	6	4	200	20	100	98
22...	--	--	--	--	--	--	--	--	--	--	--
DEC											
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	270	--	--	--
JAN											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	<100	--	--	--
FEB											
23...	0	50	50	0	20	19	1	340	30	<100	<98
23...	--	--	--	--	--	--	--	--	--	--	--
MAR											
29...	--	--	--	--	--	--	--	320	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
APR											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	3700	--	--	--
JUN											
21...	--	--	--	--	--	--	--	620	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
JUL											
29...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	<100	--	--	--
AUG											
23...	--	--	--	--	--	--	--	--	--	--	--
26...	30	50	50	0	130	130	5	88000	20	200	200
SEP											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	6400	--	--	--

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)
OCT 19...	--	--	1100	--	--	--	--	--	--	--	--
19...	1028	9740	1101	--	--	--	--	--	--	--	--
NOV 22...	--	--	1330	4	0	4	<10	<9	1	0	0
22...	1028	9740	1331	--	--	--	--	--	--	--	--
DEC 20...	--	--	1230	--	--	--	--	--	--	--	--
20...	1028	9740	1231	--	--	--	--	--	--	--	--
JAN 27...	--	--	0900	--	--	--	--	--	--	--	--
27...	1028	9740	1030	--	--	--	--	--	--	--	--
FEB 23...	--	--	1200	4	--	4	20	20	0	0	0
23...	1028	9740	1201	--	--	--	--	--	--	--	--
MAR 29...	1028	9740	1130	--	--	--	--	--	--	--	--
29...	--	--	1200	--	--	--	--	--	--	--	--
APR 27...	--	--	1000	--	--	--	--	--	--	--	--
27...	1028	9740	1001	--	--	--	--	--	--	--	--
JUN 21...	1028	9740	1030	--	--	--	--	--	--	--	--
21...	--	--	1215	--	--	--	--	--	--	--	--
JUL 29...	--	--	1015	--	--	--	--	--	--	--	--
29...	1028	9740	1230	--	--	--	--	--	--	--	--
AUG 23...	1028	9740	1700	--	--	--	--	--	--	--	--
26...	--	--	1200	66	64	2	10	10	0	80	50
SEP 28...	--	--	1300	--	--	--	--	--	--	--	--
28...	1028	9740	1515	--	--	--	--	--	--	--	--

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 19,76 1100	NOV 22,76 1330	DEC 20,76 1230	JAN 27,77 0900	FEB 23,77 1200
TOTAL CELLS/ML	220000	6200	6300	5900	6200
DIVERSITY: DIVISION	0.1	1.4	1.5	1.4	1.1
..CLASS	0.1	1.4	1.5	1.4	1.1
...ORDER	1.1	2.1	2.0	1.8	1.5
...FAMILY	1.1	2.5	2.1	2.0	1.9
....GENUS	1.1	2.5	2.1	2.1	2.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	--	-	170	3
....CHLOROCOCCACEAE										
....CHLOROCOCCUM	--	-	--	-	--	-	--	-	--	-
....MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
....OOCYSTACEAE										
....ANKISTRODESMUS	--	-	46	1	210	3	43	1	110	2
....CHUDATELLA	--	-	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	180	3	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-	--	-
....QUADRIGULA	--	-	--	-	--	-	--	-	--	-
....WESTELLA	--	-	--	-	--	-	--	-	--	-
....PROTOSIPHONACEAE										
....PROTOSIPHON	--	-	--	-	--	-	--	-	--	-
....SCENEDESMACEAE										
....SCENEDESMUS	--	-	880	14	*	0	210	4	170	3
....VOLVOCALES										
....CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	2300	1	550	9	2800#	45	3200#	53	3200#	52
....ZYGNEMATALES										
....DESMIDIACEAE										
....COSMARUM	--	-	--	-	--	-	--	-	--	-
....STAUSTRUM	--	-	--	-	--	-	--	-	--	-

ARKANSAS RIVER BASIN

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07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

CHRYSIOPHYTA									
..BACILLARIOPHYCEAE									
..PENNALES									
...NAVICULACEAE									
....ENTOMONEIS	--	-	--	-	41	1	170	3	1100# 17
..CENTRALES									
...CUSCINODISCACEAE									
....CYCLOTETRA	110000#	48	970#	16	*	0	170	3	--
....MELOSIRA	--	-	--	-	*	0	--	-	--
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--
..PENNALES									
...FRAGILARIACEAE									
....FRAGILARIA	--	-	--	-	--	-	--	-	--
....SYNEDRA	--	-	--	-	--	-	--	-	56 1
...NAVICULACEAE									
....DIPLONEIS	--	-	--	-	--	-	--	-	--
....GYROSIGMA	--	-	--	-	--	-	--	-	*
....NAVICULA	--	-	320	5	540	8	390	6	670 11
...NITZSCHACEAE									
....NITZSCHIA	110000#	51	2500#	40	41	1	210	4	500 8
...SURIPELLACEAE									
....SURIPELLA	--	-	--	-	82	1	86	1	--
..XANTHOPHYCEAE									
..HETEROCOCCEALES									
...CHLOROTHECIACEAE									
....OPHIOCYTIUM	--	-	--	-	--	-	--	-	--
CYANOPHYTA (BLUE-GREEN ALGAE)									
..CYANOPHYCEAE									
...CHROCOCCALES									
....CHROCOCCACEAE									
....AGMENELLUM	--	-	--	-	--	-	--	-	--
....ANACYSTIS	--	-	740	12	660	10	--	-	--
...HORMOGONIALES									
...NOSTOCACEAE									
....ANABAENA	--	-	--	-	--	-	--	-	--
....ANABAENOPSIS	--	-	--	-	--	-	--	-	--
....APHANIZOUMENON	--	-	--	-	--	-	--	-	--
...CYLINDROSPPERMUM	--	-	--	-	--	-	--	-	--
...NODULARIA	--	-	--	-	--	-	--	-	--
...OSCILLATORIACEAE									
....OSCILLATORIA	--	-	--	-	1800#	29	1500#	24	--
...FICULARIACEAE	--	-	--	-	--	-	--	-	--
....RAPHIIDIOPSIS	--	-	--	-	--	-	--	-	--
DATE	UCT 19,76	NOV 22,76	DEC 20,76	JAN 27,77	FEB 23,77				
TIME	1100	1330	1230	0900	1200				
ORGANISM	CELLS	PER-	CELLS	PER-	CELLS	PER-	CELLS	PER-	CELLS
	/ML	CENT	/ML	CENT	/ML	CENT	/ML	CENT	/ML
EUGLENOPHYTA (EUGLENIIDS)									
..CRYPTOPHYCEAE									
...CRYPTOMONIDALES									
....CRYPTOMONIDACEAE									
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--
..EUGLENOPHYCEAE									
...EUGLENALES									
....EUGLENACEAE									
....EUGLENA	--	-	46	1	82	1	--	-	220 4
....TRACHELUMONAS	--	-	--	-	41	1	--	-	--
PYRRHOPHYTA (FIKE ALGAE)									
..DINOPHYCEAE									
...GYMNODINIALES									
....GYMNODINIACEAE									
....GYMNODINIUM	--	-	--	-	--	-	43	1	--
...PERIDINIALES									
....PERIDINIACEAE									
....PERIDINIUM	--	-	--	-	--	-	--	-	--

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

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

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued
 PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUN 21,77 1215	JUL 29,77 1015	AUG 26,77 0930	SEP 30,77 1300				
TOTAL CELLS/ML	62000	52000	4800	93000				
DIVERSITY: DIVISION	1.1	1.0	1.7	1.8				
..CLASS	1.1	1.0	1.8	1.8				
...ORDER	1.1	1.6	1.8	2.5				
...FAMILY	1.6	2.3	1.8	3.0				
....GENUS	1.6	2.7	1.8	3.4				
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		--	-	--	-
...CHLOROCOCCACEAE								
....CHLOROCOCCUM	--	-	--	-	--	-	510	1
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	510	1
...DUCYSTACEAE								
....ANKISTRODESMUS	* 0		--	-	--	-	--	-
...CHODATELLA	--	-	--	-	--	-	1500	2
...DICTYOSPHAERIUM	--	-	7400	14	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	--	-	2500	3
...DUCYSTIS	37000# 59		700	1	--	-	510	1
...NUADRIGULA	--	-	* 0		--	-	--	-
...WESTELLA	--	-	--	-	--	-	7600	8
...PROTUSIPHONACEAE								
...PROTUSIPHON	--	-	--	-	--	-	510	1
...SCENEDESMACEAE								
...SCENEDESMUS	860	1	900	2	--	-	2000	2
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	--	-	350	1	--	-	3100	3
...ZYGNEMATALES								
...DESMIDIACEAE								
...CUSMARIUM	--	-	* 0		--	-	--	-
...STAUROSTROM	--	-	--	-	680	14	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...PENNALES								
...NAVICULACEAE								
...CENTOMONEIS	--	-	--	-	--	-	--	-
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	* 0		350	1	--	-	25000# 27	
...MELUSIRA	--	-	--	-	--	-	--	-
...STEPHANODISCUS	--	-	350	1	--	-	--	-
...PENNALES								
...FRAGILARIACEAE								
...FRAGILARIA	--	-	--	-	--	-	2000	2
...SYNEURA	--	-	--	-	--	-	--	-
...NAVICULACEAE								
...DIPLONEIS	* 0		--	-	--	-	--	-
...GYROSIGMA	--	-	--	-	--	-	--	-
...NAVICULA	* 0		400	1	--	-	1000	1
...NITZSCHACEAE								
...NITZSCHIA	690	1	--	-	340	7	2000	2
...SURIPELLACEAE								
...SURIPELLA	* 0		--	-	--	-	2500	3
...XANTHOPHYCEAE								
...HETEROCOCCALES								
...CHLORUTHECIACEAE								
...OPHIUCYTUM	--	-	--	-	340	7	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROCOCCALES								
...CHROCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	16000# 18	
...ANACYSTIS	--	-	7000	14	--	-	9200	10
...HORMOGONALES								
...NOSTOCACEAE								
...ANABAENA	* 0		8900# 17		--	-	--	-
...ANABAENOPSIS	* 0		--	-	--	-	--	-
...APHANIZUMENON	--	-	4500	9	--	-	--	-
...CYLINDROSPERMUM	--	-	--	-	--	-	2000	2
...NODULARIA	12000# 19		--	-	--	-	--	-
...OSCILLATORIACEAE								
...OSCILLATORIA	11000# 18		20000# 38		--	-	8200	9
...RIVULARIACEAE								
...RAPHIDIOPSIS	--	-	--	-	2700# 57		--	-

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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07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUN 21,77 1215		JUL 29,77 1015		AUG 26,77 0930		SEP 30,77 1300	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)								
.CRYPTOPHYCEAE								
..CRYPTOMONIDALES								
...CRYPTOMONODACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	5100	5
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	350	1	550	1	--	-	--	-
....TRACHELOMONAS	*	0	400	1	680	14	--	-
PYRRHOPHYTA (FIRE ALGAE)								
.DINOPHYCEAE								
..GYMNODINIALES								
...GYMNODINIACEAE								
....GYMNODINIUM	--	-	--	-	--	-	--	-
..PERIDINIALES								
...PERIDINIACEAE								
....PERIDINIUM	*	0	--	-	--	-	510	1

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

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

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.5	8.5	2.0	0.0	0.0	6.0	12.0	22.0	23.0	25.0	25.0	27.0
2	19.5	10.5	0.0	0.0	4.0	8.0	12.0	21.0	25.0	25.0	26.0	27.0
3	20.0	12.0	1.0	0.0	5.0	7.5	12.0	21.0	25.0	27.0	28.0	26.0
4	19.5	10.0	3.0	0.0	4.0	6.0	11.0	23.0	26.0	27.0	27.0	26.0
5	17.0	6.0	3.0	0.0	3.0	6.0	6.0	22.0	27.0	27.0	26.0	25.0
6	14.0	8.0	6.0	0.0	3.0	6.0	10.0	21.0	27.0	28.0	26.0	25.0
7	12.0	9.0	0.0	0.0	2.0	8.0	14.0	23.0	25.0	28.0	26.0	26.0
8	10.0	7.0	0.0	0.0	4.0	10.0	15.0	24.0	24.0	28.0	27.0	26.0
9	12.0	8.0	6.0	0.0	6.0	10.0	17.0	24.0	25.0	27.0	26.0	26.0
10	13.5	10.0	8.0	0.0	9.5	12.0	16.0	23.0	26.0	27.0	27.0	23.0
11	17.0	9.0	0.0	0.0	10.0	14.0	16.0	20.0	27.0	27.0	25.0	24.0
12	16.0	2.0	1.0	0.0	9.0	8.0	16.0	19.0	27.0	27.0	24.0	23.0
13	17.0	2.0	2.0	0.0	8.0	6.0	18.0	20.0	26.0	27.0	26.0	23.0
14	16.0	3.0	2.0	0.0	9.0	11.0	16.0	20.0	27.0	27.0	24.0	20.0
15	16.5	3.5	3.0	0.0	6.0	14.0	18.0	20.0	28.0	28.0	26.0	19.0
16	10.0	3.5	2.5	0.0	4.0	12.0	19.0	22.0	27.0	28.0	28.0	22.0
17	9.0	4.0	3.5	0.0	5.0	12.0	19.0	21.0	27.0	28.0	28.0	23.0
18	9.0	5.0	4.0	0.0	8.0	11.0	19.0	22.0	29.0	---	25.0	24.0
19	10.0	8.0	8.0	0.0	7.0	12.0	18.0	22.0	27.0	27.0	24.0	23.0
20	5.5	8.5	2.0	0.0	6.0	8.0	20.0	21.0	27.0	27.0	23.0	21.0
21	8.0	7.0	0.0	0.0	7.0	9.0	18.0	18.0	28.0	28.0	24.0	20.0
22	10.0	3.5	0.0	0.0	11.0	7.0	16.0	19.0	26.0	27.0	26.0	23.0
23	15.0	6.0	0.0	0.0	11.0	10.0	16.0	20.0	29.0	28.0	28.0	23.0
24	17.0	5.0	1.0	0.0	7.0	13.0	16.0	22.0	25.0	29.0	28.0	21.0
25	10.0	9.0	4.0	0.0	10.0	12.0	16.0	22.0	25.0	29.0	28.0	22.0
26	8.0	13.5	2.0	2.0	6.0	15.0	15.0	24.0	27.0	29.0	27.0	23.0
27	11.0	5.0	4.0	3.0	3.0	16.0	18.0	23.0	27.0	26.0	26.0	25.0
28	8.0	0.0	4.0	1.0	5.0	14.0	19.0	23.0	28.0	25.0	26.0	24.0
29	11.0	2.0	2.0	0.0	---	12.0	22.0	24.0	28.0	26.0	23.0	23.0
30	9.0	0.0	2.0	0.0	---	12.0	22.0	25.0	27.0	---	25.0	24.0
31	7.5	---	0.0	0.0	---	10.0	---	25.0	---	25.0	26.0	---
MEAN	13.0	6.5	2.5	0.0	6.0	10.0	16.0	22.0	26.5	27.0	26.0	23.5
WTR YR 1977	MEAN	15.0		MAX	29.0		MIN	0.0				

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4000	6370	9830	13200	11300	14200	10700	16400	4900	14800	6270	4760
2	2570	6900	9170	13200	11700	14000	9880	4470	4620	10200	7150	5140
3	5170	5660	9740	12800	14500	13800	10900	4310	7920	10100	8320	6400
4	6270	6860	10300	9170	15600	13700	11200	7810	3780	4790	11300	9660
5	5070	9360	10100	9140	17200	13500	11800	10900	3110	5730	9460	10700
6	7000	10600	9630	8430	15200	15500	11700	6380	3440	6950	10400	13100
7	7820	8360	11200	8280	14200	15700	12400	6720	5230	7410	9230	12800
8	7680	8340	11300	9380	13500	13200	13000	6270	6070	8290	8340	11700
9	8240	9000	10800	11100	13900	13100	12900	10400	7710	8790	8150	12500
10	8510	8950	10000	12400	14200	13300	13600	16800	7650	9400	8900	12800
11	8410	9370	10300	13200	16200	12200	13700	16400	8160	2380	10400	13200
12	8630	10500	10400	13400	14000	13200	13900	12800	9010	7530	10800	9740
13	8760	11100	10300	11600	13500	13400	13300	11500	8760	3930	10600	9520
14	9110	10800	10600	9630	15100	13300	12600	11400	8320	4490	10500	9520
15	9040	10300	11000	9820	10900	13900	12400	11700	8960	4960	7940	10200
16	9300	9940	11900	10300	10200	16100	12600	12100	8530	4960	4100	11800
17	9170	10000	12800	10700	10900	10300	10100	12100	5960	5060	3980	10900
18	8980	9520	13400	9580	12300	11000	10000	14400	6120	5560	4050	13100
19	8750	9290	12300	9910	12600	10600	10700	10900	7810	6440	4840	7780
20	8770	9140	11800	9860	13300	12300	10500	5530	8510	7740	9940	13000
21	9070	9310	11800	9580	13700	13300	6780	804	9130	8810	10600	11800
22	8970	9470	12100	9550	13800	13900	7860	2280	9490	9680	9850	12900
23	8800	9520	12400	9580	14900	12600	9130	1040	9800	9110	7920	13700
24	8480	9230	12200	10200	16700	12600	10200	1780	9970	9800	7770	15600
25	8300	9220	12900	11200	15700	12800	11200	1360	9520	8930	8780	17500
26	7920	9390	12800	12600	15200	12500	16300	1430	10700	9940	5730	17300
27	7970	9600	13700	12600	14500	11900	10900	2970	8100	10000	3960	17100
28	7990	9630	12100	12300	13600	9860	12200	2990	6690	11200	4960	14000
29	7770	10200	12000	12800	---	11000	13100	3400	7610	8230	4290	12300
30	6750	10600	10200	12600	---	11000	14800	4120	9180	8870	3670	12100
31	6610	---	12000	12800	---	11200	---	5230	---	7470	3000	---
MONTH	7740	9220	11300	11000	13900	12900	11700	7700	7490	7790	7590	11800
YEAR	MAX	18400		MIN	804	MEAN	9970					

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	-0.5				---	24.5	28.0	29.5	28.5
2			---	-0.5				---	25.5	29.5	32.5	---
3			---	-0.5				---	26.0	29.5	---	21.0
4			---	-0.5				---	26.5	29.5	---	18.5
5			---	---				---	27.5	30.0	---	22.0
6			---	---				---	27.0	30.5	---	23.0
7			2.5	---				---	25.0	30.5	---	23.5
8			3.0	---				---	24.5	30.0	---	---
9			5.0	---				---	26.0	30.0	---	---
10			6.5	---				---	26.0	---	26.5	---
11			1.5	---				---	26.0	---	25.0	---
12			3.0	---				---	24.0	---	24.0	26.5
13			3.5	---				---	23.0	---	---	24.0
14			4.0	---				---	24.0	---	---	20.0
15			4.5	---				---	25.0	---	---	28.5
16			4.0	---				---	26.5	---	---	27.5
17			5.0	---				---	27.5	---	31.0	30.0
18			5.5	---				---	25.0	---	28.5	29.5
19			8.0	---				---	24.0	---	27.5	30.0
20			2.0	---				---	23.0	---	27.5	30.0
21			.0	---				---	25.5	---	28.5	28.5
22			1.0	---				---	20.0	---	25.5	25.0
23			1.5	---				---	28.0	---	---	29.0
24			3.5	---				---	---	---	---	30.0
25			4.5	---				---	---	29.0	---	---
26			3.5	---				---	---	24.0	---	---
27			5.0	---				23.5	31.5	24.5	---	---
28			4.0	---				24.5	31.5	28.5	---	---
29			3.0	---				24.5	30.0	---	---	---
30			.5	---				25.5	31.5	26.0	---	---
31			-0.5	---				26.5	---	27.0	28.5	---
MEAN			3.5	-0.5				25.0	26.0	28.5	28.0	26.0
WTR YR 1977	MEAN	20.5		MAX	32.5		MIN	-0.5				

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	5500	---	12600				---	4890	13000	7570	4880
2	---	6890	---	13200				---	6220	9860	7950	7520
3	---	4390	---	12000				---	7120	8670	9020	4600
4	---	---	---	8870				---	3940	5090	12200	11100
5	---	---	---	9180				---	3090	5880	10300	11800
6	---	10400	---	---				---	3380	7060	11400	---
7	---	7760	11100	---				---	5230	7460	10600	---
8	---	9000	11200	---				---	5960	8250	---	11900
9	---	9560	11200	---				---	---	8900	---	---
10	---	9690	9600	---				---	---	8810	---	---
11	---	---	10500	---				---	---	1950	---	13600
12	---	---	12100	---				---	---	7070	---	---
13	---	---	10200	---				---	---	3400	---	---
14	---	---	10800	---				---	---	4010	5150	---
15	---	---	10900	---				---	---	5150	---	---
16	---	10300	11900	---				---	---	5560	---	11200
17	---	10700	13600	---				10500	---	6090	4110	11100
18	---	9220	12900	---				12700	---	6990	4070	13100
19	9540	9030	11700	---				10300	---	7580	4930	7700
20	9260	9140	11300	---				3700	---	9190	10200	13000
21	9280	9280	11600	9580				---	---	9760	13100	12000
22	8810	9360	11500	---				---	---	10300	11400	12900
23	9040	9830	11600	---				---	---	---	---	13800
24	8560	---	12200	---				---	10700	---	---	15700
25	8430	---	12500	---				---	10300	---	---	---
26	---	---	13100	11800				1400	11000	---	3080	---
27	---	10200	12800	12800				3720	8120	---	3760	---
28	---	9630	12000	---				3100	6830	---	3980	---
29	7150	9900	10700	---				3640	8190	---	5410	---
30	6670	10800	9600	---				4110	9300	---	1730	---
31	6580	---	11600	---				5220	---	---	3810	---
MEAN	8330	9030	11500	11300				5840	6950	7270	7190	11000
WTR YR 1977	MEAN	8800		MAX	15700		MIN	1400				

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1800	---	3900				---	1600	4100	2400	1600
2	---	2200	---	4100				---	2000	3100	2500	2400
3	---	1400	---	3700				---	2300	2700	2800	1500
4	---	---	---	2800				---	1300	1700	3800	3500
5	---	---	---	2900				---	1100	1900	3200	3700
6	---	3300	---	---				---	1100	2300	3600	---
7	---	2500	3500	---				---	1700	2400	3300	---
8	---	2800	3500	---				---	1900	2600	---	3700
9	---	3000	3500	---				---	---	2800	---	---
10	---	3100	3000	---				---	---	2800	---	---
11	---	---	3300	---				---	---	710	---	4200
12	---	---	3800	---				---	---	2300	---	---
13	---	---	3200	---				---	---	1100	---	---
14	---	---	3400	---				---	---	1300	1700	---
15	---	---	3400	---				---	---	1700	---	---
16	---	3200	3700	---				---	---	1800	---	3500
17	---	3400	4200	---				3300	---	2000	1400	3500
18	---	2900	4000	---				4000	---	2200	1400	4100
19	3000	2900	3700	---				3200	---	2400	1600	2400
20	2900	2900	3500	---				1200	---	2900	3200	4100
21	2900	2900	3600	3000				---	---	3100	4100	3700
22	2800	3000	3600	---				---	---	3200	3600	4000
23	2900	3100	3600	---				---	---	---	---	4300
24	2700	---	3800	---				---	3400	---	---	4900
25	2700	---	3900	---				---	3200	---	---	---
26	---	---	4100	3700				540	3400	---	1100	---
27	---	3200	4000	4000				1200	2600	---	1300	---
28	---	3000	3700	---				1100	2200	---	1300	---
29	2300	3100	3400	---				1200	2600	---	1800	---
30	2100	3400	3000	---				1400	2900	---	640	---
31	2100	---	3600	---				1700	---	---	1300	---
MEAN	2600	2900	3600	3500				1900	2200	2300	2300	3400
WTR YR 1977	MEAN	2800		MAX	4900		MIN	540				

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	310	---	460				---	290	470	350	290
2	---	340	---	480				---	320	400	360	350
3	---	280	---	450				---	340	380	380	290
4	---	---	---	380				---	270	300	450	430
5	---	---	---	390				---	250	320	410	450
6	---	420	---	---				---	260	340	440	---
7	---	360	430	---				---	300	350	420	---
8	---	380	430	---				---	320	370	---	450
9	---	400	430	---				---	---	380	---	---
10	---	400	400	---				---	---	380	---	---
11	---	---	420	---				---	---	230	---	490
12	---	---	450	---				---	---	340	---	---
13	---	---	410	---				---	---	260	---	---
14	---	---	420	---				---	---	270	300	---
15	---	---	430	---				---	---	300	---	---
16	---	410	450	---				---	---	310	---	430
17	---	420	490	---				420	---	320	280	430
18	---	390	470	---				470	---	340	280	470
19	400	390	440	---				410	---	350	300	360
20	390	390	430	---				270	---	390	410	470
21	390	390	440	400				---	---	400	470	450
22	380	390	440	---				---	---	410	440	470
23	390	400	440	---				---	---	---	---	490
24	370	---	450	---				---	420	---	---	530
25	370	---	460	---				---	410	---	---	---
26	---	---	470	450				220	430	---	250	---
27	---	410	470	470				270	370	---	270	---
28	---	400	450	---				260	340	---	270	---
29	340	400	420	---				270	370	---	310	---
30	330	420	400	---				280	390	---	220	---
31	330	---	440	---				300	---	---	270	---
MEAN	370	390	440	440				320	340	350	340	430
WTR YR 1977	MEAN	380		MAX	530		MIN	220				

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	821	---	1950				---	11600	10700	2090	3130
2	---	1390	---	1980				---	21100	9290	3240	10100
3	---	764	---	1400				---	30600	5880	4570	3370
4	---	---	---	975				---	12800	2940	6470	5790
5	---	---	---	893				---	6530	2240	1950	6930
6	---	1240	---	---				---	4870	2060	1750	---
7	---	884	1530	---				---	6010	1830	1260	---
8	---	915	1180	---				---	5590	1780	---	4850
9	---	948	1120	---				---	---	1930	---	---
10	---	904	1000	---				---	---	5510	---	---
11	---	---	1020	---				---	---	1760	---	3950
12	---	---	1170	---				---	---	8260	---	---
13	---	---	1000	---				---	---	2350	---	---
14	---	---	1170	---				---	---	1710	757	---
15	---	---	1220	---				---	---	1650	---	---
16	---	959	1270	---				---	---	1430	---	2360
17	---	1060	1440	---				7050	---	1500	10700	2460
18	---	916	1360	---				8420	---	---	6610	7050
19	648	893	1290	---				9420	---	---	4360	4500
20	595	869	1140	---				6740	---	---	5960	5520
21	587	830	1310	1700				---	---	---	6150	3700
22	559	867	1200	---				---	---	---	4580	3660
23	595	946	1190	---				---	---	---	---	3780
24	583	---	1330	---				---	2840	---	---	4220
25	576	---	1390	---				---	3020	---	---	---
26	---	---	1340	2010				6680	3950	---	3620	---
27	---	907	1430	2100				15200	3780	---	5760	---
28	---	1120	1270	---				14600	3060	---	5650	---
29	584	1380	1140	---				15700	5510	---	7480	---
30	754	973	1430	---				10800	7160	---	1560	---
31	862	---	2070	---				13400	---	---	2250	---
MEAN	634	979	1280	1630				10800	8560	3700	4340	4710
WTR YR 1977	MEAN	3780		MAX	30600		MIN	559				

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	141.0	---	230.0				---	2100.0	1230.0	304.0	567.0
2	---	215.0	---	232.0				---	3380.0	1200.0	467.0	1470.0
3	---	153.0	---	170.0				---	4520.0	828.0	620.0	651.0
4	---	---	---	132.0				---	2650.0	519.0	767.0	712.0
5	---	---	---	120.0				---	1490.0	378.0	250.0	843.0
6	---	158.0	---	---				---	1150.0	305.0	214.0	---
7	---	127.0	188.0	---				---	1060.0	267.0	160.0	---
8	---	124.0	145.0	---				---	942.0	254.0	---	589.0
9	---	126.0	137.0	---				---	---	262.0	---	---
10	---	117.0	134.0	---				---	---	748.0	---	---
11	---	---	129.0	---				---	---	571.0	---	460.0
12	---	---	139.0	---				---	---	1220.0	---	---
13	---	---	128.0	---				---	---	555.0	---	---
14	---	---	144.0	---				---	---	356.0	134.0	---
15	---	---	154.0	---				---	---	291.0	---	---
16	---	123.0	154.0	---				---	---	246.0	---	290.0
17	---	132.0	168.0	---				897.0	---	239.0	2140.0	302.0
18	---	123.0	160.0	---				990.0	---	---	1320.0	808.0
19	86.4	120.0	153.0	---				1210.0	---	---	818.0	676.0
20	80.0	117.0	140.0	---				1520.0	---	---	764.0	633.0
21	79.0	112.0	160.0	227.0				---	---	---	706.0	450.0
22	75.9	113.0	146.0	---				---	---	---	560.0	430.0
23	80.0	122.0	145.0	---				---	---	---	---	431.0
24	79.9	---	158.0	---				---	350.0	---	---	456.0
25	78.9	---	164.0	---				---	386.0	---	---	---
26	---	---	154.0	244.0				2720.0	499.0	---	823.0	---
27	---	116.0	168.0	246.0				3420.0	538.0	---	1200.0	---
28	---	149.0	154.0	---				3450.0	473.0	---	1170.0	---
29	86.3	178.0	141.0	---				3540.0	784.0	---	1290.0	---
30	119.0	120.0	190.0	---				2150.0	962.0	---	535.0	---
31	135.0	---	253.0	---				2370.0	---	---	467.0	---
MEAN	90.0	134.0	156.0	200.0				2230.0	1420.0	557.0	735.0	611.0
WTR YR 1977	MEAN	614.0		MAX	4520.0		MIN	75.9				

07161000 CIMARRON RIVER NEAR PERKINS, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	3510	---	7430				---	3170	7650	4650	3170
2	---	4280	---	7760				---	3910	5920	4860	4620
3	---	2900	---	7100				---	4400	5260	5450	3010
4	---	---	---	5370				---	2650	3280	7210	6600
5	---	---	---	5540				---	2180	3720	6160	6990
6	---	6220	---	---				---	2340	4370	6770	---
7	---	4760	6600	---				---	3360	4590	6330	---
8	---	5440	6660	---				---	3760	5030	---	7040
9	---	5750	6660	---				---	---	5390	---	---
10	---	5820	5770	---				---	---	5340	---	---
11	---	---	6270	---				---	---	1550	---	7980
12	---	---	7150	---				---	---	4380	---	---
13	---	---	6100	---				---	---	2350	---	---
14	---	---	6440	---				---	---	2690	3320	---
15	---	---	6490	---				---	---	3320	---	---
16	---	6160	7040	---				---	---	3540	---	6660
17	---	6380	7980	---				6270	---	3830	2740	6600
18	---	5560	7600	---				7490	---	4330	2720	7710
19	5740	5460	6930	---				6160	---	4660	3190	4720
20	5590	5520	6710	---				2510	---	5550	6100	7650
21	5600	5600	6880	5760				---	---	5860	7710	7100
22	5340	5640	6820	---				---	---	6160	6770	7600
23	5460	5900	6880	---				---	---	---	---	8090
24	5200	---	7210	---				---	6380	---	---	9140
25	5130	---	7370	---				---	6160	---	---	---
26	---	---	7710	6990				1240	6550	---	2170	---
27	---	6100	7540	7540				2530	4960	---	2550	---
28	---	5790	7100	---				2180	4240	---	2670	---
29	4420	5940	6380	---				2480	4990	---	3460	---
30	4150	6440	5770	---				2740	5610	---	1430	---
31	4110	---	6880	---				3350	---	---	2580	---
MEAN	5070	5460	6840	6690				3700	4310	4490	4440	6540
WTR YR 1977	MEAN	5330		MAX	9140		MIN	1240				

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1600	---	3710				---	22900	20000	4040	6200
2	---	2700	---	3750				---	41300	17700	6300	19500
3	---	1580	---	2680				---	58400	11500	8890	6750
4	---	---	---	1870				---	26000	5680	12300	10900
5	---	---	---	1710				---	12900	4390	3760	13100
6	---	2330	---	---				---	10400	3920	3290	---
7	---	1680	2890	---				---	11900	3510	2410	---
8	---	1780	2250	---				---	11100	3450	---	9220
9	---	1820	2120	---				---	---	3710	---	---
10	---	1700	1930	---				---	---	10500	---	---
11	---	---	1930	---				---	---	3850	---	7500
12	---	---	2200	---				---	---	15700	---	---
13	---	---	1910	---				---	---	5020	---	---
14	---	---	2210	---				---	---	3540	1480	---
15	---	---	2330	---				---	---	3220	---	---
16	---	1850	2410	---				---	---	2810	---	4500
17	---	2000	2740	---				13400	---	2860	20900	4630
18	---	1760	2590	---				15800	---	---	12900	13300
19	1240	1680	2410	---				18100	---	---	8700	8860
20	1150	1650	2190	---				14100	---	---	11400	10300
21	1130	1600	2510	3270				---	---	---	11600	7090
22	1070	1630	2260	---				---	---	---	8610	6960
23	1120	1800	2270	---				---	---	---	---	7120
24	1120	---	2530	---				---	5320	---	---	7870
25	1090	---	2630	---				---	5800	---	---	---
26	---	---	2520	3790				15300	7600	---	7150	---
27	---	1730	2690	3950				32000	7220	---	11300	---
28	---	2160	2430	---				29000	5900	---	11600	---
29	1120	2650	2140	---				32500	10600	---	14400	---
30	1490	1840	2740	---				21100	13800	---	3480	---
31	1690	---	3960	---				26500	---	---	4470	---
MEAN	1220	1880	2430	3090				21800	16700	7140	8450	8990
WTR YR 1977	MEAN	7360		MAX	58400		MIN	1070				

ARKANSAS RIVER BASIN

189

07163000 COUNCIL CREEK NEAR STILLWATER, OK

LOCATION.--Lat 36°07'07", long 96°52'00", in SE 1/4 SW 1/4 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) above mean sea level, adjustment of 1912. Prior to May 4, 1934, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--43 years, 11.1 ft³/s (0.314 m³/s), 4.86 in/yr (123 mm/yr), 8,040 acre-ft/yr (9.91 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 OUSTIDE 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, 3,420 ft³/s (96.9 m³/s) at 0215 May 21, gage height, 11.04 ft (3.365 m), no other peak above base of 1,200 ft³/s (34.0 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.00	.04	.12	.19	.15	.42	59	2.4	20	.00	.00		
2	.00	.00	.06	.13	.28	.15	.42	2.4	1.2	10	.00	.00		
3	.00	.00	.08	.14	.35	.14	.28	.97	.97	5.0	.00	.00		
4	.00	.00	.06	.15	.35	.14	.28	.68	.77	1.0	.00	.00		
5	.00	.00	.04	.15	.35	.13	.23	.87	.68	.10	.00	.00		
6	.00	.00	.20	.23	.42	.13	.23	6.2	.51	.05	.00	.00		
7	.00	.00	.18	.23	.51	.12	.23	1.7	.60	.02	.00	.00		
8	.00	.00	.17	.28	.60	.19	.23	.68	.42	.00	.00	.00		
9	.00	.00	.16	.12	.77	.15	.23	.35	.35	.00	.00	.00		
10	.00	.00	.15	.08	.77	.23	.19	.23	.23	.00	.00	.00		
11	.00	.00	.14	.08	.85	4.0	.15	.12	.19	.00	.00	.60		
12	.00	.00	.12	.10	1.1	.68	.19	.08	.12	.00	.00	.60		
13	.00	.00	.10	.19	.68	.28	.19	.10	.12	.00	.00	.28		
14	.00	.00	.08	.28	.10	.19	.19	.15	.12	.00	.00	.23		
15	.00	.00	.06	.28	.08	.15	.23	.10	.10	.00	.00	1.1		
16	.00	.00	.04	.12	.06	.12	5.1	.08	.08	.00	.00	16		
17	.00	.00	.02	.10	.04	8.8	4.4	3.4	.08	.00	.00	2.9		
18	.00	.00	.00	.12	.02	5.6	1.1	.77	.06	.00	.00	.60		
19	.00	.00	.00	.12	.00	.77	.60	18	.04	.00	.00	.15		
20	.00	.00	.00	.19	.00	.23	2.0	88	.03	.00	.00	.05		
21	.00	.00	.00	.23	.00	.19	20	1060	.01	.00	.00	.00		
22	.00	.00	.00	.23	.00	.15	3.2	13	.00	.00	.00	.00		
23	.00	.00	.00	.42	.00	.15	1.1	24	.00	.00	.00	.00		
24	.00	.00	.00	.28	.00	.15	.68	8.2	.00	.00	.00	.00		
25	.00	.00	.00	.28	.00	.19	.51	3.4	.00	.00	.00	.00		
26	.00	.02	.00	.28	.20	.23	.42	2.2	.00	.00	.00	.00		
27	.00	.03	.00	.28	.18	.87	.35	2.4	.00	.00	.00	.00		
28	.00	.02	.02	.23	.16	18	.28	12	.00	.00	62	.00		
29	.00	.02	.04	.12	---	2.0	.28	6.5	.00	.00	3.7	.00		
30	.00	.03	.06	.15	---	.68	.23	2.2	.00	.00	.60	.00		
31	.00	---	.08	.12	---	.35	---	3.2	---	.00	.10	---		
TOTAL	.00	.12	1.90	5.83	8.06	45.31	43.94	1322.98	9.08	36.17	66.40	22.51		
MEAN	.000	.004	.061	.19	.29	1.46	1.46	42.7	.30	1.17	2.14	.75		
MAX	.00	.03	.20	.42	1.1	18	20	1060	2.4	20	62	16		
MIN	.00	.00	.00	.08	.00	.12	.15	.08	.00	.00	.00	.00		
CFSM	.000	.000	.002	.006	.009	.05	.05	1.38	.01	.04	.07	.02		
IN.	.00	.00	.00	.01	.01	.05	.05	1.59	.01	.04	.08	.03		
AC=FT	.00	.2	3.8	12	16	90	87	2620	18	72	132	45		
CAL YR 1976	TOTAL	583.40	MEAN	1.59	MAX	117	MIN	.00	CFSM	.05	IN	.70	AC=FT	1160
WTR YR 1977	TOTAL	1562.30	MEAN	4.28	MAX	1060	MIN	.00	CFSM	.14	IN	1.87	AC=FT	3100

ARKANSAS RIVER BASIN

07164200 KEYSTONE LAKE NEAR SAND SPRINGS, OK

LOCATION.--Lat 36°09'05", long 96°15'05", in SW 1/4 SE 1/4 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 mean sea level. 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 hm³) 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, 923,200 acre-ft (1.14 km³) May 31, elevation, 733.14 ft (223.461 m); minimum, 400,000 acre-ft (493 hm³) Jan. 14, elevation, 712.98 ft (217.316 m).

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

712	382,800	724	644,400
716	457,000	729	789,400
720	543,900	734	952,600

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	458800	442200	432100	426200	416000	452200	500000	554000	903600	757700	674600	683600
2	461200	439700	431500	427000	417100	451400	501100	556100	890100	768500	673200	680800
3	463000	438200	430200	424200	418900	456000	502200	562100	867500	773400	670700	677200
4	468300	436300	431300	423000	419100	456200	504300	567400	843800	776100	666000	676600
5	467900	435000	433000	421200	420100	458200	503900	573500	812900	773100	664900	692100
6	469700	438800	432300	420800	421900	460200	503300	576700	785400	758900	664100	692400
7	468900	442100	430400	418900	421200	459800	505000	580900	769700	743400	666600	676900
8	470100	443400	428100	421000	420800	461400	504300	585800	749700	728000	663300	672400
9	471600	444400	426600	419300	420600	461000	505400	587600	728900	712800	659100	673000
10	473000	443200	425900	416000	421900	462400	506500	588600	716300	696700	650400	678600
11	471600	446500	426600	411600	424900	465000	505400	588100	709600	686700	649000	680800
12	464800	445200	427700	405600	427700	467100	505700	588900	702400	683900	648500	674100
13	461200	448700	425900	402500	430000	468100	504300	589900	695500	680200	652300	668500
14	457000	452200	425100	400600	431000	468300	505700	590600	694100	676300	660200	661900
15	457800	446700	424700	402300	430000	470600	505400	593100	687300	677700	659900	654700
16	457000	448500	424000	403400	429800	470600	507800	592600	684800	678800	654200	652300
17	457000	450000	423600	404300	432100	474900	510700	590600	675500	683100	652600	653900
18	457000	449100	425700	402700	434000	476000	511000	582600	676000	679400	654700	653100
19	454200	449500	429400	403800	436100	478900	513000	581100	678000	675500	659400	648200
20	448700	451000	427700	404900	438800	480200	514500	574200	676300	672700	668500	643100
21	447300	452000	426400	406300	439500	480000	517700	658000	674600	672700	673800	635800
22	442400	448900	425700	406800	439700	481000	519800	751500	671900	672700	671000	627900
23	444400	446100	425700	408700	444000	480800	524200	810400	669100	673000	676600	621600
24	445500	439700	427200	407900	445000	482300	528600	837100	652800	676600	678300	641200
25	443800	441100	428300	407900	446100	483800	529500	855500	649300	673800	710200	656700
26	443600	443000	429400	409400	448100	486300	533700	870500	661600	676900	740600	666300
27	442100	440900	428900	411700	450000	489200	535500	870100	676300	677400	743700	667100
28	442800	441300	427900	413200	450400	493700	539700	862300	692700	675800	756500	664100
29	441300	435500	426400	413000	---	496400	541100	870800	712500	673800	742300	662700
30	443200	433600	425500	414500	---	497700	546200	912600	730700	673000	708500	657500
31	444000	---	425500	414300	---	499400	---	918200	---	675500	703000	---
MAX	473000	452200	433000	427000	450400	499400	546200	918200	903600	776100	756500	692400
MIN	441300	433600	423600	400600	416000	451400	500000	554000	649300	672700	648500	621600
†	715.34	714.80	714.37	713.77	715.67	718.04	720.10	732.99	727.05	725.13	726.10	724.48
‡	-16,000	-10,400	-8,100	-11,200	+36,100	+49,000	+46,800	+372,000	-187,500	-55,200	+27,500	-45,500
CAL YR 1976	MAX	719200	MIN	423600	‡	-97,500						
WTR YR 1977	MAX	918200	MIN	400600	‡	+197,500						

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

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07164400 ARKANSAS RIVER AT SAND SPRINGS BRIDGE NEAR TULSA, OK
(National stream-quality accounting network station)

LOCATION.--Lat 36°07'22", long 96°07'23", in NW 1/4 SW 1/4 sec.14, T.19 N., R.11 E., Tulsa County, Hydrologic Unit 11110101, at bridge on State Highway 97 in Sand Springs, 5.1 mi (8.2 km) downstream from Keystone Dam, and 10 mi (16.1 km) upstream from gaging station at Tulsa.

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

PERIOD OF RECORD.--Water years 1947 to March 1977 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1946 to March 1977.

WATER TEMPERATURE: October 1946 to March 1977.

INSTRUMENTATION.--Water quality monitor from July 1969 to 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 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, 21,200 micromhos Oct. 19, 1956; minimum daily, 269 micromhos Nov. 21, 1964.

WATER TEMPERATURE: Maximum daily, 36.0°C Aug. 7, 1947; minimum 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: (Oct. 1976 to Mar. 1977) Maximum daily, 3,700 micromhos Feb. 19; minimum daily, 1,210 micromhos Oct. 2.

WATER TEMPERATURE: (Oct. 1966 to Mar. 1977) Maximum daily, 22°C Oct. 3; minimum daily, 0.0°C Dec. 31, Jan. 9-12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
05...	--	--	1455	1070	1240	7.8	--	--	--	--
15...	--	--	0935	2110	1470	7.9	--	--	--	--
26...	--	--	1300	628	1350	8.3	11.0	8	10.6	95
26...	1028	9740	1301	628	1350	8.3	11.0	--	10.6	95
26...	--	--	1455	628	1360	8.2	--	--	--	--
NOV										
06...	--	--	1330	740	1490	8.2	--	--	--	--
09...	1028	9740	1200	1620	1400	8.4	13.5	--	11.2	110
09...	--	--	1211	1620	1400	8.4	13.5	10	11.2	110
15...	--	--	1505	1790	1370	8.3	--	--	--	--
26...	--	--	1010	301	1570	8.3	--	--	--	--
DEC										
07...	--	--	1500	1730	1610	8.3	--	--	--	--
14...	--	--	1100	1620	1500	8.2	4.0	10	13.5	102
14...	1028	9740	1200	1620	1500	8.2	4.0	--	14.0	101
15...	--	--	1325	1520	1860	8.3	--	--	--	--
25...	--	--	1005	225	1900	8.3	--	--	--	--
JAN										
05...	--	--	0815	1230	2210	8.4	--	--	--	--
15...	--	--	1135	600	2030	8.3	--	--	--	--
25...	--	--	1100	1300	2180	7.7	1.0	7	13.8	98
25...	1028	9740	1101	1300	2180	7.7	1.0	--	13.8	98
25...	--	--	1420	1300	2520	8.2	--	--	--	--
FEB										
05...	--	--	0955	783	2780	8.3	--	--	--	--
08...	--	--	1130	969	2250	8.3	6.0	4	11.2	88
08...	1028	9740	1500	969	2250	8.3	6.0	--	11.2	88
15...	--	--	1020	1300	3150	8.1	--	--	--	--
24...	--	--	0855	118	3480	8.2	--	--	--	--
MAR										
05...	--	--	1040	862	3390	8.2	--	--	--	--
08...	--	--	1145	459	2700	8.5	9.0	3	12.9	109
08...	1028	9740	1146	459	2700	8.5	9.0	--	12.9	109
15...	--	--	1600	488	3350	8.0	--	--	--	--

ARKANSAS RIVER BASIN

07164400 ARKANSAS RIVER AT SANDSPRINGS BRIDGE NEAR TULSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI- FORM (7UM-MF (COL./ 100 ML)	FECAL STREP- TOCUCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT										
05...	--	--	--	190	69	52	14	170	66	5.4
15...	--	--	--	220	94	59	17	210	67	6.2
26...	--	B13	B810	210	74	59	14	180	65	5.5
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	200	69	57	14	190	67	5.8
NOV										
06...	--	--	--	210	71	60	15	210	68	6.3
09...	15	--	--	--	--	--	--	--	--	--
09...	--	B54	200	220	85	62	15	220	68	6.5
15...	--	--	--	220	80	61	16	210	67	6.2
26...	--	--	--	230	77	64	16	230	68	6.7
DEC										
07...	--	--	--	220	78	61	16	230	69	6.8
14...	--	B6	54	240	90	67	17	250	69	7.1
14...	<1	--	--	--	--	--	--	--	--	--
15...	--	--	--	240	96	67	18	280	71	7.8
25...	--	--	--	250	95	69	19	280	70	7.7
JAN										
05...	--	--	--	250	100	69	20	350	74	9.5
15...	--	--	--	260	110	72	19	310	72	8.4
25...	--	B42	1320	270	120	77	20	350	73	9.2
25...	24	--	--	--	--	--	--	--	--	--
25...	--	--	--	290	130	80	22	400	74	10
FEB										
05...	--	--	--	300	140	82	23	450	76	11
08...	--	B3	B20	290	130	80	23	440	76	11
08...	30	--	--	--	--	--	--	--	--	--
15...	--	--	--	310	150	84	24	530	78	13
24...	--	--	--	330	160	90	26	600	79	14
MAR										
05...	--	--	--	320	160	88	25	590	80	14
08...	--	B6	B21	300	170	83	23	520	79	13
08...	21	--	--	--	--	--	--	--	--	--
15...	--	--	--	320	150	85	25	570	79	14

DATE	DIS- SOLVED PHOS- PHORUS SIUM (K) (MG/L)	BICAR- BONATE (CO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINEITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)
OCT										
05...	5.4	144	0	118	3.7	73	280	--	--	671
15...	5.9	150	0	123	3.0	75	320	--	--	815
26...	5.7	160	0	131	1.3	77	290	.3	5.6	733
26...	--	--	--	--	--	--	--	--	--	--
26...	5.7	160	0	131	1.6	90	290	--	--	757
NOV										
06...	5.7	172	0	141	1.7	79	310	--	--	793
09...	--	--	--	--	--	--	--	--	--	--
09...	6.0	160	0	131	1.0	81	350	.4	4.8	855
15...	5.9	169	0	139	1.4	81	310	--	--	773
26...	5.6	181	0	148	1.5	87	350	--	--	837
DEC										
07...	5.9	171	0	140	1.4	91	360	--	--	870
14...	5.7	179	0	147	1.8	86	390	.3	4.4	916
14...	--	--	--	--	--	--	--	--	--	--
15...	6.0	177	0	145	1.4	96	430	--	--	1010
25...	5.7	190	0	156	1.5	99	440	--	--	1040
JAN										
05...	5.9	168	8	151	1.2	110	530	--	--	1200
15...	6.0	185	0	152	1.5	100	500	--	--	1100
25...	5.6	194	0	159	6.2	110	560	.3	2.9	1220
25...	--	--	--	--	--	--	--	--	--	--
25...	6.4	193	0	158	1.9	110	630	--	--	1360
FEB										
05...	6.3	196	0	161	1.6	120	720	--	--	1530
08...	6.0	204	0	167	1.6	110	700	.3	2.6	1520
08...	--	--	--	--	--	--	--	--	--	--
15...	6.2	200	0	164	2.5	150	850	--	--	1750
24...	6.3	207	0	170	2.1	160	950	--	--	1930
MAR										
05...	6.4	200	0	160	2.0	160	900	--	--	1890
08...	5.9	163	0	134	.8	140	850	.4	2.0	1720
08...	--	--	--	--	--	--	--	--	--	--
15...	6.5	200	0	160	3.2	130	900	--	--	1890

ARKANSAS RIVER BASIN

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07164400 ARKANSAS RIVER AT SANDSPRINGS BRIDGE NEAR TULSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
OCT									
05...	--	.91	1940	--	.55	--	--	--	.15
15...	--	1.11	4640	--	.68	--	--	--	.17
26...	710	1.00	1240	.62	--	.33	.95	4.2	.11
26...	--	--	--	--	--	.33	--	--	--
26...	--	1.03	1280	--	.55	--	--	--	.09
NOV									
06...	--	1.08	1580	--	.43	--	--	--	.08
09...	--	--	--	--	--	.80	--	--	--
09...	818	1.16	3740	.45	--	.29	.74	3.3	.11
15...	--	1.05	3740	--	.60	--	--	--	.10
26...	--	1.14	680	--	.63	--	--	--	.08
DEC									
07...	--	1.18	4060	--	.58	--	--	--	--
14...	909	1.25	4010	.41	--	.30	.71	3.1	.10
14...	--	--	--	--	--	.90	--	--	--
15...	--	1.37	4150	--	.34	--	--	--	--
25...	--	1.41	632	--	.36	--	--	--	--
JAN									
05...	--	1.63	3990	--	.54	--	--	--	--
15...	--	1.50	1780	--	.48	--	--	--	--
25...	1220	1.66	4280	.30	--	.28	.58	2.6	.08
25...	--	--	--	--	--	.70	--	--	--
25...	--	1.85	4770	--	.57	--	--	--	--
FEB									
05...	--	2.08	3240	--	.55	--	--	--	.11
08...	1460	2.07	3980	.36	--	.53	.89	3.9	.10
08...	--	--	--	--	--	1.1	--	--	--
15...	--	2.38	6140	--	.56	--	--	--	.12
24...	--	2.62	615	--	.29	--	--	--	.12
MAR									
05...	--	2.57	4400	--	.64	--	--	--	.07
08...	1700	2.34	2130	.15	--	.81	.96	4.3	.08
08...	--	--	--	--	--	1.7	--	--	--
15...	--	2.57	2490	--	.88	--	--	--	.05

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)
OCT											
26...	--	--	1300	--	--	--	--	--	--	--	--
26...	1028	9740	1301	--	--	--	--	--	--	--	--
NOV											
09...	1028	9740	1200	--	--	--	--	--	--	--	--
09...	--	--	1211	3	0	3	<10	<9	1	0	0
DEC											
14...	--	--	1100	--	--	--	--	--	--	--	--
14...	1028	9740	1200	--	--	--	--	--	--	--	--
JAN											
25...	--	--	1100	--	--	--	--	--	--	--	--
25...	1028	9740	1101	--	--	--	--	--	--	--	--
FEB											
08...	--	--	1130	0	0	2	10	10	0	0	0
08...	1028	9740	1500	--	--	--	--	--	--	--	--
MAR											
08...	--	--	1145	--	--	--	--	--	--	--	--
08...	1028	9740	1146	--	--	--	--	--	--	--	--

07164400 ARKANSAS RIVER AT SANDSPRINGS BRIDGE NEAR TULSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDED COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDED COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDED LEAD (PB) (UG/L)
OCT											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	100	--	--	--
NOV											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	0	<50	<50	0	10	5	5	750	20	<100	<100
DEC											
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	200	--	--	--
JAN											
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	270	--	--	--
FEB											
08...	0	<50	<50	0	<10	<4	6	190	30	<100	<100
08...	--	--	--	--	--	--	--	--	--	--	--
MAR											
08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	330	--	--	--

[illegible][illegible]

07164400 ARKANSAS RIVER AT SANDSPRINGS BRIDGE NEAR TULSA, OK--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO FEBRUARY 1977

DATE TIME	OCT 26,76 1300	NOV 9,76 1211	DEC 14,76 1100	JAN 25,77 1100	FEB 8,77 1130
TOTAL CELLS/ML	1100	3500	320	0	110
DIVERSITY: DIVISION	1.4	1.0	1.1	0.0	1.8
..CLASS	1.4	1.0	1.1	0.0	2.2
..ORDER	2.0	1.1	2.2	0.0	2.4
..FAMILY	2.7	1.2	2.5	0.0	2.4
....GENUS	3.1	1.2	2.6	0.0	2.8

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										
...NOCTYSTACEAE										
....ANKISTRODESMUS	8	1	180	5	37	12	--	--	25#	23
....KIRCHNERIELLA	--	--	--	--	--	--	--	--	2	2
....NOCTYSTIS	--	--	--	--	--	--	--	--	10	9
....NESTELLA	100	9	--	--	--	--	--	--	--	--
...SCENEDESMACEAE										
....SCENEDESMUS	63	6	150	4	15	5	--	--	--	--
..TETRAPODALES										
...PALMELLACEAE										
...SPHAEROCYSTIS	--	--	--	--	120#	37	--	--	--	--
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	24	2	--	--	29	9	--	--	2	2
...ZYGNEMATALES										
...DESMIDIACEAE										
...CLISTERIUM	8	1	--	--	--	--	--	--	--	--
CHRYSIOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCEAE										
...CYCLOTELLA	150	14	150	4	--	--	--	--	10	9
...MELOSIRA	40	4	--	--	7	2	--	--	--	--
...STEPHANODISCUS	--	--	--	--	74#	23	--	--	--	--
...PENNIALES										
...ACHNANTHACEAE										
...ACHNANTHES	8	1	--	--	7	2	--	--	--	--
...FRAGILARIACEAE										
...FRAGILARIA	16	1	--	--	--	--	--	--	--	--
...GOMPHONEMACEAE										
...GOMPHONEMA	--	--	--	--	7	2	--	--	--	--
...NAVICULACEAE										
...CALONEIS	8	1	--	--	--	--	--	--	--	--
...NAVICULA	230#	21	150	4	15	5	--	--	--	--
...NITZSCHACEAE	220#	20	--	--	--	--	--	--	2	2
...NITZSCHIA										
..CHRYSIOPHYCEAE										
...CHRYSIOMONADALES										
...OCHRIMONADACEAE										
...OCHRIMONAS	--	--	--	--	--	--	--	--	22#	21
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCALES										
...CHROCOCCACEAE										
....AGMENELLUM	190#	17	--	--	--	--	--	--	--	--
....ANACYSTIS	32	3	--	--	--	--	--	--	--	--
...HORMIGONALES										
...OSCILLATORIA	--	--	2700#	79	--	--	--	--	--	--
...OSCILLATORIA										
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
...CRYPTOMONADACEAE										
....CHROMONAS	--	--	--	--	--	--	--	--	10	9
...CRYPTOMONADACEAE	--	--	--	--	7	2	--	--	--	--
...CRYPTOMONAS										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
...TRACHELUMONAS	--	--	110	3	--	--	--	--	--	--
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...GYMNODINIALES										
...GYMNODINIACEAE										
...GYMNODINIUM	--	--	--	--	--	--	--	--	22#	21

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

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

07164400 ARKANSAS RIVER AT SANDSPRINGS BRIDGE NEAR TULSA, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	11.0	---	1.0	2.5	7.5						
2	---	17.0	---	2.0	4.5	8.5						
3	---	15.0	---	2.0	5.0	8.5						
4	---	---	---	4.5	5.5	8.0						
5	---	14.0	---	2.5	3.5	7.0						
6	17.5	---	---	3.5	5.0	8.5						
7	15.0	---	4.5	3.0	5.0	10.0						
8	14.5	---	5.0	2.5	5.0	9.5						
9	15.5	---	6.5	---	6.0	---						
10	18.0	12.5	7.0	---	7.0	---						
11	19.0	---	4.5	---	9.0	---						
12	19.0	---	5.0	---	7.5	---						
13	18.5	---	5.5	1.5	9.0	---						
14	18.5	---	6.0	3.5	9.0	---						
15	18.0	---	6.5	2.0	5.5	---						
16	14.5	---	6.5	0.5	4.5	---						
17	10.5	---	6.5	1.0	6.0	---						
18	11.0	---	7.0	0.5	8.5	---						
19	11.0	---	10.0	0.5	7.0	---						
20	12.5	---	6.0	1.0	7.5	---						
21	12.0	---	3.5	3.0	9.0	---						
22	12.5	---	4.5	3.5	11.0	---						
23	16.5	---	5.0	3.5	11.5	---						
24	15.0	---	5.0	3.0	9.0	---						
25	13.0	---	6.5	3.0	9.5	---						
26	12.0	---	6.0	3.0	6.5	---						
27	15.0	---	6.5	3.5	6.5	---						
28	12.0	---	5.5	2.5	8.5	---						
29	11.0	---	5.0	1.0	---	---						
30	10.0	---	3.0	1.5	---	---						
31	9.0	---	0.5	2.0	---	---						
MEAN	14.5	14.0	5.5	2.5	7.0	8.5						
WTR YR 1977	MEAN	7.5		MAX	19.0	MIN	0.5					

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	12.0	6.5	0.5	0.5	6.0						
2	20.5	15.5	4.5	1.5	4.0	8.0						
3	22.0	14.5	5.0	1.5	4.0	7.0						
4	21.5	14.0	6.0	---	4.5	7.0						
5	18.0	13.0	---	1.0	2.0	5.5						
6	17.5	12.0	7.5	---	4.0	6.5						
7	14.5	12.0	6.5	3.0	4.0	11.0						
8	---	11.5	6.5	2.0	7.0	11.5						
9	15.5	11.0	8.0	0.0	7.0	12.0						
10	19.0	11.0	6.0	0.0	5.0	11.5						
11	18.0	9.5	3.5	0.0	8.0	12.0						
12	20.5	10.5	3.5	0.0	5.5	7.5						
13	17.5	7.5	4.0	1.5	8.5	7.0						
14	17.0	7.5	7.0	2.0	8.5	6.0						
15	17.5	10.0	7.0	1.5	9.0	14.5						
16	13.5	8.0	6.5	0.5	4.5	13.0						
17	12.5	9.0	8.0	0.5	5.5	11.0						
18	12.0	11.0	7.0	1.0	9.0	13.0						
19	13.0	12.0	10.0	0.5	7.0	---						
20	12.0	10.5	5.0	2.0	7.0	---						
21	13.0	9.0	2.0	3.0	7.0	---						
22	13.5	7.5	3.5	3.0	---	---						
23	16.0	7.5	3.0	3.0	10.0	---						
24	16.5	7.0	4.5	2.0	8.0	---						
25	13.0	9.0	6.0	3.5	10.0	---						
26	12.5	13.0	5.5	3.0	6.0	---						
27	15.0	9.0	5.5	4.0	5.0	---						
28	12.5	5.0	5.0	2.0	7.0	---						
29	12.0	2.5	3.0	1.0	---	---						
30	11.5	5.0	4.0	1.0	---	---						
31	11.0	---	0.0	1.0	---	---						
MONTH	15.5	10.0	5.5	1.5	6.0	---						

07164400 ARKANSAS RIVER AT SANDSPRINGS BRIDGE NEAR TULSA, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1270	1360	1500	1950	2920	3450						
2	1210	1420	1510	1900	2650	3190						
3	1270	1430	1500	1830	3020	3310						
4	1320	1470	1500	---	2760	3100						
5	1240	1520	---	2210	2780	3390						
6	1310	1490	1450	---	2560	3210						
7	1340	1470	1610	2240	2380	3270						
8	---	1450	1670	2060	3170	3180						
9	1400	1520	1870	1920	3120	3570						
10	1410	1520	1900	1990	2930	3490						
11	1410	1550	1760	1860	2640	2980						
12	1430	1500	1700	1920	3340	3240						
13	1350	1440	1650	1970	2980	3130						
14	1400	1440	1800	2070	2830	2950						
15	1470	1460	1860	2030	3150	3350						
16	1420	1430	1820	1990	3360	3270						
17	1420	1440	1800	1980	3310	3120						
18	1430	1430	1730	2240	3000	2160						
19	1450	1600	1660	2110	3700	---						
20	1340	1560	1780	1960	3340	---						
21	1360	1520	1720	1880	3120	---						
22	1360	1510	1810	1840	---	---						
23	1360	1490	1900	2210	3610	---						
24	1380	1530	2020	2130	3480	---						
25	1400	1630	1900	2520	3130	---						
26	1360	1570	1810	2390	3350	---						
27	1340	1540	1790	2650	3110	---						
28	1360	1530	2000	2430	2890	---						
29	1350	1520	1960	2720	---	---						
30	1330	1500	2200	2880	---	---						
31	1350	---	2090	2680	---	---						
MONTH	1360	1490	1780	2160	3060	---						

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1280	1360	---	1930	2920	3540						
2	1220	1420	---	1870	2600	3100						
3	1280	1440	---	1940	3080	3250						
4	1320	1480	---	2080	2810	3120						
5	1260	1530	---	2120	2730	3410						
6	1310	---	1450	2210	2510	3220						
7	1340	---	1590	2350	2460	3260						
8	1420	---	1770	2160	3310	2850						
9	1400	---	1780	---	2930	---						
10	1410	---	1860	---	2960	---						
11	1440	---	1780	---	2660	---						
12	1420	---	1680	---	3340	---						
13	1350	---	1600	2030	2940	---						
14	2580	---	2010	2020	3020	---						
15	1480	---	1880	2080	3030	---						
16	1430	---	2060	1970	3360	---						
17	1440	---	2020	2020	3190	---						
18	1430	---	1700	2140	2970	---						
19	1430	---	1650	2150	3660	---						
20	1340	---	1750	1920	3300	---						
21	1370	---	1600	2000	3290	---						
22	1350	---	1710	1990	3440	---						
23	1360	---	1880	2200	---	---						
24	1370	---	1930	2260	3250	---						
25	1400	---	1870	2610	3150	---						
26	1370	---	1790	2390	3230	---						
27	1340	---	1650	2590	3100	---						
28	1360	---	1910	2410	3100	---						
29	1350	---	1810	2680	---	---						
30	1330	---	2110	2930	---	---						
31	1350	---	2060	2650	---	---						
MEAN	1400	1450	1810	2210	3050	3220						
WTR YR 1977	MEAN	2140	MAX	3660	MIN	1220						

ARKANSAS RIVER BASIN

07164400 ARKANSAS RIVER AT SANDSPRINGS BRIDGE NEAR TULSA, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	280	300	---	480	790	980						
2	260	320	---	460	690	840						
3	280	330	---	480	840	890						
4	290	340	---	530	750	850						
5	270	360	---	540	730	940						
6	290	---	330	570	660	880						
7	300	---	370	610	640	890						
8	320	---	430	550	910	760						
9	320	---	430	---	790	---						
10	320	---	460	---	800	---						
11	330	---	430	---	710	---						
12	320	---	400	---	920	---						
13	300	---	380	510	790	---						
14	680	---	500	510	820	---						
15	340	---	460	530	820	---						
16	330	---	520	490	920	---						
17	330	---	510	510	870	---						
18	330	---	410	540	600	---						
19	330	---	390	550	1000	---						
20	300	---	420	460	900	---						
21	310	---	380	500	900	---						
22	300	---	410	500	950	---						
23	300	---	460	560	---	---						
24	310	---	480	580	890	---						
25	320	---	460	690	860	---						
26	310	---	440	620	880	---						
27	300	---	450	680	840	---						
28	300	---	470	630	840	---						
29	300	---	440	710	---	---						
30	290	---	540	790	---	---						
31	300	---	520	700	---	---						
MEAN	320	330	440	570	830	880						
WTR YR 1977	MEAN	550	MAX	1000	MIN	260						

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	79	---	99	130	160						
2	74	81	---	97	120	140						
3	76	82	---	99	140	150						
4	77	83	---	100	130	140						
5	75	85	---	110	130	150						
6	77	---	82	110	120	140						
7	78	---	87	110	120	150						
8	81	---	93	110	150	130						
9	80	---	94	---	130	---						
10	80	---	96	---	140	---						
11	82	---	94	---	120	---						
12	81	---	90	---	150	---						
13	78	---	87	100	130	---						
14	120	---	100	100	140	---						
15	83	---	97	100	140	---						
16	81	---	100	100	150	---						
17	82	---	100	100	140	---						
18	81	---	91	110	140	---						
19	81	---	89	110	160	---						
20	78	---	93	99	150	---						
21	79	---	87	100	150	---						
22	78	---	91	100	150	---						
23	79	---	97	110	---	---						
24	79	---	99	110	150	---						
25	80	---	97	120	140	---						
26	79	---	94	120	140	---						
27	78	---	96	120	140	---						
28	79	---	98	120	140	---						
29	78	---	95	130	---	---						
30	78	---	110	130	---	---						
31	78	---	100	120	---	---						
MEAN	80	82	95	110	140	150						
WTR YR 1977	MEAN	110	MAX	160	MIN	74						

07164400 ARKANSAS RIVER AT SANDSPRINGS BRIDGE NEAR TULSA, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163.0	757.0	---	311.0	1810.0	1170.0						
2	1710.0	1700.0	---	273.0	395.0	1490.0						
3	184.0	1790.0	---	726.0	1230.0	1170.0						
4	233.0	1530.0	---	4090.0	403.0	275.0						
5	780.0	1630.0	---	1790.0	1540.0	2190.0						
6	1580.0	---	848.0	2420.0	381.0	437.0						
7	182.0	---	1730.0	2640.0	1200.0	1240.0						
8	985.0	---	2110.0	1160.0	2380.0	942.0						
9	193.0	---	1860.0	---	2010.0	---						
10	112.0	---	2200.0	---	1140.0	---						
11	787.0	---	908.0	---	349.0	---						
12	2000.0	---	262.0	---	1980.0	---						
13	2390.0	---	1180.0	5730.0	437.0	---						
14	5090.0	---	2190.0	3300.0	640.0	---						
15	1940.0	---	1890.0	859.0	2880.0	---						
16	1140.0	---	2200.0	318.0	2860.0	---						
17	200.0	---	2180.0	964.0	1210.0	---						
18	123.0	---	798.0	2330.0	305.0	---						
19	741.0	---	255.0	891.0	1800.0	---						
20	2560.0	---	978.0	311.0	481.0	---						
21	2080.0	---	1580.0	297.0	850.0	---						
22	1230.0	---	1750.0	945.0	2220.0	---						
23	2000.0	---	1280.0	454.0	---	---						
24	209.0	---	788.0	1460.0	284.0	---						
25	617.0	---	279.0	2420.0	76.6	---						
26	526.0	---	197.0	974.0	1330.0	---						
27	1100.0	---	1050.0	1160.0	426.0	---						
28	522.0	---	1970.0	344.0	1260.0	---						
29	403.0	---	1880.0	612.0	---	---						
30	1430.0	---	2170.0	1960.0	---	---						
31	180.0	---	842.0	401.0	---	---						
MEAN	1080.0	1480.0	1360.0	1450.0	1180.0	1110.0						
WTR YR 1977	MEAN	1260.0		MAX	5730.0	MIN	76.6					

DISSOLVED SULFATE (SD4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.1	199.0	---	64.2	297.0	191.0						
2	488.0	431.0	---	57.6	68.7	249.0						
3	49.9	445.0	---	150.0	204.0	197.0						
4	62.0	374.0	---	772.0	69.8	45.4						
5	217.0	386.0	---	365.0	275.0	349.0						
6	420.0	---	211.0	466.0	69.3	69.6						
7	47.4	---	406.0	475.0	225.0	210.0						
8	249.0	---	457.0	231.0	392.0	161.0						
9	48.2	---	406.0	---	330.0	---						
10	28.1	---	459.0	---	200.0	---						
11	195.0	---	196.0	---	59.0	---						
12	507.0	---	59.0	---	324.0	---						
13	621.0	---	270.0	1120.0	72.0	---						
14	897.0	---	437.0	648.0	109.0	---						
15	473.0	---	398.0	162.0	491.0	---						
16	280.0	---	424.0	64.8	466.0	---						
17	49.8	---	427.0	189.0	194.0	---						
18	30.2	---	177.0	475.0	53.3	---						
19	182.0	---	58.2	178.0	289.0	---						
20	665.0	---	216.0	64.2	80.2	---						
21	531.0	---	362.0	59.4	142.0	---						
22	320.0	---	388.0	189.0	350.0	---						
23	527.0	---	270.0	89.1	---	---						
24	53.3	---	163.0	276.0	47.8	---						
25	154.0	---	58.9	421.0	12.5	---						
26	134.0	---	42.1	189.0	211.0	---						
27	286.0	---	224.0	205.0	71.1	---						
28	137.0	---	410.0	65.4	209.0	---						
29	105.0	---	405.0	112.0	---	---						
30	383.0	---	443.0	322.0	---	---						
31	46.8	---	162.0	68.7	---	---						
MEAN	266.0	367.0	290.0	277.0	197.0	184.0						
WTR YR 1977	MEAN	257.0		MAX	1120.0	MIN	12.5					

ARKANSAS RIVER BASIN

07164400 ARKANSAS RIVER AT SANDSPRINGS BRIDGE NEAR TULSA, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	718	764	---	1090	1650	2010						
2	684	798	---	1050	1470	1750						
3	718	810	---	1090	1740	1840						
4	741	832	---	1170	1590	1770						
5	707	861	---	1200	1540	1930						
6	735	---	815	1250	1420	1820						
7	753	---	895	1330	1390	1850						
8	798	---	997	1220	1870	1610						
9	787	---	1000	---	1660	---						
10	792	---	1050	---	1670	---						
11	810	---	1000	---	1500	---						
12	798	---	946	---	1890	---						
13	758	---	901	1150	1660	---						
14	1460	---	1130	1140	1710	---						
15	832	---	1060	1170	1710	---						
16	804	---	1160	1110	1900	---						
17	810	---	1140	1140	1810	---						
18	804	---	958	1210	1680	---						
19	804	---	929	1210	2070	---						
20	753	---	986	1080	1870	---						
21	770	---	901	1130	1860	---						
22	758	---	963	1120	1950	---						
23	764	---	1060	1240	---	---						
24	770	---	1090	1280	1840	---						
25	787	---	1050	1480	1780	---						
26	770	---	1010	1350	1830	---						
27	753	---	1040	1460	1750	---						
28	764	---	1080	1360	1750	---						
29	758	---	1020	1520	---	---						
30	747	---	1190	1660	---	---						
31	758	---	1160	1500	---	---						
MEAN	789	813	1020	1250	1720	1820						
WTR YR 1977	MEAN	1210	MAX	2070	MIN	684						

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	417	1930	---	706	3770	2390						
2	4510	4240	---	624	841	3110						
3	471	4400	---	1650	2540	2410						
4	596	3750	---	9030	854	573						
5	2040	5910	---	3990	3260	4490						
6	4010	---	2090	5300	820	904						
7	457	---	4180	5750	2600	2590						
8	2460	---	4900	2560	4890	2000						
9	474	---	4320	---	4220	---						
10	278	---	5020	---	2380	---						
11	1930	---	2110	---	737	---						
12	5000	---	621	---	4080	---						
13	6040	---	2800	12900	919	---						
14	10900	---	4940	7390	1330	---						
15	4740	---	4350	1900	6000	---						
16	2780	---	4920	719	5900	---						
17	492	---	4860	2150	2510	---						
18	300	---	1860	5230	640	---						
19	1810	---	607	1960	3730	---						
20	6420	---	2290	700	1000	---						
21	5180	---	3750	671	1760	---						
22	3110	---	4110	2120	4550	---						
23	5100	---	2950	1000	---	---						
24	520	---	1790	3210	586	---						
25	1520	---	636	5190	159	---						
26	1310	---	453	2120	2760	---						
27	2770	---	2430	2500	888	---						
28	1330	---	4520	742	2620	---						
29	1020	---	4350	1310	---	---						
30	3670	---	4790	4110	---	---						
31	454	---	1880	859	---	---						
MEAN	2650	3650	3140	3200	2460	2310						
WTR YR 1977	MEAN	2850	MAX	12900	MIN	159						

07164500 ARKANSAS RIVER AT TULSA, OK

LOCATION.--Lat 36°08'37", long 96°00'13", in NW 1/4 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 Polecat 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) above mean sea level (Corps of Engineers bench mark). 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 minor regulation by John Martin Lake in Colorado and by Great Salt Plains Lake (station 07150000).

COOPERATION.--Gage height record and 11 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) 13 years (water years 1965-77), 7,143 ft³/s (202.3 m³/s), 5,175,000 acre-ft/yr (6.38 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, 34,700 ft³/s (983 m³/s) June 3, 4, gage height, 7.75 ft (2.362 m); minimum daily, 33 ft³/s (0.93 m³/s) Feb. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215	935	1820	240	847	441	178	1210	32600	12600	284	21800
2	2440	1970	1200	220	212	659	932	666	32400	12200	1750	14200
3	243	2010	1530	560	541	486	241	1740	33000	12100	2390	14100
4	298	1670	684	2860	199	120	596	1730	33800	12000	3120	14000
5	1070	1680	227	1230	783	862	466	1350	33000	13600	1980	14000
6	2020	740	952	1570	214	184	741	1830	30600	18100	1720	15800
7	225	192	1730	1600	693	518	648	1380	21200	18600	1580	22700
8	1140	805	1820	778	969	459	195	733	20700	18200	758	22600
9	223	1620	1600	600	941	571	1100	529	20400	18000	3030	21300
10	130	1460	1770	1600	528	518	253	1700	17400	18000	4420	14200
11	883	1890	782	3230	182	212	606	1830	12600	16300	3090	15600
12	2320	2140	243	4470	799	1140	804	2130	12500	12700	1720	14100
13	2950	1650	1150	4160	205	204	1580	1160	12500	12500	1420	14000
14	2770	262	1620	2400	289	539	792	1410	9490	12500	628	14000
15	2110	1790	1520	600	1300	488	218	1210	9930	7890	1440	14100
16	1280	2450	1570	240	1150	595	1180	484	6690	5410	6040	13800
17	225	286	1580	700	513	584	332	3120	9750	3970	6850	13600
18	138	166	721	1600	141	256	952	5320	5870	5680	6320	13600
19	832	1520	242	600	668	931	811	5220	4020	6600	6650	13600
20	3160	544	862	240	198	224	782	6320	5130	5350	4510	13600
21	2490	187	1540	220	350	544	809	7810	5610	5070	6220	13700
22	1520	1350	1580	700	864	507	229	13900	5110	4790	13400	13800
23	2470	2370	1030	300	471	636	1150	23900	4950	3780	13800	13500
24	250	2800	608	930	118	546	264	28400	12300	2660	13700	2510
25	714	2250	225	1300	33	157	998	28900	12500	1910	4000	558
26	628	301	166	582	559	111	742	29200	12300	2300	729	390
27	1360	163	864	633	186	185	1170	29300	12400	1330	9880	4150
28	644	1530	1550	202	554	686	779	29300	12600	2710	18100	7710
29	497	1840	1580	319	---	585	241	27300	12700	3000	23900	8310
30	1820	3150	1490	918	---	633	1230	2540	12500	1200	23600	8330
31	222	---	600	212	---	614	---	13700	---	1420	23100	---
TOTAL	37287	41721	34856	35814	14509	15195	21019	275322	466550	272470	210129	387658
MEAN	1203	1391	1124	1155	518	490	701	8881	15550	8789	6778	12920
MAX	3160	3150	1820	4470	1300	1140	1580	29300	33800	18600	23900	22700
MIN	130	163	166	202	33	111	178	484	4020	1200	284	390
AC-FT	73960	82750	69140	71040	28780	30140	41690	546100	925400	540400	416800	768900

CAL YR 1976 TOTAL 1303095 MEAN 3560 MAX 13600 MIN 130 AC-FT 2585000
WTR YR 1977 TOTAL 1812530 MEAN 4966 MAX 33800 MIN 33 AC-FT 3595000

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 to September 1977.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March to September 1977.

WATER TEMPERATURE: March to September 1977.

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 CURRENT YEAR.--

SPECIFIC CONDUCTANCE: (March to Sept. 1977) Maximum daily, 3,480 micromhos May 12; minimum daily, 518 micromhos July 27.

TEMPERATURE: (March to Sept. 1977) Maximum daily, 30°C July 24; minimum daily, 10.5°C March 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
APR										
05...	--	--	1400	466	2200	8.6	13.5	7	12.4	120
05...	1028	9740	1401	466	2200	8.6	13.5	--	12.4	120
MAY										
03...	--	--	1115	1740	2000	7.8	21.0	50	10.4	113
03...	1028	9740	1116	1740	2000	7.8	21.0	--	10.4	113
JUN										
07...	--	--	1140	21000	1350	7.8	26.0	30	9.8	121
07...	1028	9740	1341	21000	1350	7.8	26.0	--	9.8	121
JUL										
12...	--	--	1130	12800	1000	7.8	22.5	15	8.2	94
12...	1028	9740	1131	12800	1000	7.8	22.5	--	8.2	94
AUG										
09...	--	--	1215	867	2000	8.0	29.0	7	7.9	104
09...	1028	9740	1231	850	2000	8.0	29.0	--	7.9	104
SEP										
05...	--	--	1848	14000	1250	7.7	--	--	--	--
14...	--	--	1015	14000	900	8.1	23.0	30	7.2	85
14...	1028	9740	1016	14000	900	8.1	23.0	--	7.2	85
15...	--	--	1900	14000	991	7.6	--	--	--	--
25...	--	--	1900	478	1210	7.6	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI- FORM (7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SURP- TION RATIO
APR										
05...	--	840	300	300	130	85	21	410	74	10
05...	40	--	--	--	--	--	--	--	--	--
MAY										
03...	--	>240	380	280	140	79	21	360	73	9.3
03...	20	--	--	--	--	--	--	--	--	--
JUN										
07...	--	3400	700	190	79	53	13	220	71	7.0
07...	21	--	--	--	--	--	--	--	--	--
JUL										
12...	--	4600	57000	180	64	52	12	170	66	5.5
12...	30	--	--	--	--	--	--	--	--	--
AUG										
09...	--	4000	1700	210	90	59	14	240	71	7.3
09...	16	--	--	--	--	--	--	--	--	--
SEP										
05...	--	--	--	170	61	49	11	190	70	6.4
14...	--	863	833	120	26	35	8.9	130	68	5.1
14...	14	--	--	--	--	--	--	--	--	--
15...	--	--	--	160	49	46	9.8	140	65	4.9
25...	--	--	--	190	69	57	12	170	65	5.3

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED PHOS- PHORUS (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITAS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)
APR 05...	6.0	200	0	160	.8	140	630	.6	1.3	1430
05...	--	--	--	--	--	--	--	--	--	--
MAY 03...	5.5	180	0	150	4.6	110	580	.5	2.2	1290
03...	--	--	--	--	--	--	--	--	--	--
JUN 07...	5.5	130	0	107	3.3	78	350	.3	5.3	798
07...	--	--	--	--	--	--	--	--	--	--
JUL 12...	5.9	140	0	115	3.6	67	260	.3	6.9	659
12...	--	--	--	--	--	--	--	--	--	--
AUG 09...	6.0	140	0	110	2.2	77	390	.3	6.9	885
09...	--	--	--	--	--	--	--	--	--	--
SEP 05...	6.2	130	0	110	4.2	59	270	--	--	667
14...	5.5	120	0	98	1.5	49	190	.3	9.0	511
14...	--	--	--	--	--	--	--	--	--	--
15...	6.1	130	0	110	5.2	51	200	--	--	530
25...	6.1	150	0	120	6.0	71	250	--	--	656

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)
APR 05...	1390	1.94	1800	.00	--	1.1	1.1	4.9	.10	--
05...	--	--	--	--	--	3.4	--	--	--	--
MAY 03...	1250	1.75	6060	.19	--	1.3	1.5	6.6	.22	--
03...	--	--	--	--	--	2.5	--	--	--	--
JUN 07...	789	1.09	45200	.41	--	.63	1.0	4.6	.14	--
07...	--	--	--	--	--	1.4	--	--	--	--
JUL 12...	643	.90	22800	1.8	--	.54	2.3	10	.21	--
12...	--	--	--	--	--	2.4	--	--	--	--
AUG 09...	862	1.20	2070	.39	--	.75	1.1	5.0	.20	--
09...	--	--	--	--	--	22	--	--	--	--
SEP 05...	--	.91	25200	--	--	--	--	--	--	--
14...	487	.69	19300	.97	.05	--	--	--	.20	.17
14...	--	--	--	--	--	<.63	--	--	--	--
15...	--	.72	20000	--	--	--	--	--	--	--
25...	--	.89	847	--	--	--	--	--	--	--

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANALYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)
APR 05...	--	--	1400	--	--	--	--	--	--	--	--
05...	1028	9740	1401	--	--	--	--	--	--	--	--
MAY 03...	--	--	1115	--	--	2	<10	<9	1	10	--
03...	1028	9740	1116	--	--	--	--	--	--	--	--
JUN 07...	--	--	1140	--	--	--	--	--	--	--	--
07...	1028	9740	1341	--	--	--	--	--	--	--	--
JUL 12...	--	--	1130	--	--	--	--	--	--	--	--
12...	1028	9740	1131	--	--	--	--	--	--	--	--
AUG 09...	--	--	1215	3	0	3	10	9	1	0	0
09...	1028	9740	1231	--	--	--	--	--	--	--	--
SEP 14...	--	--	1015	--	--	--	--	--	--	--	--
14...	1028	9740	1016	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS-PENDED COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS-PENDED COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS-PENDED LEAD (PB) (UG/L)
APR											
05...	--	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	1750	--	--	--
MAY											
03...	0	<50	<50	0	20	16	4	2800	100	100	96
03...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	230	--	--	--
JUL											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	420	--	--	--
AUG											
09...	0	<50	<49	1	30	28	2	580	20	<100	<97
09...	--	--	--	--	--	--	--	--	--	--	--
SEP											
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	1730	--	--	--

[illegible][illegible]

07164500 ARKANSAS RIVER AT TULSA, OK--Continued
 PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	APR 5,77 1400	MAY 3,77 1115	JUN 7,77 1140	JUL 12,77 1130	AUG 9,77 1215	SEP 14,77 1015				
TOTAL CELLS/ML	22000	30000	3000	480	12000	2200				
DIVERSITY: DIVISION	1.3	0.7	1.3	0.7	1.3	0.9				
..CLASS	1.3	0.7	1.3	0.7	1.3	0.9				
..ORDER	1.8	0.9	2.2	1.6	2.1	1.3				
...FAMILY	1.9	1.0	2.6	2.2	2.2	1.6				
....GENUS	2.0	1.1	2.8	2.5	2.3	2.4				
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										
...CHARACIACEAE										
...SCHROEDERIA	--	-	--	-	--	-	*	0	29	1
...COELASTRACEAE										
...COELASTRUM	--	-	*	0	--	-	--	-	--	-
...DOCYSTACEAE										
...ANKISTRODESMUS	860	4	850	3	--	-	260	2	48	2
...CHODATELLA	--	-	*	0	--	-	11	2	--	-
...DICTYOSPHAERIUM	310	1	--	-	180	6	--	-	57	3
...KIRCHNERIELLA	--	-	--	-	--	-	--	-	57	3
...DOCYSTIS	--	-	*	0	91	3	--	-	--	-
...SELENASTRUM	--	-	430	1	--	-	--	-	130	1
...TETRAEDRON	--	-	--	-	23	1	--	-	--	-
...SCENEDESMACEAE										
...SCENEDESMUS	*	0	*	0	590#	20	--	-	*	0
...TETRASTRUM	--	-	1100	4	91	3	--	-	*	0
...TETRASPORALES										
...PALMELLACEAE										
...GLOEOCYSTIS	--	-	--	-	--	-	--	-	57	3
...ULOTRICHALES										
...ULOTRICHACEAE										
...STICHOCOCCUS	550	3	--	-	--	-	--	-	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	160	1	--	-	290	10	--	-	220	2
...ZYGNEATALES									29	1
...DESMIDIACEAE										
...COSMARIIUM	--	-	--	-	--	-	74#	15	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
...CYCLOTELLA	13000#	58	500	2	180	6	32	7	3500#	30
...MELOSIRA	--	-	210	1	--	-	140#	28	130	1
...PENNALES										
...ACHNANTHACEAE										
...COCCONEIS	--	-	--	-	--	-	21	4	--	-
...RHODICOSPHEA	--	-	*	0	--	-	--	-	--	-
...CYMBELLACEAE										
...AMPHORA	*	0	*	0	--	-	--	-	--	-
...CYMBELLA	--	-	*	0	--	-	32	7	--	-
...EPITHEMIA	--	-	--	-	--	-	32	7	--	-
...GOMPHONEMATACEAE										
...GOMPHONEMA	--	-	*	0	--	-	--	-	--	-
...NAVICULACEAE										
...NAVICULA	310	1	*	0	45	2	150#	30	220	2
...NITZSCHIIACEAE										
...NITZSCHIA	390	2	360	1	--	-	--	-	480	4
...SURIRELLACEAE										
...SURIRELLA	--	-	280	1	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCOCCALES										
...CHROCOCCOCCAEAE										
...AGMENELLUM	4700#	22	--	-	--	-	--	-	4200#	36
...ANACYSTIS	--	-	280	1	660#	22	--	-	*	0
...HORMODONALES									610#	28
...NOSTOCACEAE									930#	43
...ANABAENA	--	-	--	-	810#	27	--	-	--	-
...OSCILLATORIIACEAE										
...ARTHROSPIRA	160	1	--	-	--	-	--	-	--	-
...OSCILLATORIA	1600	7	25000#	85	45	2	--	-	2500#	21
									120	6

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

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

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

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ARKANSAS RIVER BASIN

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07164500 ARKANSAS RIVER AT TULSA, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												1000
2												1220
3												1330
4												1260
5												1250
6												1220
7												1220
8												1080
9												1060
10												1050
11												782
12												1110
13												947
14												947
15												991
16												1070
17												1240
18												1140
19												1140
20												1160
21												1280
22												1200
23												1150
24												1230
25												1210
26												1270
27												1440
28												1770
29												1710
30												1610
31												---
MONTH												1200

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	13.5	20.0	23.0	---	---	---
2						---	15.5	22.0	23.5	---	29.5	---
3						---	15.0	20.5	23.5	---	29.5	---
4						---	12.5	---	24.0	---	---	---
5						---	11.0	---	24.5	---	---	---
6						---	14.5	---	24.5	---	---	---
7						---	17.5	---	23.5	---	---	---
8						---	19.5	---	---	---	---	---
9						---	18.5	---	---	---	---	---
10						---	18.0	---	---	---	---	---
11						---	19.5	22.5	---	---	---	---
12						---	18.5	21.0	---	---	---	---
13						---	19.0	21.0	---	---	---	---
14						---	19.0	22.0	---	---	---	---
15						---	20.0	23.0	---	---	---	---
16						---	19.5	23.5	---	---	---	---
17						---	19.0	22.5	---	28.5	---	---
18						13.5	18.5	22.0	---	29.0	---	---
19						12.0	20.5	21.0	---	28.5	---	---
20						11.5	19.5	21.0	---	28.5	---	---
21						10.5	18.0	21.0	---	28.5	---	24.5
22						11.5	16.5	21.5	---	29.0	---	25.0
23						14.5	17.5	21.0	---	28.5	---	24.0
24						14.0	17.0	22.5	---	30.0	---	24.5
25						14.5	16.5	22.5	---	29.5	---	26.0
26						17.0	19.0	22.5	---	---	---	27.0
27						16.0	19.5	22.5	---	---	---	27.5
28						16.0	21.5	22.5	---	---	---	24.0
29						15.5	23.0	23.0	---	---	---	25.0
30						14.5	20.5	25.0	---	---	---	25.5
31						13.5	---	23.5	---	---	---	---
MEAN						14.0	18.0	22.0	24.0	29.0	29.5	25.5
WTR YR 1977	MEAN	21.0		MAX	30.0		MIN	10.5				

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	1910	1700	---	1140	---
2						---	2800	1730	1650	---	1260	---
3						---	2770	2330	1640	---	1390	---
4						---	---	---	1640	---	1370	---
5						---	2630	---	1610	---	1390	---
6						---	2590	---	1560	---	1450	---
7						---	2580	---	1540	---	1390	---
8						---	2580	---	---	---	1510	---
9						---	2620	---	---	---	1370	---
10						---	2720	---	---	---	---	---
11						---	2710	---	---	---	---	---
12						---	2630	3480	---	1400	---	---
13						---	2660	3390	---	1410	---	---
14						---	2680	3380	---	1440	---	---
15						---	2580	3300	---	1500	---	---
16						---	2450	3140	---	895	---	---
17						---	2260	2770	---	903	---	---
18						2120	2120	3400	---	1060	---	---
19						2620	2330	2970	---	1060	---	---
20						2940	2260	2740	---	1110	---	---
21						2910	2130	2060	---	1220	---	1290
22						2960	2120	3080	---	1260	---	1230
23						2980	2370	2990	---	1030	---	1170
24						2920	2310	3160	---	984	---	1260
25						---	2410	2810	---	1040	---	1190
26						---	2560	2560	---	968	---	1250
27						---	2540	2260	---	518	---	1410
28						---	2500	2030	---	993	---	1480
29						2470	2360	1930	---	1050	---	1620
30						2680	2580	1760	---	1210	---	1440
31						2830	---	1820	---	1150	---	---
MEAN						2740	2490	2650	1620	1110	1360	1330
WTR YR 1977	MEAN	2030		MAX	3480		MIN	518				

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	490	430	---	260	---
2						---	760	440	410	---	290	---
3						---	750	610	410	---	330	---
4						---	---	---	410	---	330	---
5						---	700	---	400	---	330	---
6						---	690	---	380	---	350	---
7						---	690	---	380	---	330	---
8						---	690	---	---	---	370	---
9						---	700	---	---	---	330	---
10						---	730	---	---	---	---	---
11						---	730	---	---	---	---	---
12						---	700	960	---	340	---	---
13						---	710	930	---	340	---	---
14						---	720	930	---	350	---	---
15						---	690	910	---	370	---	---
16						---	650	860	---	180	---	---
17						---	590	750	---	190	---	---
18						550	550	940	---	230	---	---
19						700	610	810	---	230	---	---
20						800	590	740	---	250	---	---
21						790	550	530	---	280	---	300
22						800	550	840	---	290	---	290
23						810	630	810	---	230	---	270
24						790	610	860	---	210	---	290
25						---	640	760	---	230	---	270
26						---	680	680	---	210	---	290
27						---	680	590	---	72	---	340
28						---	670	520	---	210	---	360
29						660	620	490	---	230	---	400
30						720	690	440	---	280	---	350
31						760	---	460	---	260	---	---
MEAN						740	660	710	400	250	320	320
WTR YR 1977	MEAN	530		MAX	960		MIN	72				

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

DISSOLVED SULFATE (SO4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	100	92	---	63	---
2						---	150	93	89	---	69	---
3						---	150	120	88	---	76	---
4						---	---	---	88	---	75	---
5						---	140	---	87	---	76	---
6						---	140	---	84	---	79	---
7						---	140	---	83	---	76	---
8						---	140	---	---	---	82	---
9						---	140	---	---	---	75	---
10						---	140	---	---	---	---	---
11						---	140	---	---	---	---	---
12						---	140	180	---	76	---	---
13						---	140	180	---	77	---	---
14						---	140	180	---	78	---	---
15						---	140	170	---	81	---	---
16						---	130	170	---	50	---	---
17						---	120	150	---	51	---	---
18						110	110	180	---	59	---	---
19						140	120	160	---	59	---	---
20						160	120	140	---	61	---	---
21						150	110	110	---	67	---	70
22						160	110	160	---	69	---	67
23						160	130	160	---	57	---	64
24						150	120	170	---	55	---	69
25						---	130	150	---	58	---	65
26						---	140	140	---	54	---	68
27						---	130	120	---	31	---	77
28						---	130	110	---	55	---	80
29						130	130	100	---	58	---	87
30						140	140	95	---	66	---	78
31						150	---	98	---	63	---	---
MEAN						150	130	140	87	61	75	73
WTR YR 1977	MEAN	110		MAX	180	MIN	31					

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	1600	37800	---	199	---
2						---	1910	791	35900	---	1370	---
3						---	488	2870	36500	---	2130	---
4						---	---	---	37400	---	2780	---
5						---	881	---	35600	---	1760	---
6						---	1380	---	31400	---	1630	---
7						---	1210	---	21800	---	1410	---
8						---	363	---	---	---	757	---
9						---	2080	---	---	---	2700	---
10						---	499	---	---	---	---	---
11						---	1190	---	---	---	---	---
12						---	1520	5520	---	11700	---	---
13						---	3030	2910	---	11500	---	---
14						---	1540	3540	---	11800	---	---
15						---	406	2970	---	7880	---	---
16						---	2070	1120	---	2630	---	---
17						---	529	6320	---	2040	---	---
18						380	1410	13500	---	3530	---	---
19						1760	1340	11400	---	4100	---	---
20						484	1250	12600	---	3610	---	---
21						1160	1200	11200	---	3830	---	11100
22						1100	340	31500	---	3750	---	10800
23						1390	1960	52300	---	2350	---	9840
24						1160	435	65900	---	1510	---	1970
25						---	1720	59300	---	1190	---	407
26						---	1360	53600	---	1300	---	305
27						---	2150	46700	---	259	---	3810
28						---	1410	41100	---	1540	---	7490
29						1040	403	36100	---	1860	---	8970
30						1230	2290	3020	---	907	---	7870
31						1260	---	17000	---	997	---	---
MEAN						1100	1300	21000	33800	3910	1640	6260
WTR YR 1977	MEAN	8620		MAX	65900	MIN	199					

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	327.0	8100.0	---	48.3	---
2						---	377.0	167.0	7790.0	---	326.0	---
3						---	97.6	564.0	7840.0	---	490.0	---
4						---	---	---	8030.0	---	632.0	---
5						---	176.0	---	7750.0	---	406.0	---
6						---	280.0	---	6940.0	---	367.0	---
7						---	245.0	---	4750.0	---	324.0	---
8						---	73.7	---	---	---	168.0	---
9						---	416.0	---	---	---	614.0	---
10						---	95.6	---	---	---	---	---
11						---	229.0	---	---	---	---	---
12						---	304.0	1040.0	---	2610.0	---	---
13						---	597.0	564.0	---	2600.0	---	---
14						---	299.0	685.0	---	2630.0	---	---
15						---	82.4	555.0	---	1730.0	---	---
16						---	414.0	222.0	---	730.0	---	---
17						---	108.0	1260.0	---	547.0	---	---
18						76.0	283.0	2590.0	---	905.0	---	---
19						352.0	263.0	2260.0	---	1050.0	---	---
20						96.8	253.0	2390.0	---	861.0	---	---
21						220.0	240.0	2320.0	---	917.0	---	2590.0
22						219.0	68.0	6000.0	---	892.0	---	2500.0
23						275.0	404.0	10300.0	---	582.0	---	2330.0
24						221.0	85.5	13000.0	---	395.0	---	468.0
25						---	350.0	11700.0	---	299.0	---	97.9
26						---	280.0	11000.0	---	335.0	---	71.6
27						---	411.0	9490.0	---	111.0	---	863.0
28						---	273.0	8700.0	---	402.0	---	1670.0
29						205.0	84.6	7370.0	---	470.0	---	1950.0
30						239.0	465.0	652.0	---	214.0	---	1750.0
31						249.0	---	3630.0	---	242.0	---	---
MEAN						215.0	259.0	4210.0	7310.0	927.0	375.0	1430.0
WTR YR 1977	MEAN	1810.0			MAX	13000.0		MIN	48.3			

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	1110	986	---	648	---
2						---	---	1000	956	---	720	---
3						---	1630	1370	950	---	799	---
4						---	---	---	950	---	787	---
5						---	1550	---	932	---	799	---
6						---	---	---	---	---	---	---
7						---	1520	---	901	---	835	---
8						---	1520	---	889	---	799	---
9						---	1520	---	---	---	871	---
10						---	1540	---	---	---	787	---
11						---	1600	---	---	---	---	---
12						---	1550	2060	---	805	---	---
13						---	1570	2010	---	811	---	---
14						---	1580	2000	---	829	---	---
15						---	1520	1950	---	865	---	---
16						---	---	---	---	---	---	---
17						---	1440	1850	---	500	---	---
18						---	1320	1630	---	505	---	---
19						1240	1240	2010	---	600	---	---
20						1540	1370	1750	---	600	---	---
21						1730	1320	1610	---	630	---	---
22						1720	1250	1200	---	696	---	738
23						1750	1240	1820	---	720	---	702
24						1760	1390	1760	---	582	---	666
25						1720	1350	1870	---	554	---	720
26						---	1410	1660	---	588	---	678
27						---	---	---	---	---	---	---
28						---	1500	1500	---	544	---	714
29						---	1490	1320	---	273	---	811
30						---	1470	1180	---	559	---	853
31						1450	1380	1120	---	594	---	938
MEAN						1620	1470	1560	938	630	783	765
WTR YR 1977	MEAN	1190			MAX	2060		MIN	273			

ARKANSAS RIVER BASIN

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07164500 ARKANSAS RIVER AT TULSA, OK--Continued

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	3630	86800	---	497	---
2						---	4150	1800	83600	---	3400	---
3						---	1060	6440	84600	---	5160	---
4						---	---	---	86700	---	6630	---
5						---	1950	---	83000	---	4270	---
6						---	3040	---	74400	---	3880	---
7						---	2660	---	50900	---	3410	---
8						---	800	---	---	---	1780	---
9						---	4570	---	---	---	6440	---
10						---	1090	---	---	---	---	---
11						---	2620	---	---	---	---	---
12						---	3360	11800	---	27600	---	---
13						---	6700	6300	---	27400	---	---
14						---	3380	7610	---	28000	---	---
15						---	895	6370	---	18400	---	---
16						---	4590	2420	---	7300	---	---
17						---	1180	13700	---	5410	---	---
18						857	3190	28900	---	9200	---	---
19						3870	3000	24700	---	10700	---	---
20						1050	2790	27500	---	9100	---	---
21						2530	2730	25300	---	9530	---	27300
22						2400	767	68300	---	9310	---	26200
23						3020	4320	114000	---	5940	---	24300
24						2540	962	143000	---	3980	---	4880
25						---	3800	130000	---	3030	---	1020
26						---	3010	118000	---	3380	---	752
27						---	4710	104000	---	980	---	9090
28						---	3090	93300	---	4090	---	17800
29						2290	898	82600	---	4810	---	21000
30						2700	5050	7000	---	2240	---	18600
31						2770	---	39200	---	2510	---	---
MEAN						2400	2870	46300	78600	9650	3940	15100
WTR YR 1977	MEAN	19600		MAX	143000		MIN	497				

07165000 HEYBURN LAKE NEAR HEYBURN, OK

LOCATION.--Lat 35°56'52", long 96°17'55", in SE 1/4 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.--123 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 mean sea level.

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, 55,030 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. Head 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); minimum contents since conservation pool was first filled, 5750 acre-ft (7.09 hm³) Sept. 30, 1977, elevation, 760.45 ft (231.785 m). Minimum elevation since conservation pool was first filled, 758.66 ft (231.240 m) Aug. 23, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,680 acre-ft (11.9 hm³) May 21, elevation, 764.37 ft (232.980 m); minimum, 5750 acre-ft (709 hm³) Sept. 30, elevation, 760.45 ft (231.785 m).

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

760	5,420	763	8,130
761	6,180	764	9,240
762	7,090	765	10,430

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6650	6540	6280	6120	6070	6200	6680	6800	7190	7810	6410	6200
2	6640	6540	6270	6120	6070	6210	6680	6800	7080	7530	6400	6170
3	6610	6540	6270	6110	6070	6210	6680	6770	7000	7310	6380	6160
4	6920	6520	6270	6110	6070	6210	6680	6760	6940	7160	6350	6140
5	6970	6500	6290	6110	6070	6210	6640	6760	6880	7040	6330	6170
6	6920	6490	6320	6110	6070	6220	6630	6750	6840	6970	6300	6160
7	6870	6480	6320	6110	6070	6210	6620	6740	6800	6900	6280	6140
8	6820	6460	6310	6110	6070	6210	6610	6730	6760	6850	6250	6120
9	6780	6460	6310	6100	6070	6210	6600	6710	6740	6840	6220	6100
10	6760	6460	6310	6090	6090	6220	6580	6690	6710	6800	6200	6080
11	6730	6480	6310	6080	6110	6270	6570	6640	6690	6760	6180	7560
12	6720	6470	6300	6070	6130	6270	6560	6630	6670	6730	6180	7390
13	6690	6460	6280	6070	6150	6270	6550	6610	6650	6690	6210	8200
14	6680	6460	6270	6060	6170	6260	6540	6590	6640	6660	6190	7890
15	6650	6460	6260	6050	6170	6260	6550	6570	6600	6640	6160	7600
16	6630	6460	6250	6040	6160	6250	6630	6550	6590	6610	6160	7380
17	6610	6460	6240	6030	6160	6270	6690	6650	6560	6590	6160	7210
18	6600	6460	6240	6020	6160	6250	6760	6640	6540	6550	6150	7110
19	6570	6460	6230	6010	6160	6230	6770	6730	6530	6540	6130	7000
20	6560	6450	6220	6020	6170	6210	6880	7100	6510	6510	6120	6740
21	6540	6420	6210	6010	6170	6200	6980	9270	6480	6490	6110	6320
22	6540	6410	6210	6020	6170	6180	6970	8400	6460	6470	6080	5950
23	6540	6410	6210	6020	6180	6170	6930	8040	6440	6460	6210	5810
24	6540	6390	6210	6030	6180	6160	6890	7680	6470	6450	6210	5800
25	6530	6390	6210	6030	6190	6160	6840	7440	6520	6410	6190	5790
26	6520	6390	6200	6030	6180	6210	6810	7250	6530	6450	6160	5780
27	6510	6370	6200	6040	6190	6340	6780	7140	6510	6530	6120	5770
28	6500	6350	6190	6040	6200	6680	6770	7310	6600	6510	6260	5770
29	6550	6330	6180	6060	---	6710	6760	7270	6680	6490	6250	5770
30	6570	6330	6150	6090	---	6700	6780	7210	6660	6460	6230	5750
31	6560	---	6130	6070	---	6680	---	7310	---	6440	6210	---
MAX	6970	6540	6320	6120	6200	6710	6980	9270	7190	7810	6410	8200
MIN	6500	6330	6130	6010	6070	6160	6540	6550	6440	6410	6080	5750
+	761.44	761.17	760.94	760.86	761.02	761.57	761.68	762.22	761.55	761.30	761.03	760.45
±	-110	-230	-200	-60	+130	+480	+100	+530	-650	-220	-230	-460
CAL YR 1976	MAX	9750	MIN	5930	±	-600						
WTR YR 1977	MAX	9270	MIN	5750	±	-920						

07165500 POLECAT CREEK BELOW HEYBURN LAKE, NEAR HEYBURN, OK

LOCATION.--Lat 35°56'42", long 96°17'39", in NW 1/4 NW 1/4 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) above mean sea level. 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 intake structure at right abutment of Heyburn Dam 1,100 ft (335 m) upstream at datum 720.00 ft (231.648 m), present site used supplementary gage.

REMARKS.--Records fair. 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, 9 discharge measurements and 6 observations of no flow 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) 27 years (water years 1951-77) 48.9 ft³/s (1.385 m³/s), 35,430 acre-ft/yr (43.7 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, 769 ft³/s (21.8 m³/s) May 21 computed from outflow 1,100 ft (335 m) upstream, gage height, unknown; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	28	.00	.05	.00	.47	6.8	63	93	.44	.12
2	.00	.00	.20	.00	.00	.00	1.8	6.1	48	158	.41	.22
3	.00	.00	.00	.00	.00	.00	.49	5.4	37	103	.35	.70
4	2.0	.15	.00	.00	.00	.00	9.9	3.4	28	71	.34	.70
5	30	.10	.00	.00	.00	.00	7.1	2.6	21	49	.33	.80
6	27	.00	1.0	.00	.10	.00	.26	2.9	14	35	.30	.87
7	18	.00	.25	.00	.15	.00	.09	2.4	8.7	25	.30	.78
8	12	.00	.00	.00	.05	.00	.00	1.9	4.1	17	.34	.93
9	6.1	.00	.00	.00	.05	.00	.00	.79	1.6	13	.40	.96
10	2.4	.00	.20	.00	.05	.00	.00	.09	.58	11	.62	.75
11	.90	.00	.00	.00	.35	.05	.00	12	.25	5.8	.56	.43
12	.35	.00	.00	.00	.40	.25	.00	.00	.07	3.9	.71	105
13	.20	.00	.00	.00	.20	.00	.00	.00	.00	3.0	1.2	172
14	.05	.00	.00	.00	1.0	1.6	.00	.00	.00	2.0	1.4	225
15	.35	.00	17	.00	.30	.10	.00	.00	1.7	2.0	1.5	160
16	1.1	.00	.00	.00	.47	.00	.00	.00	.05	2.7	2.1	103
17	.00	.05	.00	.00	.38	.00	.76	.00	.00	3.0	2.2	68
18	.00	.20	.00	.00	.35	.07	2.5	.00	.00	2.7	2.4	50
19	1.1	.40	.70	2.3	1.2	1.9	6.1	.48	.00	2.0	2.5	36
20	.00	.40	2.0	2.7	.45	.19	12	31	.00	1.8	2.5	144
21	.00	1.2	.25	.30	.28	1.3	21	576	.02	1.5	2.5	246
22	.00	.30	.00	.05	.38	.15	25	481	.05	1.1	2.5	241
23	.00	.15	.00	.00	1.1	.00	24	306	.10	.80	2.0	85
24	.00	.10	.00	.00	.20	.00	19	217	.28	.70	1.1	.00
25	.00	.10	.00	.00	.05	.00	15	123	.44	.60	.91	.00
26	.00	.80	.00	.00	.80	.00	10	91	.57	.50	.80	.00
27	.00	3.6	.00	.00	.00	.03	6.9	67	.43	.50	.74	.00
28	.00	2.1	.20	.00	.00	.40	4.3	65	.66	.50	.00	1.1
29	.00	1.2	.10	.00	---	2.4	3.1	87	1.7	.50	.36	.00
30	.05	.90	17	.00	---	3.9	3.2	62	1.2	.60	.32	.00
31	.05	---	.40	.00	---	1.3	---	64	---	.72	.04	---
TOTAL	101.65	11.75	67.30	5.35	8.36	13.64	172.97	2221.86	233.50	611.92	32.17	1685.87
MEAN	3.28	.39	2.17	.17	.30	.44	5.77	71.7	7.78	19.7	1.04	56.2
MAX	30	3.6	28	2.7	1.2	3.9	25	576	63	158	2.5	246
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.50	.00	.00
AC-FT	202	23	133	11	17	27	343	4410	463	1210	64	3340

CAL YR 1976 TOTAL 4750.76 MEAN 13.0 MAX 670 MIN .00 AC-FT 9420
WTR YR 1977 TOTAL 5166.34 MEAN 14.2 MAX 576 MIN .00 AC-FT 10250

ARKANSAS RIVER BASIN

07165570 ARKANSAS RIVER NEAR HASKELL, OK

LOCATION.--Lat 35°49'23", long 95°38'39", in NE 1/4 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) above mean sea level.

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

COOPERATION.--Gage-height record and 27 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--5 years, 11,330 ft³/s (320.9 m³/s), 8,209,000 acre-ft/yr (10.1 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, 531 ft³/s (15.0 m³/s) Sept. 30, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,100 ft³/s (881 m³/s) June 4, gage height, 11.85 ft (3.612 m); minimum daily, 193 ft³/s (5.47 m³/s) Feb. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1410	671	2370	1200	586	231	944	531	22700	13600	1480	21400
2	680	420	1460	900	437	604	582	975	30000	13300	689	18200
3	1360	1270	1210	550	570	417	622	784	29500	12700	1260	14200
4	843	1710	1040	400	341	625	674	1100	30500	12700	1680	14000
5	641	1520	1080	600	459	442	365	1450	30200	12700	2370	15300
6	1180	1470	615	2300	393	469	739	1280	29600	15400	1970	15000
7	1830	1260	509	1300	538	580	465	1080	24800	17600	1580	17500
8	812	548	1120	1400	288	260	787	1600	20300	17900	1400	21200
9	917	372	1440	1400	688	590	421	811	20000	17600	719	21100
10	716	1040	1330	800	857	393	471	550	19500	17700	2110	17900
11	426	1350	1290	900	885	856	571	927	15200	17300	3680	14700
12	344	1900	1260	2000	567	806	254	1410	12900	14800	2830	21000
13	1420	1380	520	3200	688	868	613	2110	12700	13100	1720	16200
14	2670	1860	388	4300	617	717	636	1690	11900	12900	1540	18000
15	2440	686	1130	4300	307	308	1160	1560	9870	12300	910	16300
16	2250	790	1210	2400	506	654	461	1050	9640	8290	1060	14900
17	1280	2410	1210	600	1150	443	569	731	7550	6070	5160	14100
18	673	735	1240	400	1040	743	701	1760	9540	4080	6120	13900
19	391	369	1160	800	444	643	420	5050	5570	6130	5580	13700
20	479	677	472	1100	371	645	1020	7700	4320	6370	5730	13600
21	1900	843	329	1000	524	640	575	9730	5410	5430	3850	13600
22	2420	389	922	600	299	303	1140	11000	5490	5130	6520	13600
23	1470	355	1170	350	586	660	669	18100	5160	4650	13100	13700
24	2190	1520	1160	600	904	447	642	26000	5870	3870	13100	12600
25	737	2130	600	700	415	777	640	27200	12800	2680	12300	4000
26	420	2450	384	1000	193	480	280	27400	13300	1870	3720	1470
27	847	642	270	1280	233	1000	886	27600	13400	4740	1030	693
28	690	346	264	577	493	2560	436	27500	13400	2590	8810	2700
29	1120	878	843	633	---	1870	964	27600	14700	2590	20600	7620
30	574	898	1120	347	---	1440	420	19700	13500	2530	22100	8190
31	1580	---	1600	649	---	707	---	5330	---	1600	21600	---
TOTAL	36710	32909	30716	38586	15379	22378	19127	261309	459320	290220	176318	410373
MEAN	1184	1097	991	1245	549	722	638	8429	15310	9362	5688	13680
MAX	2670	2450	2370	4300	1150	2560	1160	27600	30500	17900	22100	21400
MIN	344	346	264	347	193	231	254	531	4320	1600	689	693
AC-FT	72810	65270	60930	76540	30500	44390	37940	518300	911100	575700	349700	814000
CAL YR 1976 TOTAL	1285594	MEAN	3513	MAX	15000	MIN	264	AC-FT	2550000			
WTH YR 1977 TOTAL	1793345	MEAN	4913	MAX	30500	MIN	193	AC-FT	3557000			

ARKANSAS RIVER BASIN

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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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
UCT											
13...	1028	9740	1140	1470	8.1	19.0	7	--	--	20	201
NOV											
10...	1028	9740	0945	975	7.9	10.0	6	11.2	101	18	235
DEC											
15...	1028	9740	1030	1700	7.9	4.5	7	12.8	101	25	241
JAN											
04...	1028	9740	1130	1880	7.7	.0	2	13.7	93	16	254
FEB											
08...	1028	9740	1415	2700	8.0	7.0	3	12.0	98	22	302
MAR											
09...	1028	9740	1244	2600	8.6	14.0	6	11.7	126	30	343
APR											
12...	1028	9740	1118	2400	9.1	17.5	20	12.1	126	36	312
MAY											
17...	1028	9740	1137	3100	8.7	22.5	16	9.2	106	33	322
JUN											
22...	1028	9740	1500	1880	8.4	29.0	18	9.6	125	16	228
JUL											
13...	1028	9740	1245	1300	8.5	28.5	19	8.2	106	15	183
AUG											
24...	1028	9740	1600	1300	8.2	30.0	2	8.1	108	14	180
SEP											
20...	1028	9740	1810	1200	7.4	23.5	18	7.9	94	16	126

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRU- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
UCT											
13...	--	--	--	300	--	103	--	--	--	--	--
NOV											
10...	1	47	7	290	15	59	<.5	11	<2	3	11
DEC											
15...	--	--	--	370	--	58	--	--	--	--	--
JAN											
04...	--	--	--	280	--	114	--	--	--	--	--
FEB											
08...	2	36	7	540	12	90	<.5	4	<1	2	6
MAR											
09...	--	--	--	660	--	110	--	--	--	--	--
APR											
12...	--	--	--	600	--	170	--	--	--	--	--
MAY											
17...	2	37	9	750	17	180	<.5	14	<1	5	11
JUN											
22...	--	--	--	450	--	80	--	--	--	--	--
JUL											
13...	--	--	--	350	--	60	--	--	--	--	--
AUG											
24...	<1	7	5	450	5	100	<.5	10	<1	3	9
SEP											
20...	--	--	--	3200	--	80	--	--	--	--	--

ARKANSAS RIVER BASIN

07165570 ARKANSAS RIVER NEAR HASKELL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
13...	61	16	194	7.8	--	288	.4	810	2.0	.51	--
NOV											
10...	109	20	192	7.2	--	285	.3	807	2.4	.69	3
DEC											
15...	53	14	269	7.0	--	355	.6	932	2.0	.44	--
JAN											
04...	68	20	278	6.5	87	411	.4	1061	1.6	.39	--
FEB											
08...	82	25	360	6.7	137	602	.4	1349	1.9	.44	2
MAR											
09...	91	25	460	8.8	147	721	.6	1582	2.2	.75	--
APR											
12...	85	29	380	7.8	117	597	.5	1278	1.7	.45	--
MAY											
17...	85	28	460	13	136	810	.3	1715	1.7	.33	3
JUN											
22...	63	15	250	5.0	110	455	.2	1141	.92	.25	--
JUL											
13...	55	11	189	7.0	71	297	.2	716	2.2	.24	--
AUG											
24...	48	8.6	190	7.1	69	274	.3	687	1.4	.23	8
SEP											
20...	29	11	160	6.2	52	284	.2	608	1.0	.23	--

ARKANSAS RIVER BASIN

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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) above mean sea level.

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

COOPERATION.--Gage-height record and 23 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) 11 years (water years 1967-77), 2,711 ft³/s (76.7 m³/s), 1,964,000 acre-ft/yr (2.42 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 137,000 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, 36,200 ft³/s (1,030 m³/s) June 24, gage height, 32.75 ft (9.982 m), minimum daily, 30 ft³/s (0.85 m³/s) Oct 21-23, Nov. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	66	54	49	41	58	159	3030	6400	16900	405	2460
2	79	73	53	49	36	61	137	5490	5710	16200	503	3430
3	68	68	51	49	34	66	116	1470	5410	15600	674	2110
4	61	58	47	46	38	71	102	1280	5010	15200	561	1540
5	1340	51	41	44	48	83	91	991	3740	14800	575	1400
6	2650	43	64	46	46	91	82	943	3050	14500	540	1380
7	895	42	81	48	43	74	77	943	2960	14000	515	1380
8	365	39	72	50	42	68	70	877	2700	15000	499	1280
9	209	39	72	50	43	65	65	877	2570	12000	415	1220
10	137	37	70	50	44	64	64	922	2540	8360	512	1210
11	100	34	69	50	48	121	54	285	2080	7590	507	2600
12	77	33	67	50	89	301	50	184	1320	7300	2320	6670
13	63	259	67	50	190	416	47	155	597	6440	3730	2380
14	51	160	67	50	205	333	45	145	407	3690	2450	2350
15	43	100	64	50	188	224	206	145	295	1680	5710	7200
16	38	67	60	49	151	170	650	157	266	958	3240	6990
17	34	51	60	49	119	135	352	509	258	908	6020	3460
18	32	44	60	49	97	112	261	880	258	878	5360	2530
19	31	40	58	49	83	98	222	448	383	858	2560	2380
20	31	36	60	49	70	85	209	1040	5440	844	1890	2010
21	30	31	60	50	64	74	206	7970	9610	801	1790	1860
22	30	30	58	52	61	67	203	10800	18600	660	1480	1800
23	30	31	54	52	54	61	3110	5650	31000	769	2330	1570
24	32	35	56	52	53	55	635	1980	35500	825	2500	2870
25	35	43	54	49	53	51	316	2290	35300	533	2000	2040
26	44	48	54	46	54	50	226	5160	33200	569	1620	1130
27	46	55	56	45	57	59	179	7470	19400	651	1440	721
28	43	54	57	44	58	86	149	7090	11500	554	1760	1050
29	42	61	56	44	---	147	130	7090	14500	462	6040	15600
30	49	57	51	44	---	151	117	6690	15300	431	3630	17000
31	59	---	50	44	---	174	---	6860	---	434	2420	---
TOTAL	6831	1785	1843	1498	2109	3671	8325	89821	275304	180395	65996	101621
MEAN	220	59.5	59.5	48.3	75.3	118	278	2897	9177	5819	2129	3387
MAX	2650	259	81	52	205	416	3110	10800	35500	16900	6040	17000
MIN	30	30	41	44	34	50	45	145	258	431	405	721
AC-FT	13550	3540	3660	2970	4180	7280	16510	178200	546100	357800	130900	201600
CAL YR 1976	TOTAL	584936	MEAN	1598	MAX	70900	MIN	26	AC-FT	1160000		
WTR YR 1977	TOTAL	739199	MEAN	2025	MAX	35500	MIN	30	AC-FT	1466000		

ARKANSAS RIVER BASIN

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT 21...	1028	9740	0830	410	7.8	11.0	16	9.7	89	18	154
NOV 17...	1028	9740	0830	520	8.0	7.0	3	12.6	104	24	226
DEC 07...	1028	9740	1130	600	8.5	2.0	--	13.6	100	34	237
FEB 15...	1028	9740	1250	630	9.5	6.0	3	6.8	--	42	258
MAR 15...	1028	9740	1210	700	7.9	14.0	8	9.4	92	32	251
APR 13...	1028	9740	0850	660	8.5	18.0	14	7.6	82	38	249
MAY 18...	1028	9740	0930	450	7.5	23.0	52	5.0	59	30	161
JUN 23...	1028	9740	1020	124	7.2	22.0	198	6.1	71	49	51
JUL 12...	1028	9740	1430	280	7.8	27.5	49	6.8	87	20	108
AUG 23...	1028	9740	1700	280	7.5	25.0	110	6.3	77	34	97
SEP 20...	1028	9740	1145	400	8.0	21.5	72	7.5	85	17	109

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 21...	--	--	--	300	--	59	--	--	--	--	--
NOV 17...	1	10	1	<50	55	55	<.5	4	1	3	20
DEC 07...	--	--	--	200	--	89	--	--	--	--	--
FEB 15...	2	20	10	300	7	280	<.5	7	--	2	24
MAR 15...	--	--	--	810	--	530	--	--	--	--	--
APR 13...	--	--	--	540	--	240	--	--	--	--	--
MAY 18...	3	20	8	1190	20	230	.5	9	1	2	35
JUN 23...	--	--	--	2500	--	340	--	--	--	--	--
JUL 12...	--	--	--	1100	--	220	--	--	--	--	--
AUG 23...	<1	24	12	1500	5	290	<.5	18	<1	<2	56
SEP 20...	--	--	--	5000	--	180	--	--	--	--	--

ARKANSAS RIVER BASIN

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07171000 VERDIGRIS RIVER NEAR LENAPAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 21...	43	7.5	24	4.1	--	39	.6	252	1.0	.17	--
NOV 17...	49	8.9	43	5.6	--	56	1.3	366	2.3	.42	9
DEC 07...	73	12	42	6.1	--	60	--	--	1.8	.67	--
FEB 15...	75	13	50	6.5	70	73	1.4	245	3.2	.61	26
MAR 15...	73	13	65	4.9	58	70	.2	128	3.9	.46	--
APR 13...	76	13	64	5.6	66	74	1.0	368	2.2	.38	--
MAY 18...	51	8.7	25	4.3	35	47	.5	266	2.3	.42	<1
JUN 23...	19	3.0	3.0	3.9	22	12	.1	158	1.0	.54	--
JUL 12...	36	5.3	10	3.1	19	17	.2	171	1.9	.19	--
AUG 23...	36	5.4	10	7.1	14	21	.2	172	2.0	.35	8
SEP 20...	27	7.5	17	3.0	15	26	.1	210	1.0	.18	--

ARKANSAS RIVER BASIN

07171300 OOLOGAH LAKE NEAR OOLOGAH, OK

LOCATION.--Lat 36°25'19", long 95°40'43", in NE 1/4 NW 1/4 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.--4,339 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 mean sea level.

REMARKS.--Reservoir is formed by earth dam. Spillway is concrete agee-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, 862,600 acre-ft (1.06 km³) July 2, elevation 647.15 ft (197.251 m); minimum, 491,400 acre-ft (606 hm³) Dec.24, elevation, 635.82 ft (193.798 m).

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

635	469,400	642	678,600
637	524,700	645	782,400
639	583,500	648	896,300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	496800	502200	489200	496800	497400	500100	510300	545400	604300	860200	555100	570600
2	496600	504300	499000	496300	497400	499800	512600	556900	605900	859800	553700	569400
3	495800	503700	499200	496800	497400	501100	510300	559500	606800	848300	552600	564500
4	497900	503100	499200	497600	497400	501100	510900	560900	607100	830500	551400	563600
5	500900	500300	499000	497600	497400	500900	509700	564500	605300	810200	550000	562700
6	507400	504500	499000	496800	497100	500100	509700	565700	604300	788700	549400	560000
7	508000	502000	499500	495500	497100	500100	509400	566900	598200	765100	549400	558000
8	507100	500300	498700	497400	497100	498700	509100	568200	593900	744900	549400	554900
9	507700	501700	498700	497600	497100	498700	506300	568200	589300	724400	549400	555400
10	507100	504000	498700	497600	497600	498700	508600	567300	586600	699700	549400	554000
11	506300	502800	498700	497600	500300	500600	508300	564800	585300	680900	551100	559500
12	506800	502200	498400	497600	503100	503100	507400	563300	582000	664600	552000	570300
13	507100	500600	498200	497600	502800	504000	508300	561200	581400	651200	561200	576500
14	507700	501100	498200	497600	506000	503400	508000	558600	579200	640800	565700	577700
15	509400	500900	498400	497600	504800	505700	507700	556300	575500	632300	571200	587800
16	507700	500300	498200	497600	504500	504500	509100	554300	574900	624000	572200	599400
17	505400	500300	497900	497600	505100	507400	509700	555400	570900	615700	579200	600700
18	506000	500300	497400	497600	505400	508000	510900	556900	570000	606800	581700	600400
19	505100	500900	497900	497600	504000	508300	511400	559700	567900	597900	579500	598200
20	504300	501700	498700	497600	503700	507400	512600	562000	572200	592100	574300	595800
21	503700	500900	495800	498200	502500	507100	512600	576800	582300	586900	569700	592700
22	500600	499800	497100	498200	502200	506000	514300	597300	604600	581400	563600	585000
23	503400	499800	496800	498200	502200	506600	519200	613500	644700	576800	560300	580400
24	506000	499000	497900	497900	502500	506300	521200	617500	689000	569700	556300	580400
25	503100	498400	497400	497900	506600	505700	520900	616600	743500	569100	553400	576800
26	503100	504500	496800	497600	501100	508000	520600	614200	798000	565100	551400	571200
27	503100	502200	497600	497600	500600	509100	519500	614800	836100	562000	549700	566000
28	501100	499800	497600	497600	501700	510300	521200	620600	841600	559700	560900	563000
29	504800	499500	497600	497600	---	510300	522100	618400	840900	557700	570300	592100
30	503100	498700	497400	497600	---	511700	523200	605000	847200	556900	560000	616000
31	503400	---	497600	497400	---	511200	---	601300	---	556900	559200	---
MAX	509400	504500	499500	498200	506600	511700	523200	620600	847200	860200	581700	616000
MIN	495800	498400	489200	495500	497100	498700	506300	545400	567900	556900	549400	554000
†	636.26	636.09	636.05	636.04	636.20	636.53	636.95	639.58	646.75	638.12	638.20	640.06
‡	+6,600	-4,700	-1,100	-200	+4,300	+9,500	+12,000	+78,100	+245,900	-290,300	+2,300	+56,800
CAL YR 1976	MAX	964300	MIN	489200‡	-49,800							
WTR YR 1977	MAX	860200	MIN	489200‡	+11,920							

† 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 NW 1/4 sec.2, T.22 N., R.15 E., Rogers County, Hydrologic Unit 11070105, on right bank 0.3 mi (0.48 km) downstream from Oologah Dam, 1.2 mi (1.9 km) upstream from Fourmile Creek, 2 mi (3.2 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) above mean sea level.

REMARKS.--Records good. 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 11 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--(since regulation by Oologah Lake) 13 years (water years 1965-77), 2,942 ft³/s (85.32 m³/s), 2,131,000 acre-ft/yr (2.63 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, 26,200 ft³/s (742 m³/s) July 5, gage height, 34.54 ft (10.528 m); minimum daily, 9.7 ft³/s (0.27 m³/s) Oct. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	15	13	43	44	39	40	4950	12500	930	4370
2	12	11	15	13	41	47	38	41	4940	15200	633	4360
3	12	11	15	13	41	44	38	41	4940	19900	420	4350
4	14	12	14	13	43	44	39	38	4940	24100	415	3070
5	13	12	14	12	43	44	39	37	4940	26000	419	2320
6	12	12	14	12	43	45	39	152	4930	25800	421	2300
7	12	12	14	12	43	46	39	213	4920	25600	423	2300
8	12	13	14	13	43	46	40	210	4910	25500	424	2300
9	12	13	14	13	43	46	39	793	4900	25300	243	1620
10	12	13	14	12	43	46	40	1130	3890	22300	128	1220
11	12	13	14	11	43	48	40	1110	3060	17100	129	1230
12	12	14	14	11	44	45	41	1100	3050	17000	129	2230
13	12	14	14	13	43	43	41	1090	1280	13800	132	4370
14	12	14	14	13	45	43	43	1090	1340	9460	131	4440
15	12	14	14	14	46	44	43	1090	1480	6120	1430	4440
16	13	13	14	14	45	44	43	826	877	5040	3580	4480
17	13	14	14	14	46	46	43	232	1320	5030	4330	4420
18	13	13	14	14	46	45	43	230	1310	5010	4320	4360
19	14	13	13	13	45	44	43	232	1310	5000	4330	4370
20	14	14	14	13	44	42	43	424	2060	4000	4320	4370
21	13	14	13	25	44	41	43	831	3250	3070	4310	4360
22	9.7	15	11	46	45	40	42	777	3250	3070	4300	4380
23	9.9	15	14	45	47	40	41	772	6590	3060	4320	4380
24	10	15	12	45	45	40	41	782	8710	3060	4290	4360
25	10	15	12	43	46	39	41	2470	6290	3050	3000	4350
26	10	14	12	43	47	39	41	5720	5130	2440	1620	4350
27	10	15	13	43	46	41	41	6850	5190	1670	1210	4340
28	10	15	13	43	46	56	41	6900	8090	1660	1260	4330
29	11	15	13	43	---	40	40	8430	12500	1280	1230	4330
30	10	15	13	43	---	39	39	14500	12400	933	1220	7240
31	10	---	13	41	---	38	---	10200	---	934	3240	---
TOTAL	363.6	404	421	716	1239	1349	1223	68351	136747	333987	57287	113360
MEAN	11.7	13.5	13.6	23.1	44.3	43.5	40.8	2205	4558	10770	1848	3779
MAX	14	15	15	46	47	56	43	14500	12500	26000	4330	7240
MIN	9.7	11	11	11	41	38	38	37	877	933	128	1220
AC-FT	721	801	835	1420	2460	2680	2430	135600	271200	662500	113600	224800
CAL YR 1976	TOTAL	728063.21	MEAN	1989	MAX	25400	MIN	.00	AC-FT	1444000		
WTR YR 1977	TOTAL	715447.60	MEAN	1960	MAX	26000	MIN	9.7	AC-FT	1419000		

ARKANSAS RIVER BASIN

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
21...	1028	9740	0955	290	8.2	14.0	26	10.0	96	--	91
NOV											
17...	1028	9740	0700	380	7.8	8.0	15	12.8	108	10	114
DEC											
07...	1028	9740	1300	300	8.3	3.0	12	12.6	95	7	120
FEB											
15...	1028	9740	1410	300	9.7	5.0	4	--	--	13	136
MAR											
15...	1028	9740	1330	310	8.3	10.0	6	10.7	96	14	120
APR											
13...	1028	9740	1045	280	7.7	14.0	17	10.0	98	20	133
MAY											
18...	1028	9740	1120	320	7.4	19.5	25	8.1	90	13	132
JUN											
23...	1028	9740	1200	359	7.6	26.0	9	10.3	127	8	140
JUL											
13...	1028	9740	0845	250	7.5	27.0	60	8.2	102	16	92
AUG											
24...	1028	9740	1015	265	7.8	26.0	28	8.8	110	2	97
SEP											
20...	1028	9740	1430	290	8.2	22.5	12	8.9	103	8	75
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL POTAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
21...	33	5.5	10	3.0	--	12	.2	161	--	.10	--
NOV											
17...	37	5.8	<10	4.7	--	18	--	173	.90	.06	<1
DEC											
07...	36	5.5	<10	2.7	--	18	--	155	.80	.05	--
FEB											
15...	39	6.2	16	4.5	37	24	--	197	1.0	.09	1
MAR											
15...	37	6.1	19	3.0	20	28	.3	166	1.4	.50	--
APR											
13...	38	6.8	12	3.0	31	13	.2	134	1.2	.08	--
MAY											
18...	41	7.2	12	2.9	26	14	.2	183	1.4	.08	<1
JUN											
23...	42	6.8	17	3.5	30	21	.2	223	1.0	.08	--
JUL											
13...	31	4.5	12	3.5	15	14	.2	203	1.9	.17	--
AUG											
24...	34	4.9	8.0	3.7	30	14	.2	196	.96	--	5
SEP											
20...	21	4.9	13	3.4	13	16	.2	196	.80	.06	--

ARKANSAS RIVER BASIN

07171400 VERDIGRIS RIVER NEAR OOLOGAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANG- ANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 21...	--	--	--	500	--	76	--	--	--	--	--
NOV 17...	<1	15	6	150	9	37	<.5	4	<1	2	10
DEC 07...	--	--	--	740	--	19	--	--	--	--	--
FEB 15...	1	21	8	100	7	30	1.1	3	--	1	8
MAR 15...	--	--	--	290	--	10	--	--	--	--	--
APR 13...	--	--	--	340	--	90	--	--	--	--	--
MAY 18...	1	8	5	560	11	170	<.5	6	2	3	10
JUN 23...	--	--	--	230	--	160	--	--	--	--	--
JUL 13...	--	--	--	940	--	150	--	--	--	--	--
AUG 24...	<1	<5	5	720	5	80	<.5	6	<1	<2	10
SEP 20...	--	--	--	950	--	20	--	--	--	--	--

07172500 HULAH LAKE NEAR HULAH, OK

LOCATION.--Lat 36°55'44", long 96°05'18", in SE 1/4 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 (.180 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 mean sea level. 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, 119,300 acre-ft (147 hm³) June 29, elevation, 748.28 ft (228.076 m), minimum, 21,140 acre-ft (26.1 hm³) Apr. 14, elevation, 728.72 ft (222.114 m).

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

728	19,200	740	65,600
734	31,200	744	88,940
736	46,400	749	124,900

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31100	29250	27740	25140	23280	22470	21820	35510	82680	110600	34480	34880
2	31000	29190	27640	25140	23220	22440	21740	37360	77980	105200	34440	34810
3	30840	29150	27500	25080	23190	22440	21680	37470	72620	99320	34250	34880
4	31360	29090	27440	25050	23190	22200	21600	37140	67720	93030	34070	34990
5	31790	29020	27370	24900	23130	22220	21550	36660	61840	86700	33880	35030
6	31760	29020	27310	24840	23040	22330	21600	36660	55820	80360	33740	35030
7	31700	28960	27240	24780	23040	22300	21580	36400	49820	73980	33510	35030
8	31600	28920	27090	24720	22980	22220	21520	36030	43860	67930	33290	35030
9	31530	28860	26970	24720	22950	22170	21440	35580	38060	61570	33180	34920
10	31430	28820	26850	24540	22920	22170	21360	35180	35100	55280	33050	34840
11	31330	28760	26760	24450	23190	22250	21280	35070	34920	49060	33290	35440
12	31270	28690	26820	24420	23280	22300	21200	34880	34700	42960	33250	35660
13	31200	28630	26730	24390	23280	22250	21170	34770	34590	38320	33550	35660
14	31130	28560	26700	24330	23220	22220	21330	34620	34550	36320	34180	36950
15	30940	28530	26640	24270	23190	22200	21790	34660	34550	36070	36100	42630
16	30840	28490	26580	24180	23160	21950	22170	35030	34590	35960	36400	43080
17	30670	28430	26490	24150	23130	21980	22470	35700	34550	35840	37620	41890
18	30570	28360	26400	24030	23040	22060	22740	36030	34480	35810	38620	40480
19	30470	28300	26400	23940	22950	22040	22920	36580	34400	35660	54160	38840
20	30340	28230	26250	23820	22980	21930	23160	37800	34400	35550	58660	37180
21	30210	28160	26100	23790	22920	21870	23250	71420	33960	35400	59740	35880
22	30110	28130	26010	23700	22830	21790	23580	78230	34070	35400	58270	35550
23	30080	28100	25980	23670	22830	21740	27870	89530	84080	35290	56610	35510
24	29910	28100	25860	23610	22710	21680	28790	93630	96200	35100	53600	35470
25	29810	28100	25800	23560	22680	21630	29190	91250	102000	34920	50100	35400
26	29650	28100	25680	23550	22680	21580	29480	86560	108800	35030	46070	35330
27	29480	28000	25650	23550	22590	21630	29720	81580	113600	35100	42010	35180
28	29380	27970	25590	23490	22560	21790	29810	76660	118000	35030	40170	34960
29	29520	27930	25470	23370	---	21870	30110	87070	118600	34920	36700	34770
30	29450	27830	25230	23340	---	21850	30610	87620	115600	34770	35290	35290
31	29350	---	25140	23280	---	21820	---	86460	---	34700	35100	---
MAX	31790	29250	27740	25140	23280	22470	30610	93630	118600	110600	59740	43080
MIN	29350	27830	25140	23280	22560	21580	21170	34620	33960	34700	33050	34770
†	731.44	730.98	730.10	729.48	729.24	728.97	731.82	743.61	747.79	733.01	733.12	733.17
‡	-1,850	-1,520	-2,690	-1,860	-720	-740	+8,790	+55,850	+29,140	-80,900	+400	+190

CAL YR 1976 MAX 125200 MIN 25140 ‡ -5,990
WTR YR 1977 MAX 118600 MIN 21170 ‡ +4,090

† Elevation, in feet, at end of month.

07173000 CANEY RIVER NEAR HULAH, OK

LOCATION (revised).--Lat 36°55'34", long 96°05'01", in NE 1/4 NE 1/4, sec.11, T.28 N., R.11 E., Osage County, Hydro-
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) above mean sea level. 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 18 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) 27 years (water years 1951-77), 334 ft³/s (9.459 m³/s), 242,000 acre-ft/yr (298 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, 3,380 ft³/s (95.7 m³/s) June 30, July 1, gage height, 6.80 ft (2.073 m); minimum daily, 8.0 ft³/s (0.23 m³/s) Jan. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	32	31	32	14	14	16	18	2730	3340	43	344
2	34	26	31	32	14	14	16	298	2710	3310	43	195
3	34	20	31	32	14	15	16	499	2890	3280	43	92
4	35	19	31	32	14	14	16	502	2600	3200	43	90
5	35	19	31	32	14	14	16	502	2950	3170	42	90
6	34	19	31	32	14	14	16	402	2880	3160	42	90
7	34	19	31	32	14	15	16	337	2820	3150	42	90
8	34	19	31	33	14	15	16	335	2750	3120	43	90
9	34	19	31	33	14	15	16	334	2690	3090	43	90
10	34	19	31	33	14	15	16	271	1520	3070	43	90
11	34	19	31	34	21	16	16	144	208	3050	43	96
12	33	19	31	35	25	15	16	144	206	3020	42	92
13	33	19	31	35	25	15	16	75	111	2400	45	94
14	33	19	31	35	25	15	16	29	34	1000	47	107
15	33	20	31	35	18	15	16	29	34	110	42	114
16	33	20	31	35	14	15	16	28	34	41	39	621
17	33	20	31	35	14	15	17	29	34	41	34	967
18	33	19	31	35	14	15	17	29	35	41	34	962
19	35	19	31	35	14	15	17	29	34	41	542	949
20	37	18	31	35	14	15	16	29	34	41	966	941
21	37	17	31	35	14	15	16	35	34	41	970	752
22	37	17	31	35	14	15	16	43	36	41	1670	261
23	37	16	31	35	14	15	17	52	47	41	2330	102
24	36	16	31	35	14	15	17	581	63	41	2290	101
25	34	16	31	36	15	15	17	2500	67	41	2280	101
26	32	16	31	8.0	14	15	17	3220	67	48	2260	101
27	32	16	31	14	14	15	18	3170	73	54	2230	101
28	32	15	31	15	14	15	17	3120	74	55	2210	147
29	32	15	31	14	---	15	18	1390	1160	47	2200	117
30	32	21	31	14	---	15	18	1170	2930	43	1080	517
31	32	---	32	14	---	16	---	2340	---	43	343	---
TOTAL	1053	568	962	927.0	437	462	494	21764	31855	42170	22136	8504
MEAN	34.0	18.9	31.0	29.9	15.6	14.9	16.5	703	1062	1360	714	283
MAX	37	32	32	36	25	16	18	3220	2950	3340	2330	967
MIN	32	15	31	8.0	14	14	16	18	34	41	39	90
AC-FT	2090	1130	1910	1840	867	916	980	43210	63180	83640	43910	16870
CAL YR 1976 TOTAL	81951.4			MEAN 224	MAX 4240	MIN 3.7	AC-FT 162600					
WTR YR 1977 TOTAL	131352.0			MEAN 360	MAX 3340	MIN 8.0	AC-FT 260500					

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
12...	1028	9740	1600	320	8.1	17.5	52	9.4	100	18	110
NOV											
09...	1028	9740	1100	235	8.1	11.0	17	9.8	90	14	145
DEC											
14...	1028	9740	1145	344	8.4	3.0	10	12.5	95	14	137
JAN											
05...	1028	9740	1215	335	7.9	2.0	3	13.3	93	17	149
FEB											
09...	1028	9740	0900	360	7.9	4.0	101	13.0	100	20	145
MAR											
10...	1028	9740	1355	320	8.6	11.0	18	11.2	106	18	173
APR											
12...	1028	9740	1649	360	8.3	17.0	48	9.5	100	28	170
MAY											
17...	1028	9740	1900	410	7.8	23.0	28	8.3	98	14	167
JUN											
23...	1028	9740	0800	207	7.4	23.0	275	7.8	92	63	99
JUL											
12...	1028	9740	1130	260	7.9	27.5	45	7.6	97	15	112
AUG											
23...	1028	9740	1300	280	8.0	24.0	57	7.9	96	14	117
SEP											
19...	1028	9740	0930	340	7.5	21.0	50	9.1	103	13	103
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
12...	42	7.2	11	3.2	--	21	.2	201	1.3	<.13	--
NOV											
09...	47	7.7	13	5.1	--	14	.3	186	1.0	.08	<1
DEC											
14...	49	8.7	10	3.0	--	19	.4	209	1.0	.02	--
JAN											
05...	49	8.3	12	3.2	7.0	21	.2	280	1.0	<.03	--
FEB											
09...	45	8.2	14	1.9	23	18	.2	212	1.3	.04	<1
MAR											
10...	48	8.1	22	2.9	22	18	.2	205	1.7	.15	--
APR											
12...	51	9.9	20	3.0	15	29	.2	191	1.5	.13	--
MAY											
17...	53	9.5	19	3.3	20	22	2.5	245	1.4	.07	<1
JUN											
23...	38	5.5	6.0	4.6	25	19	.1	332	1.4	.76	--
JUL											
12...	37	4.7	7.0	3.1	19	8.0	.1	175	1.9	.11	--
AUG											
23...	39	5.3	8.0	4.2	12	11	.2	159	1.2	.12	<1
SEP											
19...	27	7.2	10	2.4	9.0	16	.1	181	2.2	.09	--

ARKANSAS RIVER BASIN

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07173000 CANEY RIVER NEAR HULAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 12...	--	--	--	700	--	126	--	--	--	--	--
NOV 09...	1	24	6	240	10	38	<.5	5	<2	<1	18
DEC 14...	--	--	--	150	--	48	--	--	--	--	--
JAN 05...	--	--	--	130	--	65	--	--	--	--	--
FEB 09...	1	26	20	860	<3	70	<.5	3	<1	<1	6
MAR 10...	--	--	--	650	--	100	--	--	--	--	--
APR 12...	--	--	--	1150	--	140	--	--	--	--	--
MAY 17...	<1	2	<1	640	2	110	<.5	2	<1	2	2
JUN 23...	--	--	--	3200	--	580	--	--	--	--	--
JUL 12...	--	--	--	660	--	140	--	--	--	--	--
AUG 23...	<1	8	4	820	5	100	<.5	8	<1	<2	9
SEP 19...	--	--	--	2600	--	120	--	--	--	--	--

ARKANSAS RIVER BASIN

07174200 LITTLE CANEY RIVER BELOW COTTON CREEK NEAR COPAN, OK

LOCATION.--Lat 36°53'42", long 95°58'09", in W 1/2 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 (3.2 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) above mean sea level. Since Nov. 16, 1962, auxiliary water-stage recorder 6.0 mi (9.7 km) downstream, at datum 10 ft (3.048 m) lower.

REMARKS.--Records fair.

COOPERATION.--Gage-height record and 20 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--19 years, 273 ft³/s (7.732 m³/s), 197,800 acre-ft/yr (244 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, 13,000 ft³/s (368 m³/s) at 0030 June 25, gage height, 23.88 ft (7.279 m), no other peak above base of 5,000 ft³/s (142 m³/s); minimum daily, 1.4 ft³/s (0.040 m³/s) Oct. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	8.0	2.5	3.0	5.9	8.1	50	39	433	1160	11	115
2	8.0	6.7	3.3	3.0	5.4	8.2	42	19	337	756	9.5	99
3	7.0	5.9	3.3	3.0	5.4	9.2	36	18	235	440	8.1	76
4	9.4	4.8	3.3	3.3	5.4	9.9	32	19	167	273	7.8	50
5	484	3.6	3.6	3.3	5.4	9.2	29	20	128	191	8.0	37
6	574	3.3	4.8	4.4	5.5	9.8	27	21	113	133	8.5	29
7	171	3.0	4.4	6.7	5.9	8.8	25	20	84	96	7.6	24
8	90	2.8	3.2	5.9	6.2	7.9	24	20	62	84	7.5	20
9	60	2.5	2.8	4.8	6.7	8.0	22	20	48	96	7.1	17
10	46	2.2	2.8	5.6	6.7	7.8	20	20	38	73	7.7	14
11	36	2.2	3.6	6.3	7.1	9.9	18	20	30	51	8.0	407
12	29	2.5	5.2	6.3	36	22	12	20	24	38	7.0	1540
13	23	2.8	4.8	5.9	36	35	12	19	21	31	11	407
14	19	4.8	4.4	5.2	23	32	12	19	17	27	11	293
15	16	7.1	4.0	5.2	14	28	12	20	14	23	471	1450
16	15	7.2	4.0	5.2	11	25	12	26	12	20	667	2440
17	9.8	8.4	3.5	5.2	9.8	24	13	45	11	17	531	880
18	6.4	7.5	2.9	5.6	9.8	21	14	115	9.1	16	644	399
19	4.4	7.0	3.0	5.6	9.8	19	14	58	8.4	14	401	249
20	5.1	5.9	3.0	5.6	9.3	17	14	70	7.5	12	327	169
21	4.8	4.8	3.0	5.9	9.3	15	15	1960	6.5	11	259	123
22	1.9	4.0	3.0	5.2	9.3	15	16	3080	823	11	191	93
23	1.6	3.6	3.3	5.6	8.8	14	45	2360	3190	9.9	432	73
24	1.9	3.3	3.3	5.9	8.8	14	104	1930	7140	9.7	419	61
25	1.4	3.6	3.3	6.3	8.8	14	78	1450	11300	10	259	51
26	1.4	3.3	3.3	7.5	8.6	13	51	982	7030	12	165	63
27	2.2	3.0	3.3	8.4	8.8	14	35	649	5250	20	103	50
28	1.6	2.8	3.3	8.4	8.8	17	25	409	4260	12	113	158
29	2.2	2.2	2.8	8.2	---	18	20	500	2880	12	764	2180
30	3.6	1.9	3.0	7.5	---	58	21	837	1610	12	298	1010
31	10	---	3.0	6.6	---	61	---	556	---	11	171	---
TOTAL	1654.5	130.7	107.0	174.6	295.5	572.8	850	15341	45288.5	3681.6	6334.8	12577
MEAN	53.4	4.36	3.45	5.63	10.6	18.5	28.3	495	1510	119	204	419
MAX	574	8.4	5.2	8.4	36	61	104	3080	11300	1160	764	2440
MIN	1.4	1.9	2.5	3.0	5.4	7.8	12	18	6.5	9.7	7.0	14
AC-FT	3280	259	212	346	586	1140	1690	30430	89830	7300	12570	24950
CAL YR 1976 TOTAL	60096.71			MEAN 164	MAX 8330	MIN .15	AC-FT 119200					
WTR YR 1977 TOTAL	87008.00			MEAN 238	MAX 11300	MIN 1.4	AC-FT 172600					

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
UCT											
12...	1028	9740	1450	380	7.6	16.0	55	8.2	84	27	87
NOV											
09...	1028	9740	1145	340	7.3	10.0	3	7.9	71	23	141
DEC											
14...	1028	9740	1245	610	7.7	3.5	7	7.8	60	18	225
JAN											
05...	1028	9740	1200	740	7.3	.0	4	13.7	91	35	276
FEB											
09...	1028	9740	0950	790	7.8	2.0	5	17.0	124	27	260
MAR											
10...	1028	9740	1243	800	8.2	12.0	8	9.8	94	27	297
APR											
12...	1028	9740	1758	970	7.6	18.5	12	8.4	91	27	271
MAY											
17...	1028	9740	1755	400	7.4	23.5	65	5.7	68	25	156
JUN											
23...	1028	9740	0900	141	6.9	22.0	230	6.8	79	50	56
JUL											
12...	1028	9740	1225	460	7.8	28.0	30	6.0	78	18	154
AUG											
23...	1028	9740	1445	220	7.6	24.0	180	6.2	76	52	--
SEP											
19...	1028	9740	1645	360	7.8	21.0	62	7.3	83	20	83

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL POU- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FIL- TABLE RESIDUE (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT											
12...	34	4.9	39	4.0	--	52	.2	244	1.0	.25	--
NOV											
09...	52	7.0	27	7.0	--	50	.3	227	1.2	.18	<1
DEC											
14...	72	10	37	6.4	--	70	--	374	.90	.13	--
JAN											
05...	80	11	70	6.7	20	111	--	211	1.7	.10	--
FEB											
09...	84	12	59	4.0	33	90	.2	434	1.3	.10	1
MAR											
10...	87	13	69	4.9	36	139	.2	496	1.4	.23	--
APR											
12...	86	13	113	5.2	17	209	.2	595	2.1	.12	--
MAY											
17...	52	7.3	26	4.4	18	39	.2	245	2.3	.19	1
JUN											
23...	22	3.5	11	3.8	23	16	.1	242	1.0	.51	--
JUL											
12...	52	6.1	28	3.3	26	43	.2	303	1.5	.12	--
AUG											
23...	--	--	--	--	--	--	.1	--	3.1	.51	16
SEP											
19...	21	5.6	20	2.9	9.0	39	.1	188	1.7	.15	--

ARKANSAS RIVER BASIN

07174200 LITTLE CANEY RIVER BELOW COTTON CREEK NEAR COPAN, OK--Continued
 WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
UCT 12...	--	--	--	700	--	110	--	--	--	--	--
NOV 09...	1	23	5	110	12	75	<.5	5	<2	2	7
DEC 14...	--	--	--	700	--	60	--	--	--	--	--
JAN 05...	--	--	--	470	--	58	--	--	--	--	--
FEB 09...	2	18	8	450	9	20	<.5	4	<1	3	3
MAR 10...	--	--	--	840	--	300	--	--	--	--	--
APR 12...	--	--	--	360	--	110	--	--	--	--	--
MAY 17...	12	34	8	2300	20	170	<.5	8	<1	<1	10
JUN 23...	--	--	--	3400	--	530	--	--	--	--	--
JUL 12...	--	--	--	840	--	130	--	--	--	--	--
AUG 23...	2	46	23	3200	20	590	<.5	35	<1	3	220
SEP 19...	--	--	--	3700	--	160	--	--	--	--	--

ARKANSAS RIVER BASIN

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07174600 SAND CREEK AT OKESA, OK

LOCATION.--Lat 36°43'10", long 96°07'56", in NW 1/4 NW 1/4 sec.21, T.26 N., R.11 E., Osage County, Hydrologic Unit 11070106, on downstream side of left abutment of county road bridge, 0.5 mi (0.80 km) north-east of Oksa, 9 mi (14.5 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) above mean sea level. Prior to May 25, 1960, nonrecording gage at same site and datum.

REMARKS.--Records fair.

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

AVERAGE DISCHARGE.--18 years, 70.1 ft³/s (1.985 m³/s), 50,790 acre-ft/yr (62.6 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)
May 21	1230	*6,980 198	16.85 5.136	May 29	1930	5,500 156	15.00 4.572

No flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.42	3.3	2.6	1.8	1.2	15	6.5	224	4.1	.00	13
2	.00	.42	3.6	2.4	1.8	1.6	13	11	116	3.5	.00	9.2
3	.00	.48	4.1	2.5	1.8	1.6	9.6	23	69	2.6	.00	6.6
4	.00	.54	4.2	2.6	1.8	1.4	9.0	29	43	1.6	.00	4.8
5	.06	.67	4.0	2.7	1.7	1.4	8.2	14	29	1.0	.00	3.3
6	.04	.98	4.0	3.0	1.6	1.5	7.9	13	21	.61	.00	2.6
7	.00	1.1	4.0	3.4	1.5	1.7	7.9	12	16	.41	.00	1.9
8	1.1	.98	4.0	3.8	1.5	1.8	6.2	9.8	13	.37	.00	1.3
9	2.2	1.0	4.3	3.6	1.5	1.7	5.2	10	11	.39	.00	1.0
10	2.2	.85	4.3	3.6	1.5	1.7	5.2	12	9.6	.30	.00	.47
11	1.7	.84	4.0	3.8	1.8	2.7	5.2	7.3	8.8	.19	.00	201
12	1.4	.65	4.0	3.8	21	2.2	5.0	5.3	7.2	.06	.00	197
13	1.2	.60	4.2	3.8	27	2.4	4.0	3.1	6.6	.00	.00	64
14	.87	.50	4.2	3.8	13	4.1	3.9	2.9	6.1	.00	.00	144
15	.62	.50	4.2	3.8	8.3	4.6	3.6	2.8	5.1	.00	.00	905
16	.43	.50	4.1	3.8	5.6	4.0	4.2	2.6	4.0	.00	.00	836
17	.30	.50	4.0	3.8	4.2	3.0	3.5	5.0	3.3	.00	.00	323
18	.10	.55	4.0	3.6	3.5	2.3	3.4	13	2.8	.00	.00	136
19	.08	.50	3.4	3.6	3.0	2.6	3.6	12	2.2	.00	.00	78
20	.03	.50	3.3	3.7	2.6	2.5	3.6	259	1.9	.00	45	49
21	.01	.66	3.3	3.6	2.2	2.3	4.1	3280	1.7	.00	56	43
22	.09	.72	3.3	3.0	2.3	2.1	4.1	278	2.0	.00	23	37
23	.28	.72	3.4	2.9	1.6	1.3	26	205	2.3	.00	14	34
24	.27	.70	3.7	2.8	1.5	1.1	18	259	2.9	.00	9.4	33
25	.08	.84	3.6	2.5	1.5	1.1	8.9	85	3.5	.00	6.3	22
26	.05	1.8	3.5	2.4	1.1	1.1	5.8	45	4.1	.00	4.4	15
27	.06	2.8	3.3	2.4	1.3	1.5	4.2	29	12	.00	2.9	12
28	.06	3.6	3.1	2.0	1.2	2.8	3.4	1150	11	.00	39	11
29	.06	3.5	2.9	1.7	---	7.9	74	1950	5.3	.00	92	49
30	.30	3.1	3.1	1.8	---	13	12	572	3.4	.00	38	46
31	.39	---	2.8	1.8	---	17	---	487	---	.00	21	---
TOTAL	13.98	31.52	115.2	94.6	119.2	97.2	287.7	8793.3	647.8	15.13	351.00	3279.17
MEAN	.45	1.05	3.72	3.05	4.26	3.14	9.59	284	21.6	.49	11.3	109
MAX	2.2	3.6	4.3	3.8	27	17	74	3280	224	4.1	92	905
MIN	.00	.42	2.8	1.7	1.1	1.1	3.4	2.6	1.7	.00	.00	.47
AC-FT	28	63	228	188	236	193	571	17440	1280	30	696	6500
CAL YR 1976	TOTAL	20061.31	MEAN	54.8	MAX	5240	MIN	.00	AC-FT	39790		
WTR YR 1977	TOTAL	13845.80	MEAN	37.9	MAX	3280	MIN	.00	AC-FT	27460		

ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, OK

LOCATION.--Lat 36°30'31", long 95°50'36", in NE 1/4 NW 1/4 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).

DRAINAGE AREA.--1,955 mi² (5,063 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1935 to February 1939 (published as "near Collinsville"), September 1945 to current year. Monthly discharge only for some periods, published in WSP 1311.

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

GAGE.--Water-stage recorder. Datum of gage is 586.43 ft (178.744 m) above mean sea level. Dec. 4, 1935, to Feb. 28, 1939, nonrecording gage at site 16.2 mi (26.1 km) downstream at datum 21.41 ft (6.526 m) lower. Sept. 1, 1945, to Feb. 15, 1946, nonrecording gage at present site and datum.

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

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

AVERAGE DISCHARGE.--35 years, 954 ft³/s (27.02 m³/s), 691,200 acre-ft/yr (852 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,500 ft³/s (1,090 m³/s) Oct. 3, 1945, gage height, 30.12 ft (9.181 m); no flow Aug. 9 to Sept. 15, 1936, Sept. 11 to Nov. 3, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,870 ft³/s (223 m³/s) at 1230 May 22, gage height, 23.72 ft (7.230 m), no other peaks above base of 7,500 ft³/s (212 m³/s); minimum, 20 ft³/s (0.57 m³/s) Nov. 29, 30, Apr. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	49	28	44	32	33	96	1960	3660	4490	76	747
2	55	42	26	37	31	30	113	701	3810	4720	70	612
3	52	40	25	39	31	36	97	990	3620	4450	66	520
4	58	42	36	41	31	36	85	1370	3520	4110	64	331
5	86	41	50	43	31	35	71	1180	3220	3810	62	265
6	441	35	58	46	31	32	62	1010	3410	3640	60	238
7	632	32	50	46	29	30	56	826	3410	3530	60	218
8	290	30	46	48	29	26	53	628	3310	3450	59	206
9	165	31	42	46	29	22	48	573	3230	3410	53	196
10	118	31	44	45	29	31	44	520	3140	3390	53	186
11	92	33	45	45	32	69	31	479	2450	3290	55	200
12	81	36	44	47	94	131	24	341	578	3200	52	1020
13	71	32	41	48	213	74	21	268	320	3120	64	2020
14	62	32	39	48	146	62	21	261	298	2790	90	964
15	56	36	39	48	109	68	25	167	201	1770	126	2920
16	50	37	39	46	87	69	31	106	126	527	384	5310
17	46	37	39	45	75	80	34	123	109	199	436	5290
18	45	36	43	47	51	187	61	186	103	107	754	3080
19	47	34	57	49	33	86	73	146	99	91	864	1910
20	47	33	49	49	48	57	69	537	93	85	1840	1570
21	45	32	42	48	42	47	68	4650	90	87	1490	1420
22	44	28	41	49	33	41	68	7640	89	100	1270	1230
23	46	30	39	49	34	38	65	5960	534	88	1680	762
24	47	32	39	49	35	35	63	4890	3030	79	2770	458
25	46	29	41	49	30	36	179	3420	4220	71	2930	395
26	44	28	41	50	24	36	156	4070	5520	69	2730	368
27	42	26	42	49	32	48	110	4580	6330	75	2600	323
28	41	23	51	42	46	146	77	4720	6140	86	2820	272
29	42	20	45	35	---	128	354	5670	5330	93	3470	1160
30	48	24	46	34	---	95	337	5430	4390	86	3360	2840
31	62	---	53	34	---	80	---	3410	---	82	2060	---
TOTAL	3062	991	1320	1395	1467	1924	2592	66812	74380	55095	32970	37031
MEAN	98.8	33.0	42.6	45.0	52.4	62.1	86.4	2155	2479	1777	1064	1234
MAX	632	49	58	50	213	187	354	7640	6330	4720	3470	5310
MIN	41	20	25	34	24	22	21	106	89	69	52	186
AC-FT	6070	1970	2620	2770	2910	3820	5140	132500	147500	109300	65400	73450
CAL YR 1976 TOTAL	197398		MEAN 539	MAX 11200	MIN 17	AC-FT 391500						
WTR YR 1977 TOTAL	279039		MEAN 764	MAX 7640	MIN 20	AC-FT 553500						

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, 1,070 micromhos April 7; minimum daily, 147 micromhos June 24.

WATER TEMPERATURE: Maximum daily, 33.0°C on July 22; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
05...	--	--	1345	84	680	8.0	--	--	--	--
13...	1028	9740	0820	72	310	7.2	14.0	125	--	--
15...	--	--	1345	56	397	7.9	--	--	--	--
25...	--	--	1345	47	481	7.7	--	--	--	--
NOV										
07...	--	--	0830	32	605	8.2	--	--	--	--
09...	1028	9740	1330	32	500	7.9	11.0	6	12.5	115
14...	--	--	0900	32	600	8.4	--	--	--	--
25...	--	--	1000	30	630	8.5	--	--	--	--
DEC										
05...	--	--	0930	47	649	8.3	--	--	--	--
14...	1028	9740	1430	40	740	7.6	4.5	7	11.5	90
15...	--	--	1030	39	728	8.0	--	--	--	--
25...	--	--	0930	41	779	8.3	--	--	--	--
JAN										
05...	1028	9740	1000	43	690	7.5	.0	4	14.3	95
05...	--	--	1400	43	700	8.3	--	--	--	--
15...	--	--	1000	48	707	8.4	--	--	--	--
25...	--	--	1330	49	696	8.2	--	--	--	--
FEB										
05...	--	--	1000	31	693	8.4	--	--	--	--
09...	1028	9740	1115	29	830	7.4	4.0	6	13.8	105
14...	--	--	1200	145	735	7.9	--	--	--	--
25...	--	--	0900	32	705	8.2	--	--	--	--
MAR										
05...	--	--	0900	36	747	8.1	--	--	--	--
10...	1028	9740	1057	31	750	8.7	10.5	5	13.4	124
15...	--	--	1500	70	791	7.4	--	--	--	--
25...	--	--	0830	36	1010	7.4	--	--	--	--
APR										
04...	--	--	0830	87	1040	7.5	--	--	--	--
13...	1028	9740	1244	21	780	9.2	20.0	17	19.1	212
15...	--	--	1100	26	867	7.3	--	--	--	--
25...	--	--	1730	235	1030	7.3	--	--	--	--
MAY										
05...	--	--	0900	949	466	7.2	--	--	--	--
15...	--	--	1500	89	455	7.6	--	--	--	--
18...	1028	9740	1225	112	440	7.7	25.0	29	8.5	104
25...	--	--	1100	2800	297	7.3	--	--	--	--
JUN										
05...	--	--	0915	2720	292	7.5	--	--	--	--
15...	--	--	1400	115	389	7.4	--	--	--	--
23...	1028	9740	1245	85	455	7.9	28.0	30	9.7	124
25...	--	--	0800	3520	159	7.5	--	--	--	--
JUL										
05...	--	--	1400	3280	242	7.7	--	--	--	--
12...	1028	9740	1630	2730	260	8.0	27.5	66	6.8	87
15...	--	--	1300	1490	288	7.6	--	--	--	--

ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JUL										
25...	--	--	0900	39	383	7.7	--	--	--	--
AUG										
05...	--	--	1430	62	552	7.8	--	--	--	--
15...	--	--	1330	52	559	8.0	--	--	--	--
23...	1028	9740	1815	1770	270	7.7	25.0	120	7.0	85
24...	--	--	1300	2410	272	7.6	--	--	--	--
SEP										
05...	--	--	1100	179	335	7.8	--	--	--	--
14...	--	--	1410	640	248	7.5	--	--	--	--
20...	1028	9740	1315	1250	350	8.1	21.0	74	7.8	90
25...	--	--	1000	291	368	7.8	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT										
05...	--	210	40	--	69	--	10	--	52	34
13...	25	--	--	--	--	--	--	--	--	--
15...	--	110	24	--	36	--	5.1	--	32	38
25...	--	150	42	--	46	--	7.7	--	38	35
NOV										
07...	--	180	42	--	60	--	8.4	--	46	34
09...	20	--	--	--	--	--	--	--	--	--
14...	--	190	35	--	61	--	8.7	--	47	34
25...	--	210	41	--	68	--	9.7	--	43	30
DEC										
05...	--	220	60	--	71	--	11	--	45	30
14...	20	--	--	--	--	--	--	--	--	--
15...	--	230	68	--	73	--	11	--	52	33
25...	--	240	80	--	78	--	12	--	58	33
JAN										
05...	19	--	--	--	--	--	--	--	--	--
05...	--	230	64	--	73	--	11	--	49	31
15...	--	230	58	--	73	--	11	--	48	31
25...	--	230	64	--	75	--	11	--	47	30
FEB										
05...	--	230	53	--	74	--	11	--	48	31
09...	26	--	--	79	--	11	--	51	--	--
14...	--	230	71	--	75	--	11	--	53	33
25...	--	220	74	--	69	--	12	--	52	33
MAR										
05...	--	240	78	--	77	--	12	--	56	33
10...	30	--	--	--	--	--	--	--	--	--
15...	--	250	73	--	80	--	11	--	61	35
25...	--	300	140	--	97	--	13	--	86	38
APR										
04...	--	300	130	--	94	--	16	--	94	40
13...	72	--	--	--	--	--	--	--	--	--
15...	--	240	92	--	73	--	14	--	78	41
25...	--	290	96	--	91	--	14	--	95	41
MAY										
05...	--	160	45	--	50	--	8.5	--	31	29
15...	--	170	34	--	56	--	8.2	--	24	23
18...	26	--	--	--	--	--	--	--	--	--
25...	--	100	26	--	33	--	5.0	--	18	27
JUN										
05...	--	130	10	--	41	--	5.5	--	10	14
15...	--	160	24	--	51	--	6.8	--	19	21
23...	30	--	--	--	--	--	--	--	--	--
25...	--	61	7	--	20	--	2.6	--	8.0	21
JUL										
05...	--	110	10	--	36	--	4.4	--	6.2	11
12...	19	--	--	--	--	--	--	--	--	--
15...	--	130	10	--	41	--	5.4	--	8.5	13
25...	--	150	13	--	50	--	6.6	--	16	18
AUG										
05...	--	200	43	--	65	--	8.8	--	35	27
15...	--	200	40	--	64	--	8.8	--	36	28
23...	30	--	--	--	--	--	--	--	--	--
24...	--	120	11	--	38	--	5.6	--	9.0	14
SEP										
05...	--	130	20	--	41	--	6.0	--	18	23
14...	--	76	18	--	24	--	4.0	--	18	32
20...	22	--	--	--	--	--	--	--	--	--
25...	--	140	18	--	45	--	7.0	--	19	22

ARKANSAS RIVER BASIN

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07175500 CANEY RIVER NEAR RAMONA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	CAR- BONATE (CO ₃) (MG/L)	ALKA- LINITY AS CACO ₃ (MG/L)	CARBON DIOXIDE (CO ₂) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
05...	1.5	--	4.2	211	0	173	3.4	23	88	--
13...	--	--	--	--	--	--	--	--	--	.2
15...	1.3	--	4.1	106	0	87	2.1	16	58	--
25...	1.4	--	4.7	128	0	105	4.1	16	74	--
NOV										
07...	1.5	--	4.7	174	0	143	1.8	19	86	--
09...	--	--	--	--	--	--	--	--	--	.3
14...	1.5	--	4.9	173	7	154	1.2	22	78	--
25...	1.3	--	5.0	179	13	168	1.0	26	77	--
DEC										
05...	1.3	--	5.2	198	0	162	1.6	28	91	--
14...	--	--	--	--	--	--	--	--	--	.4
15...	1.5	--	5.8	194	0	159	3.1	31	100	--
25...	1.6	--	5.4	200	0	164	1.6	33	120	--
JAN										
05...	--	--	--	--	--	--	--	--	--	.3
05...	1.4	--	5.2	200	0	164	1.6	33	100	--
15...	1.4	--	5.2	196	5	169	1.3	35	99	--
25...	1.3	--	5.0	205	0	168	2.1	35	90	--
FEB										
05...	1.4	--	4.8	206	5	177	1.4	34	92	--
09...	--	3.5	--	--	--	--	--	46	93	--
14...	1.5	--	5.3	197	0	162	4.0	45	100	--
25...	1.5	--	4.5	180	0	148	1.8	45	110	--
MAR										
05...	1.6	--	4.5	200	0	164	2.5	32	110	--
10...	--	--	--	--	--	--	--	--	--	.3
15...	1.7	--	5.2	210	0	172	13	42	110	--
25...	2.2	--	5.4	190	0	156	12	75	170	--
APR										
04...	2.4	--	5.1	210	0	172	11	49	190	--
13...	--	--	--	--	--	--	--	--	--	.3
15...	2.2	--	4.9	180	0	148	14	37	150	--
25...	2.5	--	6.0	230	0	189	18	29	180	--
MAY										
05...	1.1	--	3.6	140	0	110	14	22	58	--
15...	.8	--	3.4	170	0	140	6.8	26	43	--
18...	--	--	--	--	--	--	--	--	--	.3
25...	.8	--	3.1	94	0	77	7.5	17	34	--
JUN										
05...	.4	--	2.8	140	0	115	7.1	13	13	--
15...	.7	--	3.4	160	0	131	10	22	30	--
23...	--	--	--	--	--	--	--	--	--	.2
25...	.4	--	4.0	66	0	54	3.3	6.5	10	--
JUL										
05...	.3	--	3.4	120	0	98	3.8	11	8.3	--
12...	--	--	--	--	--	--	--	--	--	.2
15...	.3	--	3.6	140	0	115	5.6	2.1	15	--
25...	.6	--	4.2	170	0	140	5.4	21	26	--
AUG										
05...	1.1	--	4.5	190	0	160	4.8	25	63	--
15...	1.1	--	4.5	190	0	156	3.0	25	59	--
23...	--	--	--	--	--	--	--	--	--	.1
24...	.4	--	3.2	130	0	110	5.2	9.0	13	--
SEP										
05...	.7	--	3.6	130	0	110	3.3	13	31	--
14...	.9	--	4.2	71	0	58	3.6	10	33	--
20...	--	--	--	--	--	--	--	--	--	.1
25...	.7	--	3.4	150	0	123	3.8	16	34	--

ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
05...	--	360	--	.49	81.6	1.3	--	--	--	--
13...	--	--	--	--	--	--	1.3	.31	--	--
15...	--	220	--	.30	33.3	2.1	--	--	--	--
25...	--	277	--	.38	35.2	1.7	--	--	--	--
NOV										
07...	--	333	--	.45	28.8	1.5	--	--	--	--
09...	--	--	--	--	--	--	1.7	.32	2	<1
14...	--	321	--	.44	27.7	1.5	--	--	--	--
25...	--	337	--	.46	27.3	1.3	--	--	--	--
DEC										
05...	--	365	--	.50	46.3	1.9	--	--	--	--
14...	--	--	--	--	--	--	3.5	1.0	--	--
15...	--	398	--	.54	41.9	3.2	--	--	--	--
25...	--	421	--	.57	46.6	2.2	--	--	--	--
JAN										
05...	--	--	--	--	--	--	2.2	1.0	--	--
05...	--	384	--	.52	44.6	2.2	--	--	--	--
15...	--	388	--	.53	50.3	2.7	--	--	--	--
25...	--	376	--	.51	49.7	2.6	--	--	--	--
FEB										
05...	--	398	--	.54	33.3	2.3	--	--	--	--
09...	--	--	410	--	--	--	2.3	.64	<10	1
14...	--	415	--	.56	162	3.0	--	--	--	--
25...	--	404	--	.55	34.9	1.1	--	--	--	--
MAR										
05...	--	448	--	.61	43.5	1.3	--	--	--	--
10...	--	--	--	--	--	--	1.9	.33	--	--
15...	--	478	--	.65	90.3	2.6	--	--	--	--
25...	--	613	--	.83	59.6	2.0	--	--	--	--
APR										
04...	--	640	--	.87	150	2.0	--	--	--	--
13...	--	--	--	--	--	--	3.0	.33	--	--
15...	--	521	--	.71	36.6	.61	--	--	--	--
25...	--	621	--	.84	394	3.3	--	--	--	--
MAY										
05...	--	279	--	.38	715	--	--	--	--	--
15...	--	255	--	.35	61.3	--	--	--	--	--
18...	--	--	--	--	--	--	3.0	.30	4	<1
25...	--	174	--	.24	1320	--	--	--	--	--
JUN										
05...	--	171	--	.23	1260	--	--	--	--	--
15...	--	229	--	.31	71.1	--	--	--	--	--
23...	--	--	--	--	--	--	2.2	.25	--	--
25...	--	109	--	.15	1040	--	--	--	--	--
JUL										
05...	--	146	--	.20	1290	--	--	--	--	--
12...	--	--	--	--	--	--	12	.20	--	--
15...	--	172	--	.23	692	--	--	--	--	--
25...	--	223	--	.30	23.5	--	--	--	--	--
AUG										
05...	--	309	--	.42	51.7	--	--	--	--	--
15...	--	314	--	.43	44.1	--	--	--	--	--
23...	--	--	--	--	--	--	1.7	.32	9	2
24...	--	156	--	.21	1020	--	--	--	--	--
SEP										
05...	--	185	--	.25	89.4	--	--	--	--	--
14...	--	132	--	.18	228	--	--	--	--	--
20...	--	--	--	--	--	--	<.63	.20	--	--
25...	--	199	--	.27	156	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

07175500 CANEY RIVER NEAR RAMONA, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	7.0	0.0	2.0	4.0	10.0	15.0	18.0	23.0	25.0	27.0	25.0
2	15.0	8.0	0.0	0.0	2.0	8.0	15.0	20.0	23.0	25.0	27.0	27.0
3	14.0	8.0	0.0	0.0	5.0	10.0	15.0	20.0	25.0	25.0	27.0	26.0
4	15.0	7.0	0.0	3.0	4.0	8.0	15.0	22.0	25.0	26.0	30.0	26.0
5	14.0	5.0	0.0	2.0	2.0	8.0	13.0	22.0	25.0	27.0	30.0	27.0
6	13.0	5.0	0.0	0.0	4.0	8.0	14.0	22.0	25.0	27.0	27.0	26.0
7	12.0	5.0	0.0	2.0	2.0	10.0	15.0	23.0	25.0	27.0	28.0	26.0
8	10.0	5.0	0.0	0.0	6.0	9.0	18.0	22.0	25.0	27.0	30.0	28.0
9	10.0	5.0	5.0	0.0	5.0	10.0	17.0	23.0	25.0	27.0	31.0	25.0
10	8.0	5.0	5.0	0.0	8.0	12.0	21.0	22.0	27.0	27.0	31.0	25.0
11	17.0	4.0	5.0	0.0	5.0	14.0	18.0	24.0	26.0	27.0	28.0	25.0
12	14.0	5.0	3.0	0.0	5.0	12.0	23.0	22.0	28.0	28.0	27.0	25.0
13	19.0	4.0	5.0	0.0	6.0	10.0	20.0	22.0	28.0	28.0	---	23.0
14	14.0	3.0	3.0	2.0	8.0	13.0	19.0	23.0	25.0	28.0	27.0	26.0
15	12.0	3.0	4.0	0.0	9.0	13.0	20.0	25.0	30.0	28.0	30.0	25.0
16	10.0	5.0	8.0	0.0	8.0	14.0	20.0	25.0	27.0	28.0	29.0	20.0
17	8.0	4.0	4.0	0.0	5.0	13.0	20.0	24.0	28.0	30.0	27.0	20.0
18	8.0	4.0	4.0	0.0	9.0	14.0	20.0	25.0	28.0	32.0	25.0	27.0
19	8.0	5.0	5.0	2.0	6.0	14.0	20.0	25.0	26.0	32.0	25.0	23.0
20	9.0	4.0	5.0	2.0	7.0	12.5	20.0	24.0	27.0	28.0	25.0	22.0
21	10.0	3.0	3.0	3.0	7.0	12.0	20.0	21.0	28.0	28.0	23.0	22.0
22	8.0	4.0	6.0	0.0	10.0	12.0	22.0	20.0	27.0	33.0	25.0	22.0
23	8.0	5.0	4.0	2.0	6.0	12.0	19.0	21.0	27.0	30.0	26.0	23.0
24	8.0	5.0	5.0	0.0	10.0	12.0	18.0	21.0	22.0	29.0	25.0	23.0
25	7.0	4.0	3.0	3.0	10.0	12.0	21.0	23.0	25.0	29.0	25.0	23.0
26	8.0	5.0	5.0	4.0	8.0	15.0	20.0	23.0	24.0	29.0	26.0	25.0
27	7.0	5.0	5.0	4.0	8.0	15.0	20.0	23.0	25.0	28.0	25.0	24.0
28	5.0	3.0	5.0	0.0	7.0	15.0	20.0	23.0	25.0	29.0	26.0	24.0
29	6.0	0.0	6.0	0.0	---	16.0	20.0	23.0	26.0	31.0	25.0	23.0
30	5.0	0.0	3.0	3.0	---	15.0	22.0	23.0	26.0	27.0	24.0	22.0
31	7.0	---	3.0	3.0	---	15.0	---	24.0	---	27.0	25.0	---
MONTH	10.5	4.5	3.5	1.0	6.5	12.0	18.5	22.5	26.0	28.0	27.0	24.5
YEAR	MAX	33.0	MIN	0.0	MEAN	15.5						

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	633	537	646	702	714	727	862	153	265	209	497	304
2	713	558	662	705	719	739	899	304	283	225	530	319
3	792	579	662	708	701	733	1020	548	302	234	541	330
4	780	605	654	703	698	737	1040	575	290	236	560	329
5	680	611	649	700	693	747	958	466	292	242	552	335
6	663	610	652	705	697	752	1000	418	293	247	542	345
7	492	605	684	691	701	764	1070	418	303	248	545	359
8	348	594	705	698	704	782	1040	436	308	252	544	375
9	288	594	715	447	707	800	986	429	307	251	547	377
10	307	595	710	568	710	826	902	440	308	258	554	390
11	279	588	706	704	708	827	894	437	310	263	566	412
12	292	595	718	716	674	872	848	433	344	264	577	427
13	331	595	741	714	713	765	856	437	353	266	578	196
14	366	600	738	711	735	761	860	436	366	273	573	248
15	397	600	728	707	905	791	867	455	389	288	559	330
16	421	590	732	616	800	776	878	461	390	289	557	233
17	438	599	730	713	824	738	869	456	388	303	479	215
18	435	603	739	722	947	382	866	445	394	314	354	275
19	434	601	738	735	818	515	846	459	404	325	389	315
20	442	613	740	738	764	595	840	464	415	335	260	323
21	449	616	747	751	767	746	874	334	424	341	253	332
22	448	619	753	763	702	728	927	264	432	343	306	341
23	443	625	761	732	714	780	972	251	454	350	261	347
24	450	626	772	718	707	928	1020	288	147	365	272	357
25	481	630	779	696	705	1010	1030	297	159	383	279	368
26	512	632	662	703	712	976	958	284	154	399	272	384
27	526	633	718	708	716	865	932	296	161	421	273	397
28	527	633	696	701	724	723	875	289	163	425	283	394
29	522	636	608	715	---	596	404	273	182	438	341	404
30	525	643	598	707	---	644	856	281	209	435	290	221
31	523	---	703	716	---	804	---	284	---	457	275	---
MONTH	482	606	705	697	739	756	908	381	306	312	433	333
YEAR	MAX	1070	MIN	147	MEAN	553						

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK

LOCATION.--Lat 36°18'26", long 95°41'52", in SE 1/4 SW 1/4 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).

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) above mean sea level. 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) 13 years (water years 1965-77), 4,117 ft³/s (116.6 m³/s), 2,983,000 acre-ft/yr (3.68 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, 29,100 ft³/s (824 m³/s) July 5, gage height, 27.04 ft (8.242 m); minimum, 29 ft³/s (0.82 m³/s) Nov. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	95	32	58	84	93	158	5110	8470	17400	996	5770
2	95	87	34	65	84	94	162	5670	8790	19500	836	5140
3	86	76	39	56	84	94	179	980	8730	23500	529	5030
4	87	72	40	54	84	94	169	1340	8550	27000	519	3930
5	214	69	40	56	84	91	149	1290	8440	28900	517	2750
6	171	71	59	56	84	89	135	1090	8270	28700	520	2620
7	691	66	80	58	81	87	125	1090	8420	28500	515	2580
8	608	61	71	52	80	84	118	873	8340	28200	515	2550
9	318	55	60	46	78	82	112	1080	8260	28100	441	2010
10	211	54	60	43	77	77	109	1590	7500	26700	219	1350
11	165	52	58	42	81	117	103	1520	6440	21000	216	1380
12	139	59	61	48	120	160	95	1450	5060	20500	216	2020
13	122	58	62	54	172	194	87	1300	2480	18300	233	6220
14	112	58	62	70	263	139	84	1250	1230	13600	245	6220
15	101	56	58	77	208	117	81	1230	2230	9440	1090	6240
16	90	56	56	74	177	113	81	1070	798	6690	3800	9660
17	84	57	57	70	154	122	92	361	1460	6130	5160	10800
18	84	58	58	67	140	419	98	340	1430	5950	5440	9510
19	79	55	58	72	120	319	108	378	1410	5890	5310	6790
20	79	53	74	77	100	177	125	526	1890	5060	5740	6110
21	79	48	74	74	99	132	133	3550	3650	3470	6290	5890
22	78	46	62	84	106	112	129	8620	3660	3480	5890	5920
23	74	43	56	116	99	100	124	9030	6090	3490	5890	5610
24	74	42	54	116	92	94	121	7410	11500	3460	6690	5030
25	74	44	48	116	87	89	119	6420	11000	3440	6400	4690
26	74	49	50	113	87	89	212	9390	10800	2990	4460	4600
27	74	41	52	113	86	153	210	11700	12100	1800	3490	4570
28	72	39	54	111	80	367	193	12000	14000	1780	3680	4550
29	75	35	58	103	---	464	3060	13400	18800	1540	4790	4980
30	85	33	67	93	---	252	823	19900	17700	1010	4590	9180
31	86	---	58	88	---	184	---	16700	---	1020	5570	---
TOTAL	4472	1688	1752	2322	3091	4798	7494	147658	217498	396540	90797	153700
MEAN	144	56.3	56.5	74.9	110	155	250	4763	7250	12790	2929	5123
MAX	691	95	80	116	263	464	3060	19900	18800	28900	6690	10800
MIN	72	33	32	42	77	77	81	340	798	1010	216	1350
AC-FT	8870	3350	3480	4610	6130	9520	14860	292900	431400	786500	180100	304900

CAL YR 1976 TOTAL 950601 MEAN 2597 MAX 29500 MIN 29 AC-FT 1886000
WTR YR 1977 TOTAL 1031810 MEAN 2827 MAX 28900 MIN 32 AC-FT 2047000

ARKANSAS RIVER BASIN

07176460 BIRCH LAKE NEAR BARNSDALL, OK

LOCATION.--Lat 36°32'05", long 96°09'45", in NW 1/4 NE 1/4 sec.20, 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 km³).

PERIOD OF RECORD.--March to September 1977.

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

EXTREMES FOR CURRENT YEAR.--Maximum contents during period March to September, 13,460 acre-ft (16.6 hm³) Sept. 24, elevation, 745.07 ft (227.097 m); minimum 286 acre-ft (0.35 hm³) March 18, elevation 711.70 ft (216.926 m).

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

711	258	732	4,200
718	689	739	8,290
725	1,820	746	14,370

CONTENTS, IN ACRE-Feet, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	366	442	6180	6260	5940	8260
2						---	367	444	6180	6280	5930	8260
3						---	368	453	6180	6280	5920	8260
4						---	368	450	6180	6280	5910	8260
5						---	368	454	6160	6280	5900	8260
6						---	368	490	6140	6270	5890	8230
7						---	368	516	6130	6250	5870	8230
8						---	368	523	6120	6240	5860	8230
9						---	366	525	6100	6220	5850	8200
10						---	364	525	6080	6220	5840	8180
11						---	363	523	6070	6200	5820	8640
12						---	363	521	6050	6190	5820	8740
13						---	363	521	6040	6160	5790	8840
14						---	363	516	6020	6150	6360	9940
15						---	363	514	6010	6140	6450	11320
16						---	363	521	5990	6120	6470	13230
17						---	363	526	5980	6120	6470	13400
18						286	363	525	5950	6090	6470	13440
19						288	363	565	5940	6080	6510	13440
20						289	363	1590	5940	6070	6530	13440
21						292	367	2300	5920	6060	6530	13440
22						296	368	2450	5920	6060	6530	13440
23						296	368	2560	5900	6060	6600	13450
24						296	368	2630	5900	6040	6610	13460
25						298	368	2660	5900	6010	6630	13460
26						299	368	2650	5910	5990	6630	13460
27						302	368	2650	5910	5980	6610	13450
28						321	372	3300	5900	5970	8090	13430
29						354	374	5660	5900	5970	8200	13430
30						363	422	6080	5880	5950	8250	13430
31						365	---	6160	---	5940	8260	---
MAX	---	---	---	---	---	---	422	6160	6180	6260	8260	13460
MIN	---	---	---	---	---	---	363	442	5880	5940	5790	8180
†						713.44	714.48	735.77	735.29	735.40	738.96	745.04
‡							+57	+5,738	-280	+60	+2,320	+5,170

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

241

07176500 BIRD CREEK NEAR AVANT, OK

LOCATION.--Lat 36°29'11", long 96°03'45", in NW 1/4 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) above mean sea level.

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.--32 years, 196 ft³/s (5.551 m³/s), 142,000 acre-ft/yr (175 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.--Maximum discharge, 7,710 ft³/s (218 m³/s) at 1530 May 21, gage height, 13.84 ft (4.218 m), no other peak above base of 6,000 ft³/s (170 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	1.9	3.4	4.3	4.1	4.4	12	110	451	133	.30	25
2	3.0	2.2	3.4	4.3	3.8	4.4	8.4	71	234	120	.18	14
3	2.5	2.5	3.4	4.3	3.8	31	6.9	30	150	113	.02	8.9
4	2.3	2.5	3.4	4.3	3.4	15	5.9	18	104	101	.00	7.2
5	12	2.5	3.4	4.3	3.4	8.8	4.9	11	77	51	.00	7.1
6	18	2.5	3.4	4.3	3.4	6.7	4.4	13	61	32	.00	6.8
7	12	2.5	3.4	4.3	3.4	5.9	3.7	35	49	29	.00	5.5
8	10	2.6	3.4	4.3	3.4	5.4	3.7	27	36	29	.00	4.5
9	6.2	2.8	4.3	4.3	3.2	4.7	3.6	17	28	39	.00	4.2
10	3.8	2.8	4.8	4.3	3.2	4.2	3.2	11	21	25	.00	3.5
11	2.6	2.9	4.3	4.3	3.8	4.9	3.0	8.3	15	9.7	.00	74
12	2.0	3.0	4.3	4.3	55	36	2.7	6.4	10	6.6	.00	354
13	1.4	3.0	4.3	5.3	95	24	2.4	5.0	8.6	4.8	.00	196
14	1.2	2.8	4.3	5.3	48	21	2.3	4.5	7.8	3.7	36	499
15	1.1	2.8	4.3	5.3	26	16	2.5	3.7	6.3	3.2	85	1550
16	.96	2.8	4.3	5.3	17	11	2.8	3.3	5.0	2.6	13	1400
17	.84	2.8	4.3	5.3	14	154	3.6	5.1	4.4	1.9	9.0	745
18	.65	2.9	4.8	4.9	11	125	3.7	10	4.0	1.5	6.7	206
19	.54	3.0	5.3	4.3	9.5	33	3.7	17	3.8	1.2	7.2	103
20	.50	3.0	5.3	4.3	7.3	18	4.0	431	3.6	.90	121	66
21	.58	3.0	5.3	4.3	6.6	10	4.6	5700	3.1	.75	118	86
22	.64	3.0	4.8	4.3	6.0	8.0	4.8	718	2.8	.60	45	91
23	.74	3.0	4.8	4.3	4.8	6.3	4.8	489	2.6	.45	73	87
24	.80	3.0	5.9	4.8	4.8	5.8	4.3	681	3.6	.45	22	84
25	.80	3.0	5.9	4.8	4.8	4.3	4.0	212	6.7	.15	9.2	82
26	.80	3.0	5.3	4.8	4.8	4.3	4.0	121	11	.00	6.6	75
27	.80	3.0	4.8	5.3	4.8	13	3.7	86	11	.00	4.9	75
28	.80	3.0	4.8	4.8	4.8	141	4.0	887	20	.00	1180	72
29	1.1	2.8	4.8	4.8	---	55	4.3	3460	35	.02	386	1070
30	1.7	2.8	4.8	4.3	---	37	39	1950	22	.02	112	359
31	1.7	---	4.3	4.3	---	21	---	728	---	.30	50	---
TOTAL	95.05	83.4	137.3	142.4	363.1	883.2	164.9	15869.3	1397.3	710.84	2285.10	7360.7
MEAN	3.07	2.78	4.43	4.59	13.0	28.5	5.50	512	46.6	22.9	73.7	245
MAX	18	3.0	5.9	5.3	95	154	39	5700	451	133	1180	1550
MIN	.50	1.9	3.4	4.3	3.2	4.2	2.3	3.3	2.6	.00	.00	3.5
AC=FT	189	165	272	282	720	1750	327	31480	2770	1410	4530	14600
CAL YR 1976	TOTAL	49144.96	MEAN	134	MAX	6210	MIN	.00	AC=FT	97480		
WTR YR 1977	TOTAL	29492.59	MEAN	80.8	MAX	5700	MIN	.00	AC=FT	58500		

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
12...	1028	9740	1315	350	8.3	19.0	15	10.7	117	19	103
NOV											
09...	1028	9740	1500	350	7.4	13.0	4	7.8	75	18	134
DEC											
14...	1028	9740	1530	465	7.7	5.0	3	10.8	86	14	161
JAN											
05...	1028	9740	0930	500	7.5	4.0	2	12.3	90	24	175
FEB											
09...	1028	9740	1230	600	7.9	7.0	4	10.4	87	24	185
MAR											
10...	1028	9740	0902	570	7.6	11.0	12	9.4	88	21	198
APR											
12...	1028	9740	1501	500	7.7	16.0	13	10.1	104	37	137
MAY											
17...	1028	9740	1500	700	7.9	26.0	7	7.6	95	28	188
JUN											
23...	1028	9740	1415	378	7.6	29.0	8	7.0	91	18	144
JUL											
12...	1028	9740	1800	360	8.6	32.0	12	9.8	136	20	136
AUG											
24...	1028	9740	1215	350	7.4	25.5	250	5.2	64	20	98
SEP											
19...	1028	9740	1415	300	7.7	21.0	75	6.9	78	21	67

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
12...	43	8.6	24	3.7	--	35	.2	229	1.2	<.13	--
NOV											
09...	47	10	21	5.9	--	36	.2	204	.20	.05	1
DEC											
14...	49	10	35	3.5	--	50	.3	269	1.0	<.02	--
JAN											
05...	41	10	43	3.4	11	77	.1	296	.90	<.04	--
FEB											
09...	54	12	40	3.5	39	81	.2	330	1.3	<.03	1
MAR											
10...	55	13	53	3.7	46	103	.2	360	1.2	.18	--
APR											
12...	38	11	44	4.5	20	74	.2	273	1.9	.07	--
MAY											
17...	53	16	65	5.7	34	113	.1	373	1.9	.07	3
JUN											
23...	44	7.2	19	3.3	17	30	.1	245	1.0	.09	--
JUL											
12...	41	6.9	22	3.5	12	31	.1	297	1.9	.08	--
AUG											
24...	28	6.2	20	4.7	19	44	.2	209	1.2	.10	3
SEP											
19...	17	5.6	15	2.9	13	29	.1	181	1.8	.17	--

ARKANSAS RIVER BASIN

07176500 BIRD CREEK AT AVANT, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 12...	--	--	--	200	--	61	--	--	--	--	--
NOV 09...	5	17	4	110	15	30	<.5	5	<2	<1	6
DEC 14...	--	--	--	280	--	--	--	--	--	--	--
JAN 05...	--	--	--	360	--	132	--	--	--	--	--
FEB 09...	<1	16	9	1070	6	310	<.5	4	<1	2	23
MAR 10...	--	--	--	900	--	190	--	--	--	--	--
APR 12...	--	--	--	590	--	160	--	--	--	--	--
MAY 17...	1	9	5	370	3	170	<.5	7	<1	2	7
JUN 23...	--	--	--	390	--	190	--	--	--	--	--
JUL 12...	--	--	--	390	--	100	--	--	--	--	--
AUG 24...	<1	6	3	740	5	90	<.5	5	<1	<2	3
SEP 19...	--	--	--	570	--	130	--	--	--	--	--

ARKANSAS RIVER BASIN

07176800 CANDY CREEK NEAR WOLCO, OK

LOCATION.--Lat 36°32'06", long 96°02'54", in NW 1/4 NW 1/4 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) above mean sea level.

REMARKS.--Records fair. Previously unpublished records for 1970-71 included in this report.

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

AVERAGE DISCHARGE.--8 years, 30.0 ft³/s (0.850 m³/s), 21,740 acre-ft/yr (26.8 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 PERIODS OF THIS REPORT.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum for each year (*):

WATER YEAR	DATE	TIME	DISCHARGE (ft ³ /s) (m ³ /s)		GAGE HEIGHT (ft) (m)	
1970	Apr. 30, 1970	0830	*6,220	176	15.90	4.846
1970	June 2, 1970	1200	5,180	147	14.02	4.273
1971	Sept. 18, 1971	0800	*2,730	77.3	10.21	3.112
1977	May 21, 1977	0530	*5,340	151	13.92	4.243

No flow at times in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.3	.23	1.5	2.2	.37	264	98	108	.15	.00	.00
2	.00	2.2	.23	1.5	1.6	.32	87	35	1320	.09	.00	.00
3	.00	2.2	.19	1.5	1.5	.27	34	19	436	.06	.00	.00
4	.00	1.9	.19	1.3	1.5	.23	25	11	87	.00	.00	.00
5	.00	1.6	.23	1.2	1.3	.23	56	8.0	48	.00	.00	.00
6	.00	1.5	.63	1.1	1.2	.23	30	7.1	22	.00	.00	.00
7	.00	1.2	1.3	1.0	1.2	.27	18	5.6	12	.00	.00	.00
8	.00	1.1	2.2	.63	1.1	.23	12	4.4	7.1	.00	.00	.00
9	.00	1.0	2.9	.27	1.0	.19	8.9	3.6	5.3	.00	.00	.00
10	.00	.80	7.7	.27	1.0	.19	6.7	2.9	4.4	.00	.00	.00
11	.00	.63	19	.32	1.0	.19	6.0	2.2	4.1	.00	.00	.00
12	251	.56	8.4	.32	1.0	.27	5.0	2.0	8.0	.00	.00	.00
13	45	.49	3.9	.32	1.0	.27	3.9	1.9	8.4	.00	.00	.00
14	10	.49	2.5	.32	1.0	.27	3.1	1.9	4.7	.00	.00	.00
15	4.0	.49	1.9	.32	.90	.27	2.7	2.7	3.1	.00	.00	.00
16	2.5	.49	1.5	.32	.90	.56	2.7	6.7	2.3	.00	.00	.00
17	1.7	.49	1.3	.43	.80	.90	3.6	4.4	1.7	.00	.00	.00
18	1.3	.37	1.5	.56	.71	.90	324	2.9	1.3	.00	.00	.00
19	1.1	.32	1.5	.56	.63	35	158	2.0	1.1	.00	.00	.00
20	.90	.32	1.5	.56	.63	153	36	1.7	.90	.00	.00	.00
21	.80	.27	1.5	.49	.56	136	16	1.5	.71	.00	.00	.00
22	.80	.27	1.5	.49	.56	122	9.9	1.1	.63	.00	.00	.18
23	.60	.27	1.5	.49	.56	71	7.1	1.0	.56	.00	.00	26
24	.71	.27	1.3	.56	.56	34	5.6	.90	.49	.00	.00	13
25	.80	.27	1.3	3.6	.49	22	4.7	.71	.43	.00	.00	4.7
26	.90	.27	1.3	7.1	.43	16	4.1	.56	.43	.00	.00	2.2
27	1.0	.27	1.5	6.5	.37	12	3.9	.56	.37	.00	.00	1.5
28	1.1	.27	1.5	5.3	.32	27	3.1	4.5	.32	.00	.00	1.1
29	1.3	.27	1.5	4.4	---	87	2.5	18	.27	.00	.00	.71
30	2.0	.23	1.5	3.1	---	87	1790	8.9	.23	.00	.00	.56
31	2.3	---	1.5	2.7	---	128	---	5.0	---	.00	.00	---
TOTAL	330.01	23.11	74.70	49.03	26.02	936.16	2933.5	265.73	2089.84	.30	.00	49.95
MEAN	10.6	.77	2.41	1.58	.93	30.2	97.8	8.57	69.7	.010	.000	1.67
MAX	251	2.3	19	7.1	2.2	153	1790	98	1320	.15	.00	26
MIN	.00	.23	.19	.27	.32	.19	2.5	.56	.23	.00	.00	.00
AC-FT	655	46	148	97	52	1860	5820	527	4150	.6	.00	99

WTR YR 1970 TOTAL 6778.35 MEAN 18.6 MAX 1790 MIN .00 AC-FT 13440

ARKANSAS RIVER BASIN

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07176800 CANDY CREEK NEAR WOLCO, OK--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	.60	.20	.20	.40	9.1	.20	1.1	.60	.40	.00	.00
2	.40	.70	.20	.20	.40	7.4	.10	.80	.60	.70	.00	.00
3	.30	.80	.20	208	.40	5.7	.10	.80	.80	.60	.00	.00
4	.30	.70	.20	45	45	4.2	.00	.60	.60	.70	.00	25
5	.50	.60	.20	15	36	3.8	.00	.50	.50	2.2	.00	181
6	1.5	.60	.20	6.7	14	3.3	.00	.40	.40	1.8	.00	25
7	8.9	.60	.20	4.1	8.0	2.7	.10	.30	.90	1.0	.00	10
8	630	.60	.20	2.7	4.7	2.5	.10	.20	9.4	.60	.00	4.1
9	75	.50	.20	2.3	2.9	2.3	.10	.20	7.3	.40	.00	2.9
10	22	.40	.20	2.2	2.5	2.2	.10	.30	3.4	.30	.00	2.2
11	8.9	.40	.20	2.0	2.7	2.0	.10	.30	2.1	.20	.00	1.7
12	5.6	.30	.20	1.9	2.9	1.6	.10	.20	14	.10	.00	1.1
13	4.7	.30	.20	1.7	2.9	1.5	.10	.20	76	.10	.00	.80
14	4.1	.30	.20	1.6	2.5	1.4	.10	.20	16	.00	.00	.40
15	4.4	.30	.30	1.5	2.3	1.0	.10	.20	9.4	.00	.00	.10
16	4.7	.30	.30	1.3	2.0	.80	.10	.20	4.5	.00	.00	.10
17	4.7	.30	.30	1.3	1.7	.70	.10	.20	2.4	.00	.00	.30
18	4.7	.30	.30	1.3	1.8	.60	.10	.20	1.7	.00	.00	603
19	3.9	.30	.30	1.2	3.4	.40	.10	.30	1.2	.00	.00	47
20	3.6	.30	.30	1.1	4.6	.40	.30	.20	.80	.00	.00	14
21	3.3	.30	.30	1.1	13	.40	.20	.10	.50	.00	.00	5.9
22	3.1	.20	.30	1.0	56	.30	.20	4.7	.30	.00	.00	3.1
23	2.9	.20	.30	.80	43	.30	.20	8.5	4.9	.00	.00	2.0
24	2.7	.20	.30	.70	67	.30	.30	6.3	7.9	.00	.00	32
25	2.7	.20	.20	.70	98	.20	.50	3.3	2.7	.00	.00	177
26	2.7	.20	.20	.70	46	.20	.40	2.1	1.4	.00	.00	40
27	2.2	.20	.20	.70	21	.20	27	1.6	.80	.00	.00	14
28	1.9	.20	.20	.50	12	.30	6.0	1.3	.40	.00	.00	6.7
29	1.5	.20	.20	.50	---	.20	2.5	1.1	.30	.00	.00	4.4
30	1.0	.20	.20	.60	---	.20	1.7	.90	.20	.00	.00	2.8
31	.60	---	.20	.40	---	.20	---	.70	---	.00	.00	---
TOTAL	813.30	11.30	7.20	309.00	497.10	56.40	41.00	38.00	172.00	9.10	.00	1206.60
MEAN	26.2	.38	.23	9.97	17.8	1.82	1.37	1.23	5.73	.29	.000	40.2
MAX	630	.80	.30	208	98	9.1	27	8.5	76	2.2	.00	603
MIN	.30	.20	.20	.20	.40	.20	.00	.10	.20	.00	.00	.00
AC-FT	1610	22	14	613	986	112	81	75	341	18	.00	2390
CAL YR 1970	TOTAL	7182.33	MEAN	19.7	MAX	1790	MIN	.00	AC-FT	14250		
WTR YR 1971	TOTAL	3161.00	MEAN	8.66	MAX	630	MIN	.00	AC-FT	6270		

ARKANSAS RIVER BASIN

07176800 CANDY CREEK NEAR WOLCO, OK--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.11	.11	.07	.77	3.9	8.5	14	9.0	.00	4.0
2	.00	.00	.11	.11	.06	1.2	2.6	15	6.1	2.4	.00	2.4
3	.00	.00	.11	.11	.06	8.7	1.4	6.4	3.6	.80	.00	1.3
4	.00	.00	.11	.11	.06	3.5	.82	3.9	2.1	.55	.00	.77
5	.52	.00	.11	.11	.06	1.4	.44	2.5	1.3	.44	.00	.55
6	1.1	.00	.11	.11	.06	1.1	.44	2.3	.93	.44	.00	.50
7	1.1	.00	.11	.11	.06	.78	.39	2.5	.55	.22	.00	.45
8	1.0	.00	.11	.11	.06	.49	.33	2.0	.55	.22	.00	.44
9	.66	.00	.11	.11	.06	.36	.31	15	.44	.11	.00	.44
10	.46	.00	.00	.11	.06	.33	.22	4.2	.33	.11	.00	.44
11	.25	.00	.00	.11	.31	8.7	.22	2.3	.33	.00	.00	1.5
12	.15	.00	.00	.11	4.7	3.5	.22	1.0	.22	.00	.00	26
13	.00	.00	.05	.11	8.6	2.8	.18	.58	.22	.00	.00	14
14	.00	.00	.11	.11	8.6	2.2	.11	.44	.11	.00	.00	165
15	.00	.00	.11	.11	5.3	1.2	.11	.35	.11	.00	.00	271
16	.00	.00	.16	.11	3.7	.69	.11	.29	.00	.00	.00	271
17	.00	.00	.11	.11	3.0	.62	.11	7.0	.00	.00	.00	53
18	.00	.10	.11	.11	2.3	.94	.11	16	.00	.00	.00	23
19	.00	.27	.11	.11	1.8	2.8	.11	5.2	.00	.00	.00	15
20	.00	.33	.11	.08	1.6	.44	.11	282	.00	.00	6.9	8.8
21	.00	.33	.11	.08	1.2	.38	.11	1140	.00	.00	6.6	5.2
22	.00	.33	.11	.08	1.1	.33	.11	42	.00	.00	2.6	4.2
23	.00	.22	.11	.08	1.1	.33	.11	270	.00	.00	1.5	3.2
24	.00	.22	.11	.08	.97	.33	.11	51	.00	.00	.85	3.0
25	.00	.22	.11	.08	.81	.24	.11	19	.09	.00	.50	1.7
26	.00	.22	.11	.07	.77	.30	.11	11	.11	.00	.43	1.5
27	.00	.22	.11	.07	.77	.26	.11	3.7	2.1	.00	.30	1.1
28	.00	.22	.11	.07	.77	25	.11	1.8	5.2	.00	314	1.1
29	.00	.22	.11	.07	---	26	.11	19	2.3	.00	68	271
30	.00	.22	.11	.07	---	11	.14	40	.87	.00	19	40
31	.00	---	.11	.07	---	6.1	---	37	---	.00	8.7	---
TOTAL	5.24	3.12	3.07	2.99	48.01	112.79	13.37	2011.96	41.56	14.29	429.38	1191.59
MEAN	.17	.10	.099	.096	1.71	3.64	.45	64.9	1.39	.46	13.9	39.7
MAX	1.1	.33	.16	.11	8.6	26	3.9	1140	14	9.0	314	271
MIN	.00	.00	.00	.07	.06	.24	.11	.29	.00	.00	.00	.44
AC-FT	10	6.2	6.1	5.9	95	224	27	3990	82	28	852	2360
CAL YR 1976	TOTAL	3830.40	MEAN	10.5	MAX	.484	MIN	.00	AC-FT	7600		
WTR YR 1977	TOTAL	3877.37	MEAN	10.6	MAX	1140	MIN	.00	AC-FT	7690		

ARKANSAS RIVER BASIN

247

07177000 HOMINY CREEK NEAR SKIATOOK, OK

LOCATION.--Lat 36°20'55", long 96°06'35", in SW 1/4 SE 1/4 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) above mean sea level. 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 fair.

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

AVERAGE DISCHARGE.--33 years, 186 ft³/s (5.268 m³/s), 134,800 acre-ft/yr (166 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.--Maximum discharge, 6,850 ft³/s (194 m³/s) at 0400 May 22, gage height, 28.16 ft (8.583 m), no other peaks above base of 5,000 ft³/s (142 m³/s); minimum daily, 0.23 ft³/s (0.007 m³/s) Oct. 22,24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	6.2	1.5	3.4	5.0	14	24	967	312	1150	5.0	55
2	4.1	5.0	1.7	3.4	4.5	15	18	762	131	380	4.7	30
3	3.3	3.6	2.1	3.4	4.5	20	15	110	82	82	4.3	22
4	8.9	1.8	2.2	3.5	4.4	23	13	52	56	44	4.1	18
5	66	1.3	2.2	3.5	4.4	20	12	32	46	29	4.1	18
6	112	1.3	2.8	3.5	4.3	15	11	67	42	20	3.6	20
7	33	1.3	3.0	3.6	4.0	13	9.0	128	39	16	3.0	15
8	21	1.3	3.3	3.7	4.1	11	7.9	50	37	6.0	2.0	11
9	14	1.3	3.4	3.7	4.1	9.7	6.8	29	33	4.0	.80	9.5
10	8.3	1.3	3.3	3.7	4.2	9.1	6.0	21	29	6.0	.60	8.0
11	5.1	1.3	3.2	3.7	4.8	41	5.3	16	26	15	.55	471
12	2.9	1.2	3.3	3.7	69	95	4.6	13	22	15	.50	418
13	1.8	1.3	3.3	3.9	116	34	4.2	10	20	10	10	151
14	1.5	1.5	3.4	4.1	62	21	4.0	8.9	18	9.0	106	299
15	1.0	1.6	3.4	4.1	36	16	3.9	7.9	16	8.5	395	1340
16	.78	1.9	3.3	4.1	25	13	4.0	7.1	14	5.2	52	1080
17	.55	2.2	3.4	4.1	20	13	4.3	8.2	11	4.0	23	1280
18	.46	2.6	3.5	4.2	17	604	4.7	8.4	8.7	3.2	15	177
19	.40	2.7	3.5	4.2	15	109	5.5	12	8.0	2.7	12	74
20	.34	3.2	3.4	4.3	13	42	7.0	297	7.7	2.3	10	43
21	.34	3.6	3.3	4.3	12	25	9.0	4660	7.3	2.0	8.7	30
22	.23	3.8	3.5	4.3	11	17	9.9	4950	6.8	2.0	8.0	25
23	.28	3.3	4.1	4.4	11	15	11	579	6.5	2.0	350	20
24	.23	2.4	4.2	4.7	12	13	11	1580	7.5	80	151	18
25	.28	1.9	4.1	4.7	12	12	9.9	244	7.3	25	57	16
26	.28	1.9	3.9	4.8	12	11	8.4	107	51	15	28	14
27	.40	1.5	3.8	5.0	12	14	7.2	68	58	13	18	13
28	.34	1.6	3.7	5.1	13	270	6.4	79	29	7.2	1830	12
29	.73	1.5	3.6	5.1	---	260	5.6	1900	84	6.0	3640	11
30	2.0	1.4	3.4	5.1	---	73	49	2600	44	5.7	203	10
31	5.1	---	3.4	5.1	---	37	---	709	---	5.5	73	---
TOTAL	300.94	66.8	100.2	128.4	516.3	1884.8	297.6	20082.5	1259.8	1975.3	7022.95	5708.5
MEAN	9.71	2.23	3.23	4.14	18.4	60.8	9.92	648	42.0	63.7	227	190
MAX	112	6.2	4.2	5.1	116	604	49	4950	312	1150	3640	1340
MIN	.23	1.2	1.5	3.4	4.0	9.1	3.9	7.1	6.5	2.0	.50	8.0
AC-FT	597	132	199	255	1020	3740	590	39830	2500	3920	13930	11320
CAL YR 1976	TOTAL	31811.30	MEAN	86.9	MAX	2520	MIN	.06	AC-FT	63100		
WTR YR 1977	TOTAL	39344.09	MEAN	108	MAX	4950	MIN	.23	AC-FT	78040		

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK

LOCATION.--Lat 36°16'42", long 95°57'14", in NW 1/4 NW 1/4 sec.29, T.21 N., R.13 E., Tulsa County, Hydrologic 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).

DRAINAGE AREA.--905 mi² (2,344 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 1921: 1943.

GAGE.--Water-stage recorder. Datum of gage is 579.43 ft (176.610 m) above mean sea level.

REMARKS.--Records good.

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

AVERAGE DISCHARGE.--39 years, 493 ft³/s (13.96 m³/s), 357,200 acre-ft/yr (440 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,000 ft³/s (2,550 m³/s) Oct. 3, 1959, gage height, 32.60 ft (9.936 m), from rating curve extended above 49,000 ft³/s (1,390 m³/s); no flow at times in 1939, 1954-57, 1964-66, 1970.

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, 10,500 ft³/s (297 m³/s) at 1230 May 22, gage height, 23.42 ft (7.138 m), no peak above base of 11,000 ft³/s (312 m³/s), minimum, 0.75 ft³/s (0.021 m³/s) Aug 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	5.8	7.8	9.9	13	9.3	92	3390	1280	654	5.8	139
2	5.9	7.6	7.8	9.9	13	10	66	3270	648	1270	5.3	80
3	4.2	11	7.2	9.9	13	12	52	566	378	332	4.9	62
4	6.1	12	5.8	11	12	33	40	213	255	187	4.4	44
5	33	11	5.9	9.9	11	54	34	129	183	127	4.3	37
6	175	10	9.5	9.9	11	42	29	101	140	71	3.3	32
7	128	8.0	10	9.9	9.0	31	26	228	114	48	2.8	32
8	62	7.2	8.6	9.9	8.9	23	23	175	92	38	2.3	28
9	46	7.2	8.6	9.9	9.6	19	21	99	76	33	1.9	22
10	36	8.0	8.6	10	10	17	18	65	63	46	1.4	18
11	26	7.8	8.6	10	12	69	16	53	54	39	1.1	103
12	20	7.8	8.9	10	39	209	14	39	47	25	.76	1250
13	17	7.8	9.3	10	273	145	13	31	41	18	1.7	630
14	13	7.6	9.3	10	245	78	14	25	36	14	12	596
15	10	7.8	8.8	10	141	56	13	21	32	11	857	2810
16	7.4	7.8	8.4	10	82	43	13	19	29	9.4	216	3290
17	6.4	7.8	8.9	10	54	52	13	21	26	8.1	77	3250
18	5.0	7.8	8.6	10	41	785	14	18	27	6.7	42	1300
19	4.5	8.2	8.7	11	32	522	15	25	23	5.3	31	363
20	4.0	7.9	8.6	11	26	144	17	435	22	5.0	28	193
21	3.1	9.3	8.6	11	22	75	20	5310	20	4.6	129	130
22	3.0	9.3	8.6	11	19	50	24	9900	18	4.0	105	247
23	2.9	9.3	8.6	11	16	37	26	4360	17	4.0	316	165
24	2.6	9.6	8.6	11	13	30	28	2500	22	89	534	120
25	2.1	10	9.6	13	11	26	29	1210	31	34	160	106
26	1.8	10	11	15	8.6	24	29	433	30	17	78	91
27	2.0	8.8	12	16	8.6	58	25	263	74	15	39	84
28	1.8	8.6	11	14	8.7	340	24	203	90	9.2	613	77
29	3.1	8.3	11	14	---	771	27	2900	207	6.7	5540	206
30	5.8	7.8	9.2	14	---	297	33	5970	155	6.4	2260	1060
31	5.8	---	8.6	13	---	151	---	2930	---	6.7	272	---
TOTAL	654.5	257.3	274.7	345.2	1162.4	4212.3	808	44922	4230	3144.1	11348.96	16565
MEAN	21.1	8.58	8.86	11.1	41.5	136	26.9	1449	141	101	366	552
MAX	175	12	12	16	273	785	92	9900	1280	1270	5540	3290
MIN	1.8	5.8	5.8	9.9	8.6	9.3	13	18	17	4.0	.76	18
AC-FT	1300	510	545	685	2310	8360	1600	89100	8390	6240	22510	32860
CAL YR 1976	TOTAL	86516.20	MEAN 236	MAX 7810	MIN 1.0	AC-FT 171600						
WTR YR 1977	TOTAL	87924.46	MEAN 241	MAX 9900	MIN .76	AC-FT 174400						

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1953, 1960-62, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE.--October 1951 to September 1953, October 1964 to September 1976.

WATER TEMPERATURE.--October 1951 to September 1953, October 1964 to September 1976.

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

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FISH AGENCY COL- LECTING SAMPLE	CODE FISH AGENCY ANAL- YZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT 12...	1028	9740	1130	20	620	7.7	16.0	38	8.0	82	22	178
NOV 09...	1028	9740	1600	7.3	850	7.6	12.0	5	9.6	91	29	246
DEC 14...	1028	9740	1630	9.9	964	8.1	4.5	4	12.1	95	24	116
JAN 05...	1028	9740	0800	9.9	950	7.6	.0	4	15.6	104	20	270
FEB 09...	1028	9740	1330	9.9	1320	7.7	6.0	8	13.7	110	28	273
MAR 09...	1028	9740	1720	19	780	8.3	13.0	10	14.6	142	33	265
APR 12...	1028	9740	1335	14	720	8.5	19.0	15	11.4	124	37	195
MAY 17...	1028	9740	1343	22	630	7.9	24.5	28	7.4	90	34	174
JUN 23...	1028	9740	1530	17	660	7.5	28.0	7	6.7	86	20	191
JUL 13...	1028	9740	1015	19	480	7.6	28.5	23	6.3	82	19	150
AUG 24...	1028	9740	1300	501	320	7.0	26.0	180	5.8	72	37	71
SEP 19...	1028	9740	1300	341	270	8.0	21.0	125	7.4	63	32	59

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL POT- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (S(4)) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 12...	49	13	63	4.0	--	113	.2	397	1.5	.13	--
NOV 09...	37	10	134	6.6	--	281	.2	713	1.0	.06	<1
DEC 14...	40	1.1	107	5.0	--	177	.3	533	1.1	.05	--
JAN 05...	73	19	92	5.2	14	190	.2	610	1.0	.10	--
FEB 09...	76	20	110	4.2	33	215	.2	617	1.1	.23	<1
MAR 09...	66	17	89	4.2	38	--	.2	494	1.3	.19	--
APR 12...	53	15	73	3.8	25	142	.2	390	1.8	.10	--
MAY 17...	40	10	53	4.9	26	105	.2	373	1.9	.15	3
JUN 23...	55	11	53	4.1	18	106	.1	416	1.4	.08	--
JUL 13...	44	8.8	40	3.5	26	74	.2	270	1.9	.10	--
AUG 24...	21	5.9	20	9.1	12	61	.2	214	2.4	.27	2
SEP 19...	13	6.0	14	2.6	9.0	52	.1	162	2.0	.18	--

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 12...	--	--	--	800	--	189	--	--	--	--	--
NOV 09...	1	22	6	300	21	640	<.5	8	<2	<7	9
DEC 14...	--	--	--	470	--	312	--	--	--	--	--
JAN 05...	--	--	--	440	--	277	--	--	--	--	--
FEB 09...	<1	29	15	860	28	30	<.5	<1	<1	<1	8
MAR 09...	--	--	--	850	--	780	--	--	--	--	--
APR 12...	--	--	--	590	--	420	--	--	--	--	--
MAY 17...	1	9	6	1270	3	370	<.5	9	<1	2	9
JUN 23...	--	--	--	320	--	180	--	--	--	--	--
JUL 13...	--	--	--	590	--	140	--	--	--	--	--
AUG 24...	3	25	16	2400	<5	440	<.5	24	<1	2	43
SEP 19...	--	--	--	800	--	180	--	--	--	--	--

ARKANSAS RIVER BASIN

251

07178050 BIRD CREEK NEAR CATOOSA, OK

LOCATION.--Lat 36°13'51", long 95°49'55", 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)
OCT											
12...	--	--	1255	660	7.0	18.0	--	--	--	--	160
21...	1028	9740	1100	640	7.4	15.0	9	8.0	78	51	--
NOV											
18...	1028	9740	1000	600	7.5	8.0	13	6.0	52	46	--
29...	--	--	0715	630	7.3	--	--	--	--	--	160
DEC											
08...	1028	9740	0920	500	8.0	5.0	0	5.9	47	35	--
15...	--	--	0830	559	7.5	6.0	--	--	--	--	150
JAN											
04...	--	--	1730	975	7.5	1.5	--	14.1	100	--	310
FEB											
16...	1028	9740	0940	825	8.6	5.0	2	--	--	33	--
MAR											
16...	1028	9740	0900	750	7.6	13.0	15	9.7	97	37	--
APR											
13...	--	--	1420	570	7.4	19.0	--	4.8	53	--	160
13...	1028	9740	1421	570	7.4	19.0	17	4.8	53	63	--
MAY											
18...	--	--	1340	500	7.3	23.0	--	4.2	49	--	130
18...	1028	9740	1341	500	7.3	23.0	32	4.2	49	52	--
JUN											
22...	--	--	1800	580	7.6	29.0	--	7.7	101	--	140
22...	1028	9740	1801	580	7.6	29.0	14	7.7	101	62	--
JUL											
13...	--	--	1445	520	7.6	29.0	--	4.6	60	--	140
13...	1028	9740	1446	520	7.6	29.0	26	4.6	60	53	--
AUG											
24...	1028	9740	0730	380	7.0	25.5	200	5.2	64	40	--
24...	--	--	0745	380	7.0	25.5	--	5.2	64	--	110
SEP											
20...	--	--	1525	390	7.8	21.5	--	7.5	86	--	110
20...	1028	9740	1530	390	7.8	21.5	62	7.5	86	34	--

ARKANSAS RIVER BASIN

07178050 BIRD CREEK NEAR CATOOSA, OK--Continued

DATE	NON-CAR-BONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO ₃) (MG/L)	CARBONATE (CO ₃) (MG/L)	ALKALINITY AS CaCO ₃ (MG/L)	CARBON DIOXIDE (CO ₂) (MG/L)
OCT											
12...	63	48	9.6	63	45	2.2	7.1	118	0	97	19
21...	--	--	--	--	--	--	--	--	--	--	--
NOV											
18...	--	--	--	--	--	--	--	--	--	--	--
29...	40	49	8.2	54	42	1.9	7.0	141	0	116	11
DEC											
08...	--	--	--	--	--	--	--	--	--	--	--
15...	19	47	8.1	48	40	1.7	7.0	160	0	131	8.1
JAN											
04...	110	86	23	96	40	2.4	4.3	243	0	199	12
FEB											
16...	--	--	--	--	--	--	--	--	--	--	--
MAR											
16...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	70	50	9.5	46	37	1.6	6.9	110	0	90	7.0
13...	--	--	--	--	--	--	--	--	0	--	--
MAY											
18...	39	41	6.4	35	36	1.3	6.1	110	0	90	8.8
18...	--	--	--	--	--	--	--	--	--	--	--
JUN											
22...	42	45	6.8	45	40	1.7	6.7	120	0	98	4.8
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
13...	57	43	7.7	45	40	1.7	6.3	100	0	82	4.0
13...	--	--	--	--	--	--	--	--	--	--	--
AUG											
24...	--	--	--	--	--	--	--	--	--	--	--
24...	31	33	6.0	32	38	1.3	4.1	93	0	76	15
SEP											
20...	41	36	5.8	24	30	1.0	4.2	89	0	73	2.3
20...	--	--	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED SULFATE (SO ₄) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	TOTAL FLUORIDE (F) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	TOTAL FILTRABLE RESIDUE (MG/L)	DIS-SOLVED SOLIDS (TUNS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CADMIUM (CD) (UG/L)
OCT											
12...	36	98	--	357	--	.49	5.0	--	3.8	--	--
21...	--	--	.3	--	--	--	--	9.7	1.8	--	--
NOV											
18...	--	--	.7	--	--	--	--	9.1	3.5	<1	4
29...	42	74	--	337	--	.46	.94	--	4.9	--	--
DEC											
08...	--	--	.7	--	--	--	--	8.4	2.9	--	--
15...	41	61	--	315	--	.43	.69	--	3.8	--	--
JAN											
04...	22	210	--	592	--	.81	.04	--	.05	--	--
FEB											
16...	--	--	.3	--	--	--	--	4.9	1.2	2	3
MAR											
16...	--	--	--	--	503	--	--	5.9	1.8	--	--
APR											
13...	50	52	--	315	--	.43	.75	--	3.0	--	--
13...	--	--	.6	--	--	--	--	8.6	4.2	--	--
MAY											
18...	39	45	--	264	--	.36	.91	--	2.6	--	--
18...	--	--	.5	--	--	--	--	5.0	--	8	2
JUN											
22...	36	52	--	309	--	.42	--	--	3.4	--	--
22...	--	--	.4	--	--	--	--	10	4.1	--	--
JUL											
13...	40	65	--	293	--	.40	--	--	4.4	--	--
13...	--	--	.3	--	--	--	--	1.9	3.0	--	--
AUG											
24...	--	--	.2	--	--	--	--	2.8	.70	15	2
24...	22	55	--	210	--	.29	--	--	.82	--	--
SEP											
20...	29	38	--	212	--	.29	--	--	.94	--	--
20...	--	--	.2	--	--	--	--	3.6	.89	--	--

ARKANSAS RIVER BASIN

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07178050 BIRD CREEK NEAR CATOOSA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CHROMIUM (CP) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT										
12...	--	--	--	--	--	--	--	--	--	--
21...	--	--	600	--	448	--	--	--	--	--
NOV										
18...	21	20	450	5	159	<.5	21	<1	3	34
29...	--	--	--	--	--	--	--	--	--	--
DEC										
08...	--	--	1100	--	251	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
JAN										
04...	--	--	--	--	--	--	--	--	--	--
FEB										
16...	16	13	700	10	370	<.5	17	--	3	22
MAR										
16...	--	--	970	--	410	--	--	--	--	--
APR										
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	900	--	360	--	--	--	--	--
MAY										
18...	--	--	--	--	--	--	--	--	--	--
18...	13	16	990	19	320	<.5	21	<1	3	31
JUN										
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	500	--	160	--	--	--	--	--
JUL										
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	750	--	260	--	--	--	--	--
AUG										
24...	24	28	2320	25	390	<.5	25	<1	2	61
24...	--	--	--	--	--	--	--	--	--	--
SEP										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	9700	--	250	--	--	--	--	--

ARKANSAS RIVER BASIN

07178620 VERDIGRIS RIVER NEAR INOLA, OK
(National stream-quality accounting network station)
(Formerly published as Newt Graham Lock and Dam near Inola)

LOCATION.--Lat 36°09'43", long 95°37'07", in NW 1/4 NW 1/4 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MH/MS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
OCT										
27...	--	--	1100	474	8.0	11.5	15	9.4	84	--
27...	1028	9740	1101	474	8.0	11.5	--	9.4	84	--
NOV										
10...	--	--	0938	580	8.3	11.5	9	12.0	111	--
10...	1028	9740	0939	580	8.3	11.5	--	12.0	111	16
DEC										
15...	--	--	1100	520	8.8	4.0	8	16.0	120	--
15...	1028	9740	1200	520	8.8	4.0	--	16.0	120	5
JAN										
26...	1028	9740	0730	610	7.7	2.0	--	14.5	107	28
26...	--	--	0800	610	7.7	.5	7	15.2	108	--
FEB										
09...	--	--	1000	590	8.0	5.0	7	14.0	108	--
09...	1028	9740	1330	590	8.0	5.5	--	13.9	108	43
MAR										
09...	--	--	0900	640	8.2	9.5	10	10.8	93	--
09...	1028	9740	0901	640	8.2	9.5	--	10.8	93	28
APR										
06...	--	--	1120	520	7.7	16.0	15	7.8	80	--
06...	1028	9740	1121	520	7.7	16.0	--	7.8	80	25
MAY										
04...	--	--	0830	205	6.7	19.0	100	9.8	108	--
04...	1028	9740	0831	205	6.7	19.0	--	9.8	108	26
JUN										
08...	--	--	0805	320	7.6	24.0	35	8.8	105	--
08...	1028	9740	1001	320	7.6	24.0	--	8.8	105	19
JUL										
13...	--	--	0800	240	7.3	23.5	50	8.4	98	--
13...	1028	9740	0915	240	7.3	23.5	--	8.4	98	14
AUG										
10...	--	--	0845	284	7.8	31.0	55	7.2	97	--
10...	1028	9740	1200	305	7.8	31.0	--	7.2	97	17
SEP										
15...	--	--	1045	280	8.1	22.0	140	7.0	80	--
15...	1028	9740	1430	280	8.1	22.0	--	7.0	80	22

[illegible][illegible]

ARKANSAS RIVER BASIN

07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)
OCT									
27...	202	.36	2.5	--	.95	3.5	15	.52	--
27...	--	--	--	--	95	--	--	--	--
NOV									
10...	202	.40	2.1	--	.86	3.0	13	.44	--
10...	--	--	--	--	1.8	--	--	--	--
DEC									
15...	318	.46	1.4	--	.51	1.9	8.5	.33	--
15...	--	--	--	--	1.3	--	--	--	--
JAN									
26...	--	--	--	--	6.7	--	--	--	--
26...	325	.48	.60	--	4.0	4.8	21	2.0	--
FEB									
09...	317	.49	.55	--	5.3	5.8	26	1.9	--
09...	--	--	--	--	6.7	--	--	--	--
MAR									
09...	361	.52	.66	--	2.8	3.5	15	.66	--
09...	--	--	--	--	3.2	--	--	--	--
APR									
06...	267	.41	.31	--	2.1	2.4	11	.30	--
06...	--	--	--	--	3.3	--	--	--	--
MAY									
04...	122	.18	.41	--	1.1	1.5	6.7	.25	--
04...	--	--	--	--	2.1	--	--	--	--
JUN									
08...	176	.25	.21	--	.43	.64	2.8	.11	--
08...	--	--	--	--	1.2	--	--	--	--
JUL									
13...	143	.34	.41	--	.35	.76	3.4	.14	--
13...	--	--	--	--	1.5	--	--	--	--
AUG									
10...	158	.23	.84	--	1.1	1.9	8.6	.23	--
10...	--	--	--	--	18	--	--	--	--
SEP									
15...	164	.23	.68	.08	--	--	--	.28	.08
15...	--	--	--	--	.64	--	--	--	--

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDEO ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDEO CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDEO CHRO- MIUM (CR) (UG/L)
OCT											
27...	--	--	1100	--	--	--	--	--	--	--	--
27...	1028	9740	1101	--	--	--	--	--	--	--	--
NOV											
10...	--	--	0938	3	0	3	<10	<9	1	0	0
10...	1028	9740	0939	--	--	--	--	--	--	--	--
DEC											
15...	--	--	1100	--	--	--	--	--	--	--	--
15...	1028	9740	1200	--	--	--	--	--	--	--	--
JAN											
26...	1028	9740	0730	--	--	--	--	--	--	--	--
26...	--	--	0800	--	--	--	--	--	--	--	--
FEB											
09...	--	--	1000	0	0	0	<10	<9	1	0	0
09...	1028	9740	1330	--	--	--	--	--	--	--	--
MAR											
09...	--	--	0900	--	--	--	--	--	--	--	--
09...	1028	9740	0901	--	--	--	--	--	--	--	--
APR											
06...	--	--	1120	--	--	--	--	--	--	--	--
06...	1028	9740	1121	--	--	--	--	--	--	--	--
MAY											
04...	--	--	0830	--	--	2	10	9	1	10	--
04...	1028	9740	0831	--	--	--	--	--	--	--	--
JUN											
08...	--	--	0805	--	--	--	--	--	--	--	--
08...	1028	9740	1001	--	--	--	--	--	--	--	--
JUL											
13...	--	--	0800	--	--	--	--	--	--	--	--
13...	1028	9740	0915	--	--	--	--	--	--	--	--
AUG											
10...	--	--	0845	2	1	1	<10	<8	2	0	0
10...	1028	9740	1200	--	--	--	--	--	--	--	--
SEP											
15...	--	--	1045	--	--	--	--	--	--	--	--
15...	1028	9740	1430	--	--	--	--	--	--	--	--

07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued
 WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CU) (UG/L)	SUS- PENDED COBALT (CU) (UG/L)	DIS- SOLVED COBALT (CU) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDED COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)
UCT										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	200	--	--
NOV										
10...	0	<50	<50	0	10	6	4	720	20	<100
10...	--	--	--	--	--	--	--	--	--	--
DEC										
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	<100	--	--
JAN										
26...	--	--	--	--	--	--	--	110	--	--
26...	--	--	--	--	--	--	--	--	--	--
FEB										
09...	0	<50	<50	0	<10	<6	4	420	110	<100
09...	--	--	--	--	--	--	--	--	--	--
MAR										
04...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	750	--	--
APR										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	580	--	--
MAY										
04...	0	<50	<50	0	<10	<6	4	3900	410	100
04...	--	--	--	--	--	--	--	--	--	--
JUN										
08...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	670	--	--
JUL										
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	1030	--	--
AUG										
10...	0	<50	<50	0	60	55	5	2900	20	100
10...	--	--	--	--	--	--	--	--	--	--
SEP										
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	7800	--	--

DATE	SUS- PENDED LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	SUS- PENDED MANGANESE (MN) (UG/L)	DIS- SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDED MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)
UCT										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	84	--	--	--	--	--	--	--
NOV										
10...	<100	0	60	50	10	.0	.0	.0	--	1
10...	--	--	--	--	--	--	--	--	3	--
DEC										
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	35	--	--	--	--	--	--	--
JAN										
26...	--	--	125	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
FEB										
09...	<100	0	190	180	10	.2	.2	.0	--	0
09...	--	--	--	--	--	--	--	--	20	--
MAR										
04...	--	--	--	--	--	--	--	--	--	--
09...	--	--	200	--	--	--	--	--	--	--
APR										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	200	--	--	--	--	--	--	--
MAY										
04...	96	4	200	140	60	--	--	.3	--	0
04...	--	--	--	--	--	--	--	--	18	--
JUN										
08...	--	--	--	--	--	--	--	--	--	--
08...	--	--	110	--	--	--	--	--	--	--
JUL										
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	190	--	--	--	--	--	--	--
AUG										
10...	94	6	100	100	0	.2	.2	.0	--	0
10...	--	--	--	--	--	--	--	--	19	--
SEP										
15...	--	--	--	--	--	--	--	--	--	--
15...	--	--	190	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible][illegible]

	DUT IN BOTTOM MA- TERIAL	TOTAL DI- AZINON (UG/L)	HUTTON MA- TERIAL	TOTAL DI- ELDRIN (UG/L)	BOTTOM MA- TERIAL	TOTAL ENDRIN (UG/L)	BOTTOM MA- TERIAL	ETHION IN BOTTOM MA- TERIAL	TOTAL HEPTA- CHLOR (UG/L)	BOTTOM MA- TERIAL	TOTAL HEPTA- CHLOR (UG/L)
NOV 10....	ND	ND	ND	ND	.3	ND	ND	ND	ND	ND	ND

[illegible][illegible]

ARKANSAS RIVER BASIN

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07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO DECEMBER 1976

DATE	OCT 27,76	NOV 10,76	DEC 15,76
TIME	1100	0938	1100
TOTAL CELLS/ML	2900	4800	7700
DIVERSITY: DIVISION	0.8	0.5	1.3
..CLASS	0.8	0.5	1.3
...ORDER	1.3	0.8	1.8
...FAMILY	1.5	1.0	2.2
....GENUS	2.3	1.8	2.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	61	2	160	3	62	1
....DICTYOSPHAERIUM	--	--	--	--	250	3
....KIRCHNERIELLA	--	--	--	--	1500#	20
....OOCYSTIS	--	--	--	--	250	3
....SELENASTRUM	--	--	54	1	--	--
...SCENEDESMACEAE						
....CRUCIGENIA	--	--	330	7	750	10
....SCENEDESMUS	250	9	--	--	--	--
....TETRASTRUM	120	4	--	--	--	--
..VULVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	--	--	--	560	7
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCAEAE						
....CYCLOTELLA	920#	32	2100#	43	3100#	41
....MELOSIRA	1000#	35	1900#	40	190	2
...PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	31	1	--	--	--	--
...DIATOMACEAE						
....DIATOMA	--	--	--	--	120	2
...NITZSCHIACEAE						
....NITZSCHIA	400	14	220	5	370	5
...SURIRELLACEAE						
....SURIRELLA	--	--	54	1	--	--
EUGLENOPHYTA (EUGLENOIDS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	61	2	--	--	--	--
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....TRACHELUMONAS	--	--	--	--	500	7

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

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

ARKANSAS RIVER BASIN

07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JAN 26,77 0800	FEB 9,77 1000	MAR 9,77 0900	MAY 4,77 0830	JUN 8,77 0805
TOTAL CELLS/ML	36000	60000	8000	1000	2100
DIVERSITY: DIVISION	1.3	1.5	0.9	0.9	2.0
..CLASS	1.4	1.6	1.0	0.9	2.0
..ORDER	1.5	1.6	1.1	1.3	2.1
...FAMILY	2.2	2.3	1.3	2.2	2.5
....GENUS	3.0	2.8	1.3	2.7	2.6

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	--	-	--	-	--	-	--	-	38	2
....SCHROEDERIA	--	-	--	-	--	-	--	-	--	-
...CHLOROCOCCACEAE	--	-	--	-	--	-	--	-	--	-
....CHLOROCOCCUM	--	-	--	-	--	-	--	-	--	-
...COELASTRACEAE	--	-	--	-	--	-	--	-	300	15
....COELASTRUM	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE	--	-	--	-	--	-	--	-	--	-
....PEDIASTRUM	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	7600#	21	13000#	21	1200#	15	57	6	--	-
...DCCYSTACEAE	--	-	--	-	--	-	--	-	--	-
....ANKISTRUESMUS	2700	7	5600	9	--	-	85	8	19	1
....CHODATELLA	820	2	1800	3	--	-	28	3	--	-
...CLOSTERIOPSIS	--	-	--	-	--	-	--	-	75	4
...DICTYOSPHAERIUM	200	1	7200	12	--	-	--	-	--	-
....KIRCHNERIELLA	*	0	--	-	130	2	--	-	--	-
...DCCYSTIS	820	2	--	-	--	-	110	11	19	1
...SELENASTRUM	--	-	510	1	--	-	14	1	--	-
...TETRAEDRON	--	-	--	-	--	-	--	-	--	-
....WESTELLA	2500	7	--	-	--	-	--	-	--	-
...SCENEDESMACEAE	--	-	--	-	--	-	--	-	--	-
....ACTINASTRUM	1600	5	--	-	--	-	--	-	--	-
...CRUCIGENIA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMUS	1600	5	1900	3	260	3	470#	46	75	4
...TETRASTRUM	*	0	1500	3	--	-	--	-	--	-
...VOLVOCALES	--	-	--	-	--	-	--	-	--	-
...CHLAMYDOMONADACEAE	--	-	--	-	130	2	--	-	--	-
...CHLAMYDOMONAS	--	-	--	-	--	-	--	-	--	-
...VOLVOCAEAE	--	-	--	-	--	-	--	-	--	-
...GONIUM	--	-	--	-	--	-	57	6	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	13000#	36	5500	9	6000#	75	28	3	--	-
...MELOSIKA	2500	7	1300	2	--	-	85	8	380#	18
...PENNALES	--	-	--	-	--	-	--	-	--	-
...ACHNANTHACEAE	--	-	--	-	--	-	--	-	--	-
...COCconeis	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE	--	-	--	-	--	-	--	-	--	-
...SYNEDRA	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE	--	-	--	-	--	-	--	-	--	-
....NAVICULA	200	1	--	-	--	-	14	1	--	-
...PINNULARIA	--	-	--	-	--	-	--	-	--	-
...NITZSCHIAEAE	--	-	--	-	--	-	--	-	--	-
...NITZSCHIA	--	-	--	-	--	-	14	1	--	-
...CHRYSIOPHYCEAE										
...CHRYSIMONADALES										
...CHROMULINACEAE										
...CHRYSOCOCCUS	410	1	--	-	--	-	--	-	--	-
...OCHROMONADACEAE	--	-	--	-	--	-	--	-	--	-
...DINORRYUN	--	-	--	-	--	-	--	-	19	1

ARKANSAS RIVER BASIN

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07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued

CYANOPHYTA (BLUE-GREEN ALGAE)

..CYANOPHYCEAE						
...CHROCOCCOCEAE						
...CHROCOCCOCEAE						
....AGMENELLUM	--	-	--	-	--	-
....ANACYSTIS	1200	3	20000#	34	--	-
...HORMOGONALES					14	1
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	--	-
....APHANIZUMENON	--	-	--	-	--	-
...OSCILLATORIACEAE						210 10
....LYNGBYA	--	-	--	-	--	-
...OSCILLATORIA	--	-	--	-	--	-
...CHROCOCCOCEAE						* 0
...CHROCOCCOCEAE						
....GOMPHUSPHAERIA	200	1	--	-	--	-

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

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

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JAN 26, 77 0800		FEB 9, 77 1000		MAR 9, 77 0900		MAY 4, 77 0830		JUN 8, 77 0805	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
....CHROMONAS	--	-	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	380	1	190	2	--	-	--	-
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENA	200	1	1700	3	65	1	--	-	--	-
....TRACHELOMONAS	610	2	--	-	--	-	28	3	56	3
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...GYMNODINIALES										
...GYMNODINIACEAE										
....GYMNODINIUM	--	-	--	-	--	-	--	-	860#	42
...PERIDINIALES										
...CERATIA										
....CERATIUM	--	-	--	-	--	-	--	-	19	1
...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

07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUL 13,77 0800	AUG 10,77 0845	SEP 6,77 0845	SEP 15,77 1045
TOTAL CELLS/ML	920	820	5900	23000
DIVERSITY: DIVISION	1.4	1.5	1.7	0.6
...CLASS	1.4	1.5	1.7	0.6
...ORDER	1.4	1.9	1.9	1.1
...FAMILY	2.2	2.2	2.8	1.2
...GENUS	2.4	2.6	3.3	1.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
...SCHROEDERIA	14	1	9	1	--	--	--	--
...CHLOROCOCCACEAE								
...CHLOROCOCCUM	--	--	--	--	--	--	180	1
...CUELASTRACEAE								
...CUELASTRUM	--	--	--	--	*	0	--	--
...HYDRODICTYACEAE								
...PEDIASTRUM	220#	24	--	--	--	--	--	--
...MICRACTINIACEAE								
...MICRACTINIUM	41	4	--	--	610	10	--	--
...UOCYSTACEAE								
...ANKISTRODESMUS	14	1	47	6	170	3	280	1
...CHUDATELLA	--	--	--	--	*	0	--	--
...CLUSTERIOPSIS	--	--	--	--	--	--	--	--
...DICTYOSPHAERIUM	--	--	310#	38	--	--	*	0
...KIPCHNERIELLA	--	--	9	1	--	--	*	0
...UOCYSTIS	--	--	--	--	--	--	--	--
...SELENASTRUM	--	--	--	--	1100#	19	--	--
...TETRAEDRUM	--	--	--	--	--	--	*	0
...WESTELLA	--	--	--	--	--	--	--	--
...SCENEDESMACEAE								
...ACTINASTRUM	--	--	--	--	--	--	--	--
...CRUCIGENIA	110	12	38	5	--	--	210	1
...SCENEDESMUS	54	6	19	2	950#	16	*	0
...TETRASTRUM	--	--	--	--	280	5	--	--
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	--	--	--	--	110	2	--	--
...VOLVOCAEAE								
...GONIUM	--	--	--	--	--	--	--	--
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINOIDISCEAE								
...CYCLOTELLA	--	--	140#	17	310	5	380	2
...MELOSIKA	140	15	--	--	360	6	150	1
...PENNALES								
...ACHNANTHACEAE								
...COCCONEIS	--	--	--	--	--	--	*	0
...FRAGILARIACEAE								
...SYNEDRA	--	--	28	3	*	0	*	0
...NAVICULACEAE								
...NAVICULA	--	--	--	--	*	0	130	1
...PINNULARIA	--	--	--	--	--	--	*	0
...NITZSCHIACEAE								
...NITZSCHIA	--	--	--	--	--	--	130	1
..CHRYSOPHYCEAE								
...CHRYSOMONADALES								
...CHROMULINACEAE								
...CHRYSOCOCCUS	--	--	--	--	--	--	--	--
...CHROMONADACEAE								
...DINOBRYON	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

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07178620 VERDIGRIS RIVER NEAR INOLA, OK--Continued

CYANOPHYTA (BLUE-GREEN ALGAE)

..CYANOPHYCEAE						
..CHROCOCCALES						
..CHROCOCCACEAE						
....AGMENELLUM	--	-	150#	19	--	310 1
....ANACYSTIS	--	-	--	-	--	1000 4
..HORMOGONALES						
..NOSTOCACEAE						
....ANABAENA	--	-	47	6	--	--
....APHANIZOMENON	--	-	--	-	--	--
..OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	--	--
..OSCILLATORIA	--	-	--	-	670 11	2400 11
..CHROCOCCALES						
..CHROCOCCACEAE						
....GOMPHOSPHAERIA	340#	37	--	-	--	17000# 75

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

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

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUL 13, 77 0800		AUG 10, 77 0845		SEP 6, 77 0845		SEP 15, 77 1045	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENIIDS)								
..CRYPTOPHYCEAE								
..CRYPTOMONIDALES								
..CRYPTOCHRYSIDACEAE								
....CHROMUNAS	--	-	--	-	220 4		* 0	
..CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	970# 17		--	-
..EUGLENOPHYCEAE								
..EUGLENALES								
..EUGLENACEAE								
....EUGLENA	--	-	9 1		--	-	--	-
....TRACHELOMONAS	--	-	--	-	56 1		* 0	
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
..GYMNODINIALES								
..GYMNODINIACEAE								
....GYMNODINIUM	--	-	--	-	--	-	* 0	
..PERTIDINIALES								
..CERATIIACEAE								
....CERATIUM	--	-	--	-	--	-	--	-
..GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	--	-	--	-

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

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

ARKANSAS RIVER BASIN

07185000 NEOSHO RIVER NEAR COMMERCE, OK

LOCATION.--Lat 36°55'43", long 94°57'26", in SW 1/4 SE 1/4 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) above mean sea level (Corps of Engineers bench mark).

REMARKS.--Records good. Flow regulated to some extent since 1963 by John Redmond Reservoir in Kansas, 190 mi (306 km) upstream.

AVERAGE DISCHARGE.--38 years, 3,560 ft³/s (100.8 m³/s), 2,579,000 acre-ft/yr (3.18 km³/yr).

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 discharge above base of 20,000 ft³/s (566 m³/s) and maximum (*);

DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)	DATE	TIME	DISCHARGE (ft ³ /s)	DISCHARGE (m ³ /s)	GAGE HEIGHT (ft)	GAGE HEIGHT (m)
June 24	1445	*57,700	1,630	21.67	6.605	Sept. 30	0645	22,400	634	15.98	4.871
July 1	1115	24,900	705	17.12	5.218						

Minimum discharge, 39 ft³/s (1.10 m³/s) Oct. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	133	62	60	70	72	104	1390	11200	23800	1350	4150
2	77	126	65	69	77	73	109	5290	7190	17900	941	8440
3	76	117	68	72	81	86	103	1480	6900	14200	771	8910
4	70	105	68	76	83	89	100	558	7240	13600	692	6010
5	659	84	66	81	83	85	91	390	7110	13100	666	5120
6	1620	80	74	76	83	81	81	299	7060	12700	636	4920
7	363	80	75	71	82	79	77	236	6940	12800	536	5040
8	296	72	69	70	81	79	67	212	6890	12600	430	4750
9	216	65	71	70	81	76	54	742	6540	13400	501	4290
10	159	60	68	69	80	74	47	745	6230	14200	566	3750
11	131	56	72	68	81	96	52	312	5430	12300	645	3140
12	111	56	67	68	104	298	55	200	3490	11700	1740	2190
13	97	53	69	72	119	280	56	144	3180	10900	3060	2510
14	82	54	66	69	158	244	57	147	3440	10500	2540	6400
15	69	55	67	66	146	237	51	135	2800	10200	3820	8800
16	57	56	66	65	136	190	48	114	2570	9860	6190	9610
17	44	57	59	65	120	156	53	662	2580	9430	3550	5030
18	45	58	61	64	106	143	62	2730	2670	9300	3170	6610
19	71	59	66	64	97	127	124	1150	6850	6870	2570	5640
20	67	60	68	62	84	96	156	1310	20100	4040	2600	3560
21	60	61	61	62	79	79	191	3080	25600	1870	2140	2700
22	58	59	60	63	71	70	171	5790	32100	900	1570	2710
23	59	59	61	67	86	76	220	6910	49700	3090	1320	3800
24	67	59	60	78	77	76	1190	4440	56600	3210	4860	10400
25	157	59	61	71	71	72	765	3450	49900	2720	7340	12600
26	175	66	61	68	73	74	379	3700	37900	2220	3660	7150
27	125	69	60	66	74	90	236	4730	30900	2070	2590	5000
28	104	61	62	80	74	97	194	5300	17100	2360	2250	9570
29	91	58	62	96	---	99	156	10000	13000	1970	3510	15800
30	97	59	60	89	---	105	136	8980	16200	1620	5650	20600
31	100	---	58	75	---	104	---	11200	---	1570	3730	---
TOTAL	5480	2096	2013	2192	2557	3603	5185	85826	455410	267000	75594	199200
MEAN	177	69.9	64.9	70.7	91.3	116	173	2769	15180	8613	2439	6640
MAX	1620	133	75	96	158	298	1190	11200	56600	23800	7340	20600
MIN	44	53	58	60	70	70	47	114	2570	900	430	2190
AC-FT	10870	4160	3990	4350	5070	7150	10280	170200	903300	529600	149900	395100

CAL YR 1976	TOTAL	585181	MEAN	1599	MAX	52100	MIN	40	AC-FT	1161000
WTR YR 1977	TOTAL	1106156	MEAN	3031	MAX	56600	MIN	44	AC-FT	2194000

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT 20...	1028	9740	1400	580	8.3	12.0	8	7.4	69	13	204
NOV 17...	1028	9740	0950	400	8.1	5.0	3	13.6	108	12	275
DEC 07...	1028	9740	1000	510	7.5	2.0	5	13.3	98	9	272
FEB 15...	1028	9740	1130	630	9.0	5.0	3	--	--	20	273
MAR 15...	1028	9740	1045	490	8.1	13.0	11	10.1	98	23	253
APR 13...	1028	9740	1030	800	8.2	19.0	26	9.6	104	35	323
MAY 18...	1028	9740	1010	560	7.4	24.0	91	8.2	99	31	209
JUN 29...	1028	9740	0800	300	7.5	23.0	140	6.8	81	28	128
JUL 20...	1028	9740	1010	400	7.5	29.0	--	7.2	95	--	--
AUG 24...	1028	9740	1030	400	7.6	27.0	330	7.5	94	19	159
SEP 20...	1028	9740	1010	310	6.9	21.0	98	7.1	81	28	82

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 20...	61	18	24	5.9	--	25	.3	396	.80	.10	--
NOV 17...	55	16	24	5.2	--	32	.2	421	.80	.08	1
DEC 07...	70	17	25	5.2	--	35	.3	363	.90	.09	--
FEB 15...	78	22	34	4.3	22	52	.2	437	1.3	.25	1
MAR 15...	71	17	36	5.2	107	31	.3	401	1.8	.20	--
APR 13...	86	25	44	6.1	147	46	.3	465	2.1	.21	--
MAY 18...	61	16	20	6.9	16	34	.2	171	2.0	.36	7
JUN 29...	41	8.0	12	4.6	32	9.0	.2	225	1.9	.46	--
JUL 20...	55	11	9.0	5.6	--	--	--	--	--	--	--
AUG 24...	52	8.1	15	6.1	50	13	.2	263	1.5	.26	9
SEP 20...	16	5.9	11	3.9	23	11	.1	231	1.6	.31	--

ARKANSAS RIVER BASIN

07185000 NEOSHO RIVER NEAR COMMERCE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	200	--	145	--	--	--	--	--
NOV 17...	<1	9	<1	60	13	53	<.5	3	<1	1	4
DEC 07...	--	--	--	300	--	76	--	--	--	--	--
FEB 15...	2	36	8	100	8	120	<.5	9	--	<1	8
MAR 15...	--	--	--	560	--	130	--	--	--	--	--
APR 13...	--	--	--	1480	--	320	--	--	--	--	--
MAY 18...	1	19	12	1810	17	520	<.5	18	<1	3	33
JUN 29...	--	--	--	1340	--	350	--	--	--	--	--
JUL 20...	--	--	--	3300	--	300	--	--	--	--	--
AUG 24...	<1	8	4	1350	5	210	<.5	8	2	<2	15
SEP 20...	--	--	--	8800	--	210	--	--	--	--	--

07188000 SPRING RIVER NEAR OUAPAW, OK

LOCATION.--Lat 36°56'04", long 94°44'45", in NE 1/4 SW 1/4 sec.5, T.28 N., R.24 E., Ottawa County, Hydrologic 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 (48 km) southeast of Ouapaw, and at mile 13.9 (22.4 km). Records include flow of Rock Creek.

DRAINAGE AREA.--3,510 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) above mean sea level. 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.--38 years, 1,950 ft³/s (55.22 m³/s), 10.55 in/yr (268 mm/yr), 1,413,000 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.--Peak discharges above base of 18,000 ft³/s (510 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 21	0030	25,400 719	18.51 5.642	Sept. 29	1115	23,500 666	17.82 5.432
June 22	1700	*35,400 1,000	21.39 6,520				

Minimum discharge, 166 ft³/s (4.701 m³/s) June 10.

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	336	371	263	238	233	316	1010	3170	741	9780	538	507		
2	334	349	259	247	235	319	942	6170	636	5650	509	468		
3	332	323	259	245	234	315	878	2680	539	8670	494	439		
4	320	306	257	230	229	306	799	1900	505	5790	482	420		
5	438	295	255	214	228	300	739	1480	495	2730	477	549		
6	613	284	267	215	230	294	696	1210	472	2330	470	606		
7	519	277	294	219	247	288	656	711	403	1990	465	602		
8	448	272	291	217	284	279	618	1340	273	1750	442	529		
9	471	271	290	216	310	272	579	1730	193	1640	347	471		
10	371	271	278	216	303	273	555	2290	176	1540	262	435		
11	353	270	267	221	293	2390	525	1830	171	1490	252	432		
12	337	260	256	223	409	4560	499	1280	220	1360	714	527		
13	322	259	259	223	505	2700	480	1000	241	1180	573	786		
14	311	259	255	222	554	1940	463	810	244	1030	525	895		
15	300	259	252	218	567	1530	450	676	267	956	639	1300		
16	283	259	245	209	520	1280	443	613	274	900	521	1770		
17	278	259	240	209	486	885	439	609	275	848	615	1540		
18	275	259	239	209	429	990	455	643	279	803	1560	1440		
19	270	259	233	212	374	936	486	690	3110	768	1480	1350		
20	267	257	224	214	348	871	527	4470	13100	704	982	1180		
21	269	248	225	210	327	809	754	5150	23400	648	743	1100		
22	271	244	226	198	322	755	1000	2150	26200	653	581	1460		
23	273	244	226	207	326	707	5970	1430	24000	630	541	1880		
24	306	244	229	216	318	656	2840	1050	16100	610	498	8820		
25	346	249	225	218	324	613	1540	771	6240	587	456	9500		
26	333	262	226	221	312	591	986	650	12200	600	436	4180		
27	316	280	226	229	323	682	951	566	11700	655	417	5860		
28	299	293	224	237	325	994	814	550	6260	643	423	6870		
29	291	291	222	239	---	1400	712	541	5730	615	551	18300		
30	364	275	219	233	---	1190	793	550	4260	574	560	11100		
31	396	---	218	234	---	1100	---	546	---	561	552	---		
TOTAL	10572	8249	7651	6859	9595	30541	28599	49256	158704	58685	18105	85316		
MEAN	341	275	247	221	343	985	953	1589	5290	1893	584	2844		
MAX	613	371	294	247	567	4560	5970	6170	26200	9780	1560	18300		
MIN	267	244	218	198	228	272	439	541	171	561	252	420		
CFSM	.14	.11	.10	.09	.14	.39	.38	.63	2.11	.75	.23	1.13		
IN.	.16	.12	.11	.10	.14	.45	.42	.73	2.35	.87	.27	1.26		
AC-FT	20970	16360	15180	13600	19030	60580	56700	97700	314800	116400	35910	169200		
CAL YR 1976	TOTAL	694697	MEAN	1898	MAX	99100	MIN	218	CFSM	.76	IN	10.30	AC-FT	1378000
WTR YR 1977	TOTAL	472132	MEAN	1294	MAX	26200	MIN	171	CFSM	.52	IN	7.00	AC-FT	936500

ARKANSAS RIVER BASIN

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MH/S)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
20...	1028	9740	1230	310	8.1	12.0	3	7.3	68	10	164
NOV											
17...	1028	9740	1105	420	7.9	7.0	3	13.0	107	7	202
DEC											
07...	1028	9740	0910	420	7.8	3.0	2	12.0	91	6	189
FEB											
15...	1028	9740	1025	400	8.9	5.0	1	--	--	10	187
MAR											
15...	1028	9740	1000	295	7.4	12.0	90	9.9	94	26	120
APR											
13...	1028	9740	1120	390	8.0	19.0	5	9.6	104	17	168
MAY											
18...	1028	9740	1100	340	7.3	23.0	14	8.2	96	12	151
JUN											
29...	1028	9740	0700	280	7.2	21.0	59	8.3	95	19	114
JUL											
20...	1028	9740	1115	390	7.8	28.0	--	7.0	91	--	--
AUG											
24...	1028	9740	1130	310	7.3	26.0	60	6.8	85	7	126
SEP											
20...	1028	9740	1100	350	7.1	22.0	12	6.8	83	8	102

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	TOTAL FLUOR- IDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
20...	61	5.6	14	2.3	--	14	.2	248	.70	.29	--
NOV											
17...	76	6.1	12	2.8	--	18	.2	282	.80	.39	<1
DEC											
07...	68	6.9	11	2.8	--	21	.3	269	1.0	.46	--
FEB											
15...	60	6.4	30	2.3	83	45	.2	267	1.7	.59	1
MAR											
15...	39	4.3	10	3.5	40	10	.2	233	2.6	.60	--
APR											
13...	54	5.3	14	1.4	45	24	.2	177	1.2	.56	--
MAY											
18...	51	4.8	10	3.6	44	9.0	.2	215	1.4	.36	3
JUN											
29...	39	5.1	9.0	3.6	53	7.0	.2	213	1.9	.31	--
JUL											
20...	61	5.5	9.0	2.2	--	--	--	--	--	--	--
AUG											
24...	44	4.3	10	3.2	32	9.0	.1	198	1.2	.26	1
SEP											
20...	32	4.9	15	2.8	40	9.0	.1	310	1.3	.30	--

ARKANSAS RIVER BASIN

07188000 SPRING RIVER NEAR QUAPAW, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
UCT											
20...	--	--	--	100	--	5	--	--	--	--	--
NOV											
17...	4	20	<1	<50	11	45	.5	7	<1	2	950
DEC											
07...	--	--	--	130	--	43	--	--	--	--	--
FEB											
15...	5	20	6	450	16	90	<.5	14	--	<1	900
MAR											
15...	--	--	--	880	--	220	--	--	--	--	--
APR											
13...	--	--	--	200	--	90	--	--	--	--	--
MAY											
18...	4	11	11	370	29	200	1.6	12	1	4	545
JUN											
29...	--	--	--	1450	--	270	--	--	--	--	--
JUL											
20...	--	--	--	<200	--	80	--	--	--	--	--
AUG											
24...	<1	6	5	350	5	230	<.5	9	5	<2	255
SEP											
20...	--	--	--	880	--	150	--	--	--	--	--

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'50", long 94°35'12", in NE 1/4 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 (13. 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).

WATER-DISCHARGE RECORDS

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) above mean sea level (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.--38 years, 798 ft³/s (22.60 m³/s), 12.42 in/yr (315 mm/yr), 578,200 acre-ft/yr (713 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.--Maximum discharge, 5,020 ft³/s (142 m³/s) Sept. 30, gage height, 8.99 ft (2.740 m), no peak above base of 9,000 ft³/s (255 m³/s); minimum, 83 ft³/s (2.35 m³/s) Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	158	123	128	144	187	1350	356	141	566	156	238
2	163	154	123	131	139	187	1190	356	130	546	137	213
3	155	149	122	130	136	188	1060	343	126	494	125	191
4	150	144	120	129	136	189	940	319	119	426	119	175
5	178	139	121	129	144	186	836	302	117	367	114	172
6	208	136	142	128	152	182	744	285	114	324	108	182
7	229	134	169	128	157	175	666	264	111	269	103	196
8	214	132	190	128	160	169	602	250	105	261	98	193
9	197	127	189	128	158	164	551	287	99	241	91	181
10	184	126	180	125	156	162	505	471	94	238	86	167
11	172	132	173	125	156	430	467	411	91	211	87	170
12	162	133	166	125	184	943	434	331	91	190	92	184
13	155	128	160	125	227	1250	407	284	109	173	102	210
14	149	128	155	124	254	1020	386	255	126	159	108	259
15	144	128	151	126	258	859	369	235	120	174	114	304
16	139	128	151	126	253	730	352	220	136	166	115	314
17	134	127	149	127	247	634	337	213	136	157	619	298
18	132	128	146	123	235	643	334	194	127	142	1090	277
19	132	126	143	124	222	676	335	177	162	130	868	257
20	132	125	142	125	209	669	339	189	572	122	617	237
21	129	123	139	129	196	613	357	195	1880	119	501	221
22	130	120	136	128	186	552	346	194	1270	151	416	209
23	131	118	133	128	186	497	345	178	941	135	350	198
24	131	117	133	129	179	447	447	167	738	123	301	227
25	136	117	134	130	169	405	479	156	600	115	261	311
26	139	122	135	134	169	372	439	146	498	118	232	454
27	134	124	130	140	176	463	401	135	431	158	208	436
28	133	127	128	147	186	1680	372	143	384	176	210	479
29	134	126	131	147	---	2840	350	161	410	181	322	1800
30	149	125	129	149	---	2170	332	165	554	166	293	3780
31	155	---	128	150	---	1670	---	155	---	170	264	---
TOTAL	4802	3901	4471	4045	5174	21352	16072	7537	10532	6988	8307	12533
MEAN	155	130	144	130	185	689	536	243	351	225	268	418
MAX	229	158	190	150	258	2840	1350	471	1680	566	1090	3780
MIN	129	117	120	123	136	162	332	135	91	115	86	167
CFSM	.18	.15	.17	.15	.21	.79	.62	.28	.40	.26	.31	.48
IN.	.20	.17	.19	.17	.22	.91	.69	.32	.45	.30	.35	.53
AC=FT	9520	7740	8870	8020	10260	42350	31880	14950	20890	13860	16480	24860
CAL YR 1976	TOTAL	298932	MEAN 817	MAX 23000	MIN 117	CFSM .94	IN 12.75	AC=FT	592900			
WTR YR 1977	TOTAL	105714	MEAN 290	MAX 3780	MIN 86	CFSM .33	IN 4.51	AC=FT	209700			

ARKANSAS RIVER BASIN

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07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-49, 1951-58, 1960-61, 1976 to September 1977 (discontinued).

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LUM LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
20...	1028	9740	1030	290	8.0	13.0	1	11.6	110	5	138
NOV											
17...	1028	9740	0800	300	7.0	7.0	0	6.8	56	4	123
DEC											
07...	1028	9740	0800	300	7.6	3.0	1	8.4	64	<1	132
FEB											
15...	1028	9740	0900	295	7.6	4.5	0	10.8	84	13	138
MAR											
15...	1028	9740	0805	325	7.4	12.0	2	10.6	101	7	136
APR											
12...	1028	9740	0830	270	7.8	16.0	1	9.6	98	16	128
MAY											
17...	1028	9740	0815	280	7.5	21.0	0	7.0	80	4	130
JUN											
28...	1028	9740	1500	270	7.7	24.5	1	9.7	120	<3	128
JUL											
19...	1028	9740	0710	290	7.2	27.0	--	6.1	77	--	--
AUG											
23...	1028	9740	0815	295	7.2	25.0	2	6.8	83	3	141
SEP											
19...	1028	9740	0710	310	7.5	22.0	1	6.7	78	2	94

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLU- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
20...	52	3.1	9.0	1.5	--	12	.1	174	.70	.10	--
NOV											
17...	51	2.9	<10	2.3	--	11	.2	178	.70	<.03	<1
DEC											
07...	50	2.9	<10	<1.0	--	18	.1	158	1.0	<.03	--
FEB											
15...	50	3.1	15	1.2	27	23	.0	183	.70	.08	<1
MAR											
15...	47	2.7	13	2.7	10	6.0	.1	153	1.5	.08	--
APR											
12...	45	3.1	12	<1.0	9.0	18	.1	111	1.4	.04	--
MAY											
17...	46	2.8	--	2.4	11	4.0	.0	168	.93	.07	3
JUN											
28...	48	2.6	4.0	1.8	8.0	4.0	.0	144	1.0	.06	--
JUL											
19...	47	2.7	5.0	1.6	--	--	--	--	--	--	--
AUG											
23...	49	2.3	5.0	1.6	8.0	6.0	.0	148	1.1	.09	<1
SEP											
19...	32	3.1	10	1.3	3.0	6.0	<.0	155	1.3	.06	--

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	<100	--	<5	--	--	--	--	--
NOV 17...	1	17	8	<50	15	<5	<.5	2	<1	3	7
DEC 07...	--	--	--	<100	--	<5	--	--	--	--	--
FEB 15...	2	20	7	<100	5	<10	<.5	5	--	<1	5
MAR 15...	--	--	--	170	--	<10	--	--	--	--	--
APR 12...	--	--	--	240	--	20	--	--	--	--	--
MAY 17...	3	6	4	<200	3	20	<.5	5	<1	3	5
JUN 28...	--	--	--	<200	--	20	--	--	--	--	--
JUL 19...	--	--	--	<200	--	30	--	--	--	--	--
AUG 23...	<1	<5	2	<100	<5	20	<.5	7	<1	<2	3
SEP 19...	--	--	--	340	--	20	--	--	--	--	--

07190000 LAKE O' THE CHEROKEES AT LANGLEY, OK

LOCATION.--Lat 36°28'17", long 95°02'19", in SW 1/4 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) above mean sea level (Corps of Engineers bench mark). 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 (1,840 hm³). 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 (2,730 hm³), 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, 1,809,000 acre-ft (2.23 km³) June 25, gage Height, 747.85 ft (227.914 m); minimum, 1,173,000 acre-ft (1.45 km³) Jan. 19, gage height, 732.62 ft (223.303 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

732	1,152,000	741	1,494,000
735	1,257,000	744	1,626,000
738	1,371,000	748	1,816,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1288000	1259000	1240000	1188000	1192000	1209000	1326000	1434000	1635000	1780000	1567000	1453000
2	1289000	1261000	1240000	1188000	1193000	1206000	1335000	1465000	1628000	1770000	1560000	1461000
3	1290000	1259000	1236000	1183000	1194000	1205000	1338000	1471000	1618000	1764000	1556000	1474000
4	1292000	1257000	1238000	1183000	1196000	1204000	1334000	1473000	1619000	1752000	1550000	1484000
5	1294000	1255000	1238000	1185000	1196000	1204000	1334000	1475000	1619000	1733000	1545000	1488000
6	1289000	1258000	1237000	1185000	1198000	1205000	1338000	1476000	1629000	1720000	1540000	1487000
7	1274000	1257000	1232000	1186000	1191000	1205000	1341000	1476000	1634000	1710000	1536000	1485000
8	1271000	1255000	1231000	1187000	1191000	1206000	1344000	1483000	1633000	1700000	1527000	1480000
9	1270000	1258000	1230000	1181000	1192000	1207000	1347000	1490000	1635000	1692000	1525000	1472000
10	1271000	1260000	1226000	1180000	1193000	1209000	1349000	1496000	1635000	1693000	1521000	1460000
11	1271000	1256000	1221000	1179000	1195000	1232000	1351000	1500000	1637000	1696000	1522000	1452000
12	1271000	1254000	1223000	1178000	1198000	1252000	1353000	1504000	1638000	1697000	1520000	1440000
13	1269000	1254000	1221000	1178000	1200000	1267000	1355000	1504000	1646000	1697000	1530000	1444000
14	1268000	1255000	1219000	1177000	1202000	1276000	1357000	1507000	1653000	1696000	1537000	1449000
15	1271000	1254000	1218000	1176000	1204000	1284000	1359000	1508000	1657000	1695000	1533000	1452000
16	1269000	1253000	1216000	1176000	1205000	1290000	1361000	1501000	1659000	1692000	1536000	1460000
17	1269000	1253000	1217000	1175000	1205000	1297000	1363000	1501000	1653000	1688000	1549000	1455000
18	1261000	1255000	1218000	1173000	1208000	1304000	1367000	1507000	1651000	1683000	1536000	1459000
19	1253000	1254000	1221000	1184000	1208000	1308000	1368000	1504000	1658000	1675000	1521000	1459000
20	1254000	1256000	12217000	1186000	1210000	1314000	1373000	1519000	1701000	1660000	1505000	1452000
21	1254000	1256000	1210000	1187000	1209000	1313000	1376000	1537000	1761000	1642000	1491000	1445000
22	1254000	1256000	1210000	1188000	1210000	1311000	1379000	1556000	1780000	1623000	1479000	1442000
23	1254000	1256000	1212000	1189000	1210000	1312000	1394000	1572000	1786000	1605000	1465000	1443000
24	1258000	1255000	1212000	1190000	1211000	1312000	1405000	1585000	1805000	1587000	1450000	1475000
25	1257000	1254000	1213000	1192000	1214000	1308000	1411000	1588000	1808000	1580000	1445000	1511000
26	1255000	1260000	1214000	1193000	1208000	1311000	1412000	1596000	1808000	1585000	1437000	1518000
27	1256000	1260000	1215000	1194000	1209000	1321000	1410000	1600000	1798000	1583000	1435000	1521000
28	1256000	1260000	1215000	1192000	1210000	1320000	1413000	1607000	1791000	1581000	1445000	1545000
29	1257000	1250000	1204000	1192000	---	1327000	1414000	1618000	1775000	1579000	1446000	1614000
30	1257000	1248000	1201000	1193000	---	1330000	1420000	1627000	1764000	1582000	1454000	1674000
31	1258000	---	1191000	1191000	---	1330000	---	1634000	---	1575000	1455000	---
MAX	1294000	1261000	1240000	1194000	1214000	1330000	1420000	1634000	1808000	1780000	1567000	1674000
MIN	1253000	1248000	1191000	1173000	1191000	1204000	1326000	1434000	1618000	1575000	1435000	1440000
†	735.04	734.74	733.15	733.15	733.68	733.95	739.21	744.17	746.94	742.86	740.07	745.05
‡	-35,000	-10,000	-57,000	0	+19,000	+120,000	+90,000	+214,000	+130,000	-189,000	-120,000	+219,000
CAL YR 1976	MAX	2050000	MIN	1191000	‡	-225,000						
WTR YR 1977	MAX	1808000	MIN	1173000	‡	+381,000						

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

07190500 NEOSHO RIVER NEAR LANGLEY, OK

LOCATION.--Lat 36°26'15", long 95°02'44", in SE 1/4 sec.27, T.23 N., R.21 E., Mayes County, Hydrologic Unit 11070209, on hillside of left bank, 0.5 mi (0.80 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) above mean sea level (Corps of Engineers bench mark). 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.--38 years, 7011 ft³/s (198.6 m³/s), 5,079,000 acre-ft/yr (6.26 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, 66,200 ft³/s (1,870 m³/s) June 26; maximum gage height, 23.27 ft (7.093 m) June 27; minimum daily, 25 ft³/s (0.71 m³/s) at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3100	25	3900	227	25	1060	3880	35	12400	30600	5700	5930
2	25	239	766	503	25	1860	174	476	12400	31500	4070	4770
3	35	1550	2630	2530	25	1280	35	3090	12400	26300	3250	3320
4	25	892	25	25	35	1700	3550	1630	7540	26100	3480	4410
5	2360	1060	35	25	25	25	1680	1720	8440	25200	3540	4070
6	6090	25	2360	25	35	35	122	2940	3630	22300	2880	6890
7	7600	35	1830	85	3430	609	25	1230	5000	20500	2870	5990
8	2210	431	1230	25	566	25	25	35	7240	20200	5010	7320
9	1580	55	1100	3990	25	25	35	511	5960	19600	979	9880
10	35	25	3250	25	25	25	95	25	6320	14500	2870	9900
11	25	2080	2660	1340	506	25	25	25	5000	12500	25	9890
12	765	993	35	45	25	279	25	25	2720	12600	2980	9550
13	2200	25	1070	429	35	35	25	887	25	12600	1410	5480
14	662	35	1280	209	25	114	125	152	25	12400	4120	7600
15	202	955	1360	715	25	25	628	35	143	11300	7020	8110
16	25	953	990	35	435	125	25	4650	2640	11900	8040	10100
17	35	25	85	1280	913	25	35	1760	4770	12400	7240	10200
18	4530	25	25	1820	25	105	1640	449	4000	12500	12300	9840
19	3490	582	35	25	25	147	625	4140	6700	12500	12000	7290
20	74	25	1710	35	35	35	45	289	12400	12500	11500	8520
21	456	35	3280	25	25	1740	25	146	20000	11500	10900	8470
22	25	97	25	25	589	2730	234	63	22500	12400	8960	6470
23	25	188	25	35	2500	1190	25	657	37700	12400	8610	4760
24	35	561	25	25	289	1910	35	175	62300	12400	11800	6120
25	25	25	25	45	963	3520	25	3190	64600	9250	11300	10300
26	1700	25	35	25	2410	880	1800	163	64900	360	7840	10300
27	25	25	25	25	35	35	1890	3250	60100	2570	3750	10400
28	178	115	3070	1530	696	3690	2670	3820	38900	4080	2220	10400
29	1710	5110	3150	983	---	3890	2260	5100	25600	3650	3310	12700
30	25	1620	4410	172	---	4550	25	5910	24800	3720	2980	12600
31	35	---	3930	1420	---	3430	---	7470	---	3600	4660	---
TOTAL	39307	17836	44376	17703	13772	35124	21808	54048	541153	435930	177614	241580
MEAN	1268	595	1431	571	492	1133	727	1743	18040	14060	5729	8053
MAX	7600	5110	4410	3990	3430	4550	3880	7470	64900	31500	12300	12700
MIN	25	25	25	25	25	25	25	25	25	360	25	3320
AC-FT	77970	35380	88020	35110	27320	69670	43260	107200	1073000	864700	352300	479200
CAL YR 1976 TOTAL	1945260	MEAN	5315	MAX	114000	MIN	15	AC-FT	3858000			
WTR YR 1977 TOTAL	1640251	MEAN	4494	MAX	64900	MIN	25	AC-FT	3253000			

ARKANSAS RIVER BASIN

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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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
UCT 20...	1028	9740	1550	230	7.3	16.0	5	6.8	69	13	119
NOV 17...	1028	9740	1430	300	7.2	10.0	5	10.0	90	6	134
DEC 07...	1028	9740	0720	260	7.6	7.0	8	11.6	97	6	126
FEB 15...	1028	9740	0820	220	8.7	2.0	2	--	--	11	122
MAR 15...	1028	9740	0830	290	7.8	9.0	15	10.2	90	13	127
APR 13...	1028	9740	0810	300	8.1	14.0	7	9.7	95	13	122
MAY 18...	1028	9740	0800	300	7.2	18.0	4	8.0	86	8	130
JUN 29...	1028	9740	1145	250	7.6	23.0	30	7.2	85	9	106
JUL 20...	1028	9740	0730	250	6.9	25.0	--	6.9	84	--	--
AUG 24...	1028	9740	0800	260	6.9	26.0	51	7.0	85	12	227
SEP 20...	1028	9740	0750	280	7.1	23.0	4	6.8	80	8	79

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT 20...	34	5.2	10	2.7	--	10	.2	152	.80	<.08	--
NOV 17...	45	5.5	<10	2.7	--	14	.1	173	.70	.06	<1
DEC 07...	36	5.4	<10	2.7	--	11	.2	161	1.0	.06	--
FEB 15...	38	5.2	6.0	2.0	31	9.0	.2	181	.70	.10	<1
MAR 15...	39	5.6	14	2.7	29	22	.2	153	1.0	.10	--
APR 13...	39	6.2	8.0	3.3	25	--	.1	128	1.7	.05	--
MAY 18...	42	5.9	10	2.2	28	7.0	.2	172	1.9	.05	8
JUN 24...	36	5.4	13	3.2	34	11	.2	188	1.2	.14	--
JUL 20...	30	4.8	9.0	3.6	--	--	--	--	--	--	--
AUG 24...	32	5.2	5.0	3.6	25	7.0	.2	140	.93	.13	2
SEP 20...	22	5.8	12	3.5	21	7.0	.1	189	.96	.08	--

ARKANSAS RIVER BASIN

07190500 NEOSHO RIVER NEAR LANGLEY, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	100	--	84	--	--	--	--	--
NOV 17...	1	7	<1	70	<5	14	<.5	<1	<1	3	12
DEC 07...	--	--	--	210	--	52	--	--	--	--	--
FEB 15...	1	19	11	120	5	10	1.1	6	--	<1	19
MAR 15...	--	--	--	340	--	50	--	--	--	--	--
APR 13...	--	--	--	240	--	50	--	--	--	--	--
MAY 18...	2	7	4	<200	14	50	<.5	6	<1	2	320
JUN 29...	--	--	--	350	--	90	--	--	--	--	--
JUL 20...	--	--	--	1450	--	130	--	--	--	--	--
AUG 24...	<1	<5	3	200	<5	210	<.5	7	<1	<2	11
SEP 20...	--	--	--	130	--	190	--	--	--	--	--

07191000 BIG CABIN CREEK NEAR BIG CABIN, OK

LOCATION.--Lat 36°34'06", long 95°09'97", in NE 1/4 NE 1/4 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) above mean sea level (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 auxiliary gage.

REMARKS.--Records good. Low flow sustained by sewage from City of Vinita.

AVERAGE DISCHARGE.--30 years, 324 ft³/s (9.176 m³/s), 9.44 in/yr (240 mm/yr), 234,700 acre-ft/v. (289 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.--Maximum discharge, 7,250 ft³/s (205 m³/s) at 0545 Sept. 30, gage height, 28.76 ft (8.766 m), no peak above base of 9,000 ft³/s (255 m³/s); minimum, 1.0 ft³/s (0.028 m³/s) Jan. 3, but may have been less during period of ice effect Jan. 8 to Feb. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	3.1	2.9	1.1	5.2	5.7	78	2020	17	1850	29	53
2	3.5	2.1	2.2	1.1	5.2	5.7	64	4270	17	922	13	29
3	3.3	2.5	2.1	1.0	4.9	5.4	54	463	15	182	9.9	18
4	3.1	3.1	1.9	1.1	4.6	5.5	48	218	13	88	8.0	15
5	6.4	3.1	1.8	1.2	3.9	6.1	44	131	11	50	6.9	14
6	8.6	3.1	2.1	1.4	3.7	5.9	43	91	8.8	35	6.0	12
7	3.9	3.8	2.6	1.6	3.4	5.3	39	66	7.1	23	5.2	11
8	2.7	3.9	2.7	1.3	3.3	5.1	35	47	6.3	13	4.3	11
9	2.5	3.9	2.8	1.6	3.4	5.5	31	351	5.5	12	3.9	9.8
10	2.6	4.1	2.6	1.8	3.3	6.2	28	134	4.7	788	3.6	8.7
11	2.4	4.3	2.5	2.0	3.4	8.7	20	62	4.0	158	3.5	140
12	2.2	4.6	2.4	2.2	10	296	14	35	3.5	55	3.4	235
13	1.8	4.5	2.3	2.4	15	89	10	22	3.1	34	12	156
14	1.8	4.4	2.1	2.7	13	53	7.8	18	2.8	19	287	452
15	1.7	5.2	2.1	2.4	11	40	6.9	15	2.7	12	829	825
16	1.9	5.7	2.1	2.4	8.8	33	6.4	13	2.7	9.9	191	1140
17	2.0	4.5	2.1	2.4	7.9	30	6.2	13	2.5	8.3	3490	481
18	2.4	4.3	2.1	2.4	7.1	394	6.7	13	2.5	7.3	2330	236
19	2.7	3.9	2.1	2.4	6.3	176	11	11	4.5	6.8	206	179
20	3.2	3.7	2.3	2.4	5.5	79	111	248	29	6.4	93	140
21	3.1	3.1	2.3	2.4	5.4	54	439	995	109	6.4	51	80
22	3.0	3.0	2.3	2.4	5.1	50	160	702	48	7.1	29	113
23	2.7	3.0	2.3	3.4	6.6	45	853	197	412	9.8	21	309
24	2.7	3.1	2.4	5.6	7.3	40	432	127	137	17	17	1230
25	2.5	3.4	2.4	5.3	6.5	36	126	92	67	11	19	1190
26	2.3	4.1	2.4	4.7	6.2	32	65	59	55	10	19	265
27	2.3	5.4	2.3	4.4	6.2	763	43	38	48	11	15	132
28	2.6	4.8	2.4	4.4	6.1	1140	33	24	41	10	27	145
29	3.0	3.7	2.4	3.8	---	533	22	37	41	14	592	5090
30	4.1	3.4	2.4	4.5	---	189	14	33	33	24	229	5410
31	4.7	---	1.5	5.0	---	109	---	20	---	39	99	---
TOTAL	95.4	114.8	70.9	82.8	178.3	5104.4	2851.0	10565	1153.7	4439.0	8652.7	18129.5
MEAN	3.08	3.83	2.29	2.67	6.37	165	95.0	341	38.5	143	279	604
MAX	8.6	5.7	2.9	5.6	15	1140	853	4270	412	1850	3490	5410
MIN	1.7	2.1	1.5	1.0	3.3	5.1	6.2	11	2.5	6.4	3.4	8.7
CFSM	.007	.008	.005	.006	.01	.36	.21	.75	.08	.31	.61	1.32
IN.	.01	.01	.01	.01	.01	.42	.23	.86	.09	.36	.70	1.48
AC-FT	189	228	141	164	354	10120	5650	20960	2290	8800	17160	35960
CAL YR 1976	TOTAL	83046.2	MEAN 227	MAX	21700	MIN 1.5	CFSM .50	IN 6.76	AC-FT	164700		
WTR YR 1977	TOTAL	51437.5	MEAN 141	MAX	5410	MIN 1.0	CFSM .31	IN 4.19	AC-FT	102000		

ARKANSAS RIVER BASIN

07191000 BIG CABIN CREEK NEAR BIG CABIN, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-60, 1964-71, October 1976 to September 1977 (discontinued).

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 the Oklahoma State Department of Health.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MMOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
20...	1028	9740	1650	490	8.1	14.0	8	6.9	67	38	140
NOV											
17...	1028	9740	1315	700	7.5	8.0	7	9.1	78	45	212
DEC											
07...	1028	9740	1430	800	7.4	4.0	13	11.9	92	38	189
FEB											
15...	1028	9740	0735	380	7.9	5.0	8	--	--	40	176
MAR											
15...	1028	9740	0730	330	7.4	14.0	74	9.6	95	32	150
APR											
13...	1028	9740	0905	460	7.8	17.0	17	10.0	105	42	160
MAY											
18...	1028	9740	0905	410	7.0	23.0	20	7.4	87	26	154
JUN											
29...	1028	9740	1030	260	7.2	23.0	110	4.6	54	20	106
JUL											
20...	1028	9740	0845	300	7.0	28.0	--	7.1	92	--	--
AUG											
24...	1028	9740	0900	210	6.8	26.0	375	7.1	87	20	71
SEP											
20...	1028	9740	0850	300	7.1	21.0	56	6.4	73	28	85

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
20...	35	10	45	8.3	--	37	.4	312	3.0	.10	--
NOV											
17...	45	12	64	11	--	101	.2	419	10	2.9	8
DEC											
07...	62	15	74	11	--	81	.3	455	16	4.6	--
FEB											
15...	45	10	43	7.4	35	65	.3	307	6.0	1.5	2
MAR											
15...	38	9.5	15	3.8	69	21	.2	257	3.4	.28	--
APR											
13...	44	11	32	5.2	79	46	.2	240	3.5	.51	--
MAY											
18...	42	13	19	5.2	88	14	.2	243	2.3	.32	5
JUN											
29...	31	6.9	13	3.5	60	7.0	.2	442	1.9	.36	--
JUL											
20...	31	7.1	15	4.3	--	--	--	--	--	--	--
AUG											
24...	24	5.5	5.0	5.4	34	7.0	.1	150	1.8	.30	6
SEP											
20...	19	7.3	18	4.3	46	8.0	.1	244	1.3	.25	--

ARKANSAS RIVER BASIN

279

07191000 BIG CABIN CREEK NEAR BIG CABIN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	300	--	357	--	--	--	--	--
NOV 17...	1	19	<1	650	13	2860	<.5	4	<1	1	3
DEC 07...	--	--	--	2200	--	2010	--	--	--	--	--
FEB 15...	<1	17	5	660	16	500	.9	8	--	2	18
MAR 15...	--	--	--	810	--	210	--	--	--	--	--
APR 13...	--	--	--	1010	--	560	--	--	--	--	--
MAY 18...	1	9	5	850	15	540	<.5	11	<1	3	10
JUN 29...	--	--	--	2300	--	420	--	--	--	--	--
JUL 20...	--	--	--	860	--	420	--	--	--	--	--
AUG 24...	<1	8	4	1380	<5	390	<.5	7	<1	<2	5
SEP 20...	--	--	--	3500	--	250	--	--	--	--	--

ARKANSAS RIVER BASIN

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK

LOCATION.--Lat 36°19'57", long 94°38'24", in NE 14/ SW 1/4 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.

AVERAGE DISCHARGE.--16 years, 112 ft³/s (3.172 m³/s), 11.44 in/yr (291 mm/yr), 81,140 acre-ft/yr (100 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,800 ft³/s (1,130 m³/s), July 25, 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.--Maximum discharge, 10,600 ft³/s (300 m³/s) at 0430 Sept. 29, gage height, 14.41 ft (4.392 m), no other peak above base of 2,500 ft³/s (70.8 m³/s); minimum, 9.2 ft³/s (0.26 m³/s) Aug. 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	25	23	21	25	23	148	30	20	36	17	19
2	27	25	23	21	25	24	126	29	20	37	18	19
3	27	25	22	21	24	25	111	28	20	38	18	18
4	27	25	22	21	24	25	100	27	20	39	18	18
5	28	25	22	20	24	25	88	27	20	38	18	34
6	28	24	22	20	24	25	79	27	18	36	17	30
7	31	24	24	21	25	25	73	27	17	33	16	34
8	33	24	27	21	25	24	67	27	16	30	15	36
9	34	23	26	21	25	23	62	27	16	27	14	35
10	33	23	30	22	25	22	58	27	15	24	13	34
11	32	22	31	21	24	25	55	27	15	22	11	32
12	31	23	30	21	25	31	51	26	14	20	9.8	30
13	29	23	29	21	26	35	48	26	16	18	9.3	29
14	28	24	28	21	27	40	44	25	18	17	9.6	31
15	26	24	26	21	28	47	41	25	27	16	11	37
16	25	24	25	22	28	53	40	24	30	17	12	39
17	24	23	24	22	28	53	38	23	36	16	14	40
18	24	23	23	22	28	51	37	22	36	15	16	40
19	23	23	22	22	27	48	36	22	36	15	21	41
20	23	24	23	21	26	45	35	22	34	14	29	40
21	22	24	22	21	25	43	35	23	35	14	33	38
22	22	24	22	21	24	41	36	24	48	15	33	36
23	22	23	21	21	23	39	36	24	67	15	33	33
24	23	22	21	22	23	37	36	25	63	15	30	31
25	23	22	21	22	23	35	35	25	56	16	27	30
26	23	22	21	22	23	33	34	26	50	16	24	30
27	23	22	21	23	23	41	33	25	45	15	22	32
28	23	22	21	24	23	116	32	24	42	15	21	54
29	23	22	21	25	---	281	31	23	39	15	21	4910
30	23	22	21	25	---	234	30	22	37	16	21	764
31	24	---	21	26	---	184	---	20	---	16	20	---
TOTAL	811	701	737	675	700	1753	1675	779	926	676	591.7	6594
MEAN	26.2	23.4	23.8	21.8	25.0	56.5	55.8	25.1	30.9	21.8	19.1	220
MAX	34	25	31	26	28	281	148	30	67	39	33	4910
MIN	22	22	21	20	23	22	30	20	14	14	9.3	18
CFSM	.20	.18	.18	.16	.19	.43	.42	.19	.23	.16	.14	1.65
IN.	.23	.20	.21	.19	.20	.49	.47	.22	.26	.19	.17	1.84
AC-FT	1610	1390	1460	1340	1390	3480	3320	1550	1840	1340	1170	13080

CAL YR 1976 TOTAL 32758.0 MEAN 89.5 MAX 3720 MIN 21 CFSM .67 IN 9.16 AC-FT 64980
WTR YR 1977 TOTAL 16618.7 MEAN 45.5 MAX 4910 MIN 9.3 CFSM .34 IN 4.65 AC-FT 32960

ARKANSAS RIVER BASIN

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07191220 SPAVINAW CREEK NEAR SYCAMORE, OK.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to September 1977 (discontinued).

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MH/CM)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATU- RATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
20...	1028	9740	0915	300	7.3	15.0	0	8.1	80	--	117
NOV											
17...	1028	9740	0910	280	7.5	14.0	0	6.9	67	8	126
DEC											
07...	1028	9740	0900	340	8.1	11.0	0	7.9	74	1	146
FEB											
15...	1028	9740	1015	300	7.4	7.0	0	10.6	88	4	139
MAR											
15...	1028	9740	0915	390	7.5	11.0	0	12.8	118	4	138
APR											
12...	1028	9740	0945	260	7.4	14.0	0	10.0	97	13	113
MAY											
17...	1028	9740	0930	300	7.3	15.0	0	8.6	86	<3	137
JUN											
28...	1028	9740	1350	290	7.4	19.5	0	10.5	119	<3	133
JUL											
19...	1028	9740	0830	320	7.0	18.0	--	7.2	77	--	--
AUG											
23...	1028	9740	0930	350	6.9	19.0	0	7.0	78	<3	160
SEP											
19...	1028	9740	0830	340	6.9	18.0	1	7.2	77	11	97

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
20...	53	1.8	10	1.7	--	12	.1	171	--	.09	--
NOV											
17...	53	1.6	<10	2.2	--	18	.2	178	.50	.03	<1
DEC											
07...	48	1.5	<10	2.2	--	18	.1	166	.50	<.03	--
FEB											
15...	48	1.7	16	3.3	152	24	.0	182	.70	.06	1
MAR											
15...	46	1.6	14	2.4	7.0	36	.1	154	1.1	.05	--
APR											
12...	42	1.7	12	1.0	9.0	9.0	.1	109	1.0	.03	--
MAY											
17...	49	1.7	15	2.4	14	12	.2	156	.93	.04	2
JUN											
28...	51	1.6	4.0	1.9	6.0	8.0	<.0	189	.82	.03	--
JUL											
19...	53	1.6	7.0	1.7	--	--	--	--	--	--	--
AUG											
23...	58	1.7	<5.0	2.1	8.0	11	.0	204	.73	.06	<1
SEP											
19...	35	1.7	5.0	1.7	3.0	9.0	<.0	173	1.8	.07	--

ARKANSAS RIVER BASIN

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	<100	--	<5	--	--	--	--	--
NOV 17...	2	13	<1	<50	19	<5	<.5	<1	<1	2	5
DEC 07...	--	--	--	<100	--	<5	--	--	--	--	--
FEB 15...	1	21	5	<100	6	<10	<.5	4	--	1	4
MAR 15...	--	--	--	100	--	<10	--	--	--	--	--
APR 12...	--	--	--	<200	--	<10	--	--	--	--	--
MAY 17...	<1	7	3	<200	3	<10	<.5	5	<1	1	3
JUN 28...	--	--	--	<200	--	<10	--	--	--	--	--
JUL 19...	--	--	--	<200	--	<10	--	--	--	--	--
AUG 23...	<1	<5	6	<100	<5	10	<.5	4	<1	<2	7
SEP 19...	--	--	--	680	--	10	--	--	--	--	--

ARKANSAS RIVER BASIN

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07191400 LAKE HUDSON NEAR LOCUST GROVE, OK

LOCATION.--Lat 36°13'54", long 95°11'36", in SE 1/4 NW 1/4 sec.9, T.20 N., R.20 E., Mayes County, Hydrologic Unit 11070209, at left side of Robert S. Kerr dam on Neosho River, 2.0 mi (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.

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, 272,900 acre-ft (336 hm³) June 28, elevation, 625.07 ft (190.521 m); minimum, 187,700 acre-ft (231 hm³) June 4, elevation, 617.82 ft (188.312 m).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	619.38	204,500	--
Oct. 31	619.51	205,900	+1,400
Nov. 30	619.07	201,100	-4,800
Dec. 31	619.89	210,100	+9,000
CAL YR 76	--	--	+1,100
Jan. 31	619.59	206,800	-3,300
Feb. 28	619.67	207,700	+900
Mar. 31	619.71	208,100	+400
Apr. 30	619.45	205,200	-2,900
May 31	618.77	197,800	-7,400
June 30	623.76	256,100	+58,300
July 31	620.05	211,900	-44,200
Aug. 31	619.68	207,800	-4,100
Sept. 30	619.27	203,200	-4,600
WTR YR 77	--	--	-1,300

ARKANSAS RIVER BASIN

07191500 NEOSHO RIVER NEAR CHOUTEAU, OK

LOCATION.--Lat 36°13'45", long 95°10'59", in SE 1/4 NW 1/4 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) above mean sea level (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), 14 years (water years 1964-77), 8,008 ft³/s (226.8 m³/s), 5,802,000 acre-ft/yr (7.15 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, 58,600 ft³/s (1,660 m³/s) June 27, gage height, 21.33 ft (6.501 m); minimum daily, 102 ft³/s (2.89 m³/s) July 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2360	379	1430	178	168	990	2310	157	13200	31500	9750	5370
2	170	845	360	176	466	2310	283	6700	8930	32900	1280	4790
3	159	968	1380	2450	176	1220	749	4450	13700	28100	3470	1750
4	157	1870	929	186	247	2890	4440	3130	11500	28200	2290	2580
5	2330	2280	165	177	173	177	4370	1090	1020	28700	3550	4120
6	5130	145	2510	176	172	163	894	730	966	28600	3080	4630
7	5620	141	877	176	3610	167	161	1170	3460	27800	2040	5870
8	4140	127	764	172	419	165	159	185	6070	12300	6270	9560
9	764	129	1470	3260	163	165	158	318	2870	20100	286	8790
10	164	133	3550	182	164	164	202	180	5180	17400	1980	8810
11	161	135	2880	171	229	170	156	164	5540	11400	177	9230
12	507	1860	175	177	168	159	155	253	1550	15000	2210	10200
13	4060	207	182	628	165	159	153	168	160	5840	778	3360
14	784	166	1000	179	166	161	149	168	138	3900	2720	10800
15	439	162	184	174	167	163	150	169	284	9070	9370	10700
16	165	165	382	173	166	216	147	4100	138	17800	10100	12300
17	165	168	764	170	169	505	146	4040	6960	15400	11800	11300
18	3420	168	175	1450	172	3650	1940	220	2520	17400	16800	4870
19	1800	656	166	202	174	195	182	1380	6190	11800	12900	5800
20	177	166	3260	320	172	159	157	3860	19400	12700	6940	8170
21	184	159	1920	174	172	2040	153	170	18100	11300	11000	10300
22	168	158	202	165	553	1260	149	165	31900	9990	6200	7530
23	170	166	180	165	3380	595	1140	2160	42600	7020	9190	3190
24	167	165	180	165	867	3830	329	266	52600	12500	11900	10300
25	167	166	180	163	629	3340	161	3170	57000	14900	8610	13500
26	1610	169	180	163	2370	1040	2510	212	57200	1170	8160	6270
27	129	168	228	163	176	176	1740	2700	55600	232	1280	9750
28	130	170	1830	508	164	4610	3520	2650	41400	102	203	10300
29	480	4110	2450	796	---	5540	3080	4040	29200	354	4160	17300
30	132	2340	7060	170	---	5160	156	6990	28400	5110	4430	24300
31	128	---	1580	382	---	4460	---	10100	---	2620	5170	---
TOTAL	36137	18641	38593	13791	15817	45999	29999	65255	523776	441208	178094	255740
MEAN	1166	621	1245	445	565	1484	1000	2105	17460	14230	5745	8525
MAX	5620	4110	7060	3260	3610	5540	4440	10100	57200	32900	16800	24300
MIN	128	127	165	163	163	159	146	157	138	102	177	1750
AC-FT	71680	36970	76550	27350	31370	91240	59500	129400	1039000	875100	353200	507300
CAL YR 1976	TOTAL	2146678	MEAN	5865	MAX	122000	MIN	98	AC-FT	4258000		
WTR YR 1977	TOTAL	1663050	MEAN	4556	MAX	57200	MIN	102	AC-FT	3299000		

ARKANSAS RIVER BASIN

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07191500 NEOSHO RIVER NEAR CHOUTEAU, OK--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected at county road bridge 2.5 mi (4.0 km) downstream from gaging station.

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARU- NESS (CA, MG) (MG/L)
OCT 20...	1028	9740	1405	290	8.1	16.0	5	9.5	95	12	117
NOV 18...	1028	9740	0750	240	7.7	8.0	4	11.6	100	8	103
DEC 08...	1028	9740	0730	250	8.9	.5	3	9.2	65	3	152
FEB 16...	1028	9740	0750	260	9.0	2.0	1	--	--	11	126
MAR 15...	1028	9740	1545	240	8.8	18.0	6	11.4	122	11	127
APR 13...	1028	9740	0700	280	7.6	15.0	7	9.9	99	21	119
MAY 18...	1028	9740	0700	290	7.4	19.0	9	8.8	97	8	123
JUN 29...	1028	9740	1300	290	7.3	23.5	13	7.7	92	8	119
JUL 19...	1028	9740	1445	280	7.4	28.0	--	7.3	95	--	--
AUG 23...	1028	9740	1530	250	7.1	26.0	24	7.1	89	12	97
SEP 19...	1028	9740	1400	270	7.4	22.0	12	7.1	83	5	73

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 20...	31	4.8	11	2.8	--	16	.2	150	1.0	<.08	--
NOV 18...	36	4.9	<10	3.4	--	14	.2	151	.70	.04	<1
DEC 08...	35	4.7	<10	2.6	--	28	.2	147	1.0	<.03	--
FEB 16...	37	5.1	<10	3.6	140	8.0	.1	172	1.0	.07	<1
MAR 15...	36	4.9	16	1.9	23	25	.2	143	1.1	.06	--
APR 13...	37	5.8	17	2.3	25	28	.1	131	1.1	.05	--
MAY 18...	38	5.3	10	2.9	30	10	.1	160	1.4	.06	3
JUN 29...	48	2.6	11	2.8	38	8.0	.2	191	1.2	.09	--
JUL 19...	30	4.9	<5.0	3.2	--	--	--	--	--	--	--
AUG 23...	30	4.8	25	3.5	25	8.0	.2	146	1.1	.14	2
SEP 19...	20	5.2	10	3.4	21	7.0	.1	182	.90	.10	--

ARKANSAS RIVER BASIN

07191500 NEOSHO RIVER NEAR CHOUTEAU, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	100	--	30	--	--	--	--	--
NOV 18...	<1	18	<1	<50	6	9	<.5	2	<1	2	3
DEC 08...	--	--	--	<100	--	6	--	--	--	--	--
FEB 16...	2	20	4	<100	6	60	<.5	4	--	<1	10
MAR 15...	--	--	--	310	--	50	--	--	--	--	--
APR 13...	--	--	--	200	--	30	--	--	--	--	--
MAY 18...	1	8	4	210	11	20	<.5	6	3	3	15
JUN 29...	--	--	--	<200	--	50	--	--	--	--	--
JUL 19...	--	--	--	900	--	160	--	--	--	--	--
AUG 23...	<1	<5	3	540	<5	120	<.5	6	<1	<2	20
SEP 19...	--	--	--	550	--	90	--	--	--	--	--

07193000 FORT GIBSON LAKE NEAR FORT GIBSON, OK

LOCATION.--Lat 35°52'16", long 95°13'43", in NW 1/4 NW 1/4 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 mean sea level. Prior to Jan. 13, 1950, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete-gravity and earth-fill dam. 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, 533,800 acre-ft (658 hm³) June 28, elevation 561.69 ft (171.203 m); minimum, 321,500 acre-ft (396 hm³) Jan. 18, elevation, 551.60 ft (168.128 m).

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

551	311,300	557	425,400
553	346,500	559	469,400
555	384,500	562	541,600

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	358700	340600	342000	372400	331700	352800	381300	354600	385500	477200	376000	359700
2	359100	341600	343400	372600	332800	356900	365800	370900	381500	461400	368800	359700
3	359100	342400	346100	370700	333500	356500	358400	370900	386500	431700	365200	355100
4	349600	345200	348300	367100	334800	360800	360800	366000	393300	416400	360800	359500
5	345400	347000	349600	363300	334300	361000	363300	354200	378700	404900	359500	374700
6	349900	348300	357000	356600	335300	361000	357800	344700	365200	401500	357600	371700
7	353000	347400	353400	353800	340400	357800	353000	347200	359500	412600	353200	361800
8	351500	345400	350300	352800	338400	357600	348300	348500	357800	388100	358900	361800
9	348300	344700	353400	351500	338900	357800	344700	340900	370900	383100	347200	358700
10	348100	345600	356300	338900	339300	356000	345200	340900	370700	389900	348700	360100
11	343300	346700	359300	332100	341100	366000	343100	340900	371500	389700	349600	363300
12	341500	348300	359500	324000	341500	365600	340600	341100	369000	398500	350600	361600
13	341600	348700	356100	323000	341800	366500	340600	340900	364800	388500	354400	363300
14	341500	349600	358700	323200	341500	365200	340700	340900	360600	375300	360100	374100
15	344000	349700	358600	323900	339500	361400	340900	340700	359300	365000	372400	374900
16	343300	349700	355900	323900	337700	356300	341100	347600	359300	381300	384100	382500
17	343100	349700	357800	322500	336200	353200	341800	355300	368600	391500	383100	384500
18	344700	349400	358200	321500	337500	357600	342900	354200	369000	406500	391300	376200
19	350300	350300	359900	321800	336400	358900	343600	357400	374500	414100	392100	364800
20	344700	351700	365000	322200	337000	358700	343100	361400	395900	410100	378700	365800
21	341800	351500	365000	322900	335900	359700	339100	365000	391500	409600	379500	372600
22	341300	350800	363900	323200	335300	354600	338200	366500	398500	400100	369600	370900
23	343100	350300	362900	324000	344900	352300	341500	368400	408000	401700	372000	361800
24	344000	350300	363300	324700	346700	357200	341100	361400	429600	397100	375100	372800
25	342700	350300	363500	325100	349700	363300	340600	365000	460200	400100	371500	379900
26	342700	353600	363700	325600	353600	368600	343400	357200	493800	383300	366700	371800
27	342000	353200	363300	326700	353800	382900	342200	357400	523800	378500	354800	370500
28	341600	351900	367100	327800	351400	389900	348700	357200	531100	359500	357400	367100
29	342900	352800	363900	329900	---	394700	351500	360100	511100	353800	356100	381700
30	342900	350500	376400	330300	---	396700	352500	367300	491400	361400	355700	402100
31	343100	---	372000	331400	---	393900	---	376400	---	361800	358700	---
MAX	359100	353600	376400	372600	353800	396700	381300	376400	531100	477200	392100	402100
MIN	341300	340600	342000	321500	331700	352300	338200	340700	357800	353800	347200	355100
†	552.81	553.22	554.36	552.16	553.27	555.47	553.33	554.59	559.95	553.82	553.66	555.88
‡	-21,700	+7,400	+21,500	-40,600	+20,000	+42,500	-41,400	+23,900	+115,000	-129,600	-3,100	+43,400

CAL YR 1976 MAX 754300 MIN 328300 ‡ -1,200
WTR YR 1977 MAX 531100 MIN 321500 ‡ +37,300

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE, NEAR FORT GIBSON, OK

LOCATION.--Lat 35°51'15", long 95°13'45", in SE 1/4 NW 1/4 sec.19, T.16 N., R.19 E., Cherokee County, Hydrologic 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) above mean sea level. 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 10 discharge measurements furnished by Corps of Engineers, records computed by Geological Survey.

AVERAGE DISCHARGE.--27 years, 7790 ft³/s (220.6 m³/s), 5,644,000 acre-ft/yr (6.96 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, 45,700 ft³/s (1290 m³/s) July 2, gage height, 16.46 ft (5.017 m); minimum daily, 15 ft³/s (0.42 m³/s) at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5560	1490	4640	15	15	15	9620	15	9930	40100	3180	5130
2	253	613	15	15	15	175	9520	706	11700	43100	4440	5260
3	15	792	258	4180	15	2930	5460	6780	11700	43500	5230	4290
4	5100	15	15	2340	15	1230	4720	7000	8900	36800	4990	15
5	4580	1570	15	1840	15	15	3520	7590	8470	34700	4660	3790
6	3420	15	559	3760	15	15	4740	6510	7820	31200	3700	9900
7	4510	15	2610	1190	1380	1820	2810	15	6660	24900	4560	11400
8	4760	839	2150	1900	1710	329	2890	15	6820	24600	3740	11400
9	3050	717	417	4230	128	208	2130	4380	1710	23900	6230	11300
10	15	15	3050	7010	15	346	117	15	5380	16900	1290	9900
11	2320	15	1570	3780	15	404	1600	155	5240	11900	15	9190
12	2090	863	15	4020	15	1540	1950	173	1880	11600	1370	11500
13	4550	15	1890	1590	15	15	503	347	2860	11300	15	5680
14	15	15	15	15	697	1410	15	15	2090	11500	15	6250
15	15	15	261	15	1280	2500	709	15	1450	11200	3210	11400
16	15	15	1680	15	855	2850	15	15	1070	11200	5260	11300
17	15	151	15	1210	1110	3030	15	15	2070	11100	12400	11200
18	2460	528	15	1180	537	2030	2420	2040	2840	10900	14200	11100
19	15	15	15	1080	15	551	15	1610	4160	10900	14100	11000
20	2720	15	15	461	15	15	1180	2130	9360	12900	14100	8120
21	1910	15	2430	15	584	1890	3070	321	22400	14300	12500	7230
22	121	352	691	15	695	4270	922	15	28500	14400	11400	8320
23	15	465	695	15	652	2040	15	1480	37600	14400	11400	8630
24	15	118	15	15	15	1920	15	3690	42000	14300	11400	5440
25	503	178	15	15	15	1330	724	1660	41800	12300	11400	9710
26	1810	137	15	15	15	15	1190	4530	40900	11000	11500	11400
27	253	15	695	15	15	15	2680	2590	41200	11000	6840	11500
28	15	15	802	15	1780	7570	789	3220	42200	10900	1850	11500
29	443	3840	2920	15	---	7080	2030	2790	39500	3320	5080	11500
30	15	4790	2780	15	---	6840	15	3910	39100	2980	5080	15600
31	15	---	2920	15	---	7540	---	4750	---	1920	4130	---
TOTAL	50593	17653	33198	40011	11648	61938	65399	68497	487310	545020	199285	269955
MEAN	1632	588	1071	1291	416	1998	2180	2210	16240	17580	6429	8999
MAX	5560	4790	4640	7010	1780	7570	9620	7590	42200	43500	14200	15600
MIN	15	15	15	15	15	15	15	15	1070	1920	15	15
AC-FT	100400	35010	65850	79360	23100	122900	129700	135900	966600	1081000	395300	535500
CAL YR 1976	TOTAL	2358906	MEAN	6445	MAX	58200	MIN	15	AC-FT	4679000		
WTR YR 1977	TOTAL	1850507	MEAN	5070	MAX	43500	MIN	15	AC-FT	3670000		

ARKANSAS RIVER BASIN

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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 sapecific 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, 323 micromhos Mar. 11; minimum daily, 193 micromhos Jan. 7.

WATER TEMPERATURE: Maximum daily, 29.0°C July 20; minimum daily, 1.5°C Jan. 17, 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	pH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
UCT										
26...	--	--	1345	210	8.1	15.0	9	9.5	95	--
26...	1028	9740	1346	210	8.1	15.0	--	9.5	95	--
NOV										
17...	--	--	0830	240	8.1	6.0	7	13.6	110	--
17...	1028	9740	0831	240	8.1	6.0	--	13.6	110	7
DEC										
21...	--	--	1000	230	8.2	6.0	6	12.3	100	--
21...	1028	9740	1200	230	8.2	6.0	--	12.3	100	9
JAN										
20...	--	--	0920	250	8.1	1.5	3	--	--	--
20...	1028	9740	0921	250	8.1	1.5	--	--	--	15
FEB										
16...	--	--	1100	245	8.4	5.5	3	12.7	99	--
16...	1028	9740	1101	245	8.4	5.5	--	12.7	99	25
MAR										
30...	--	--	1230	295	7.7	15.0	8	9.5	94	--
30...	1028	9740	1231	295	7.7	15.0	--	9.5	94	15
APR										
20...	--	--	1200	261	7.4	18.0	5	8.4	90	--
20...	1028	9740	1201	261	7.4	18.0	--	8.4	90	5
MAY										
24...	--	--	1230	280	7.6	23.0	20	6.9	80	--
24...	1028	9740	1231	280	7.6	23.0	--	6.9	80	8
JUN										
14...	--	--	1155	265	7.4	26.5	3	8.1	99	--
14...	1028	9740	1156	265	7.4	26.5	--	8.1	99	8
JUL										
19...	--	--	1400	240	7.0	28.0	15	5.4	69	--
19...	1028	9740	1401	240	7.0	28.0	--	5.4	69	15
AUG										
23...	--	--	1330	265	7.4	25.0	15	4.5	54	--
23...	1028	9740	1415	265	7.4	25.0	--	4.5	54	9
SEP										
20...	--	--	1200	235	7.5	23.0	15	7.4	85	--
20...	1028	9740	1300	240	7.5	23.0	--	7.4	85	7

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible][illegible]

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)
OCT									
26...	128	.19	.00	--	.69	.69	3.1	.05	--
26...	--	--	--	--	.69	--	--	--	--
NOV									
17...	137	.20	.01	--	.54	.55	2.4	.04	--
17...	--	--	--	--	.90	--	--	--	--
DEC									
21...	134	.20	.10	--	.57	.67	3.0	.06	--
21...	--	--	--	--	.80	--	--	--	--
JAN									
20...	152	.20	.01	--	.27	.28	1.2	.01	--
20...	--	--	--	--	.70	--	--	--	--
FEB									
16...	144	.18	.01	--	.35	.36	1.6	.03	--
16...	--	--	--	--	2.5	--	--	--	--
MAR									
30...	138	.20	.01	--	.57	.58	2.6	.03	--
30...	--	--	--	--	1.5	--	--	--	--
APR									
20...	140	.20	.19	--	.24	.43	1.9	.04	--
20...	--	--	--	--	.90	--	--	--	--
MAY									
24...	124	.22	.26	--	.47	.73	3.2	.05	--
24...	--	--	--	--	1.4	--	--	--	--
JUN									
14...	147	.27	.09	--	.22	.31	1.4	.02	--
14...	--	--	--	--	1.1	--	--	--	--
JUL									
19...	144	.21	.43	--	.32	.75	3.3	.08	--
19...	--	--	--	--	1.6	--	--	--	--
AUG									
23...	140	.20	.42	--	.59	1.0	4.5	.07	--
23...	--	--	--	--	.81	--	--	--	--
SEP									
20...	138	.20	.39	.03	--	--	--	.16	.17
20...	--	--	--	--	1.2	--	--	--	--

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)
OCT											
26...	--	--	1345	--	--	--	--	--	--	--	--
26...	1028	9740	1346	--	--	--	--	--	--	--	--
NOV											
17...	--	--	0830	1	1	0	<10	<10	0	0	0
17...	1028	9740	0831	--	--	--	--	--	--	--	--
DEC											
21...	--	--	1000	--	--	--	--	--	--	--	--
21...	1028	9740	1200	--	--	--	--	--	--	--	--
JAN											
20...	--	--	0920	--	--	--	--	--	--	--	--
20...	1028	9740	0921	--	--	--	--	--	--	--	--
FEB											
16...	--	--	1100	0	0	0	<10	<9	1	0	0
16...	1028	9740	1101	--	--	--	--	--	--	--	--
MAR											
30...	--	--	1230	--	--	--	--	--	--	--	--
30...	1028	9740	1231	--	--	--	--	--	--	--	--
APR											
20...	--	--	1200	--	--	--	--	--	--	--	--
20...	1028	9740	1201	--	--	--	--	--	--	--	--
MAY											
24...	--	--	1230	--	--	0	--	--	1	--	--
24...	1028	9740	1231	--	--	--	--	--	--	--	--
JUN											
14...	--	--	1155	--	--	--	--	--	--	--	--
14...	1028	9740	1156	--	--	--	--	--	--	--	--
JUL											
19...	--	--	1400	--	--	--	--	--	--	--	--
19...	1028	9740	1401	--	--	--	--	--	--	--	--
AUG											
23...	--	--	1330	1	1	0	10	1	9	0	0
23...	1028	9740	1415	--	--	--	--	--	--	--	--
SEP											
20...	--	--	1200	--	--	--	--	--	--	--	--
20...	1028	9740	1300	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL CUBALT (CO) (UG/L)	SUS- PENDE CUBALT (CO) (UG/L)	DIS- SOLVED CUBALT (CU) (UG/L)	TOTAL CUPPER (CU) (UG/L)	SUS- PENDE CUPPER (CU) (UG/L)	DIS- SOLVED CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)
OCT										
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	100	--	--
NOV										
17...	0	<50	<49	1	<10	<6	4	240	30	<100
17...	--	--	--	--	--	--	--	<50	--	--
DEC										
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	100	--	--
JAN										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	140	--	--
FEB										
16...	10	<50	<50	0	10	8	2	220	10	<100
16...	--	--	--	--	--	--	--	220	--	--
MAR										
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	700	--	--
APR										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	<200	--	--
MAY										
24...	0	--	--	0	--	--	6	--	20	--
24...	--	--	--	--	--	--	--	--	--	--
JUN										
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	200	--	--
JUL										
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	240	--	--
AUG										
23...	0	<50	<50	0	10	0	13	680	30	<100
23...	--	--	--	--	--	--	--	--	--	--
SEP										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	600	--	--

DATE	SUS- PENDE LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDE MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDE MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)
OCT										
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	63	--	--	--	--	--	--	--
NOV										
17...	<91	9	20	20	0	--	--	.0	--	0
17...	--	--	9	--	--	--	--	--	3	--
DEC										
21...	--	--	--	--	--	--	--	--	--	--
21...	--	--	9	--	--	--	--	--	--	--
JAN										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	23	--	--	--	--	--	--	--
FEB										
16...	<96	4	60	50	10	.1	.0	.1	--	1
16...	--	--	60	--	--	--	--	--	9	--
MAR										
30...	--	--	--	--	--	--	--	--	--	--
30...	--	--	30	--	--	--	--	--	--	--
APR										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	30	--	--	--	--	--	--	--
MAY										
24...	--	1	--	--	8	--	--	.0	--	--
24...	--	--	--	--	--	--	--	--	8	--
JUN										
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	80	--	--	--	--	--	--	--
JUL										
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	80	--	--	--	--	--	--	--
AUG										
23...	<92	8	140	90	50	.2	.2	.0	--	0
23...	--	--	--	--	--	--	--	--	8	--
SEP										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	80	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 26,76 1345	NOV 17,76 0830	DEC 21,76 1000	JAN 20,77 0920	FEB 16,77 1100
TOTAL CELLS/ML	13000	4000	2600	2600	5500
DIVERSITY: DIVISION	0.6	1.6	1.7	1.2	1.2
..CLASS	0.8	1.6	1.7	1.2	1.3
...ORDER	0.9	1.9	1.9	1.7	1.6
...FAMILY	1.2	2.3	2.3	2.2	1.6
....GENUS	1.7	3.1	3.2	3.1	1.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAL)										
..CHLOROPHYCEAE										
...CHLOROCOCCEALES										
...DUCYSTACEAE										
....DICHOTOMOCOCCUS	--	-	350	9	160	6	210	8	--	-
...CHARACIACEAE										
...SCHROEDERIA	--	-	49	1	*	0	15	1	--	-
...COELASTRACEAE										
...COELASTRUM	--	-	--	-	--	-	--	-	--	-
...HYDRODICIYACEAE										
...PEOIASTRUM	1200	10	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
...GOLENKINIA	--	-	--	-	*	0	--	-	--	-
...MICRACTINIUM	--	-	--	-	--	-	--	-	--	-
...DUCYSTACEAE										
...ANKISTRODESUS	560	4	59	1	84	3	1000#	39	3500#	64
...CHODATELLA	94	1	--	-	--	-	--	-	88	2
...DICTYOSPHAERIUM	--	-	--	-	89	3	59	2	--	-
...FRANCEIA	--	-	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	380	3	29	1	22	1	--	-	--	-
...DUCYSTIS	--	-	49	1	61	2	74	3	--	-
...SELENASTRUM	--	-	--	-	--	-	--	-	--	-
...TETRAEDRON	--	-	*	0	*	0	--	-	--	-
...TREUBARIA	--	-	--	-	--	-	--	-	--	-
...WESTELLA	--	-	120	3	180	7	--	-	--	-
...SCENEDESMACEAE										
...ACTINASTRUM	--	-	--	-	--	-	--	-	--	-
...CRUCIGENIA	--	-	39	1	--	-	--	-	--	-
...SCENEDESMUS	380	3	140	3	170	6	89	3	--	-
...TETRASTRUM	--	-	350	9	100	4	240	9	--	-
...TETRASPORALES										
...COCOCUMYXACEAE										
...FLAKATOTIHRIX	--	-	--	-	--	-	--	-	--	-
...PALMELLACEAE										
...SPHAERICOCYSTIS	--	-	--	-	45	2	120	4	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	--	-	*	0	*	0	--	-	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINOIDISCEAE										
....CYCLOTETRA	850	7	410	10	130	5	300	11	790	14
....MELUSIRA	8800#	69	1300#	32	750#	29	100	4	180	3
...PENNALIS										
...ACHNANTHACEAE										
...COCONEIS	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
...FRAGILARIA	--	-	--	-	--	-	--	-	--	-
...SYNEURA	--	-	--	-	*	0	160	6	88	2
...NAVICULACEAE										
...NAVICULA	--	-	--	-	*	0	--	-	--	-
...NITZSCHIA										
...NITZSCHIA	280	2	*	0	22	1	59	2	350	6
...CHRYSOPHYCEAE										
...CHRYSDOMONADALES										
...MALLUMINADACEAE										
...MALLUMONAS	--	-	--	-	--	-	--	-	--	-
...UCHROMONADACEAE										
...UCHROMONAS	--	-	--	-	--	-	--	-	130	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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07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 26,76 1345		NOV 17,76 0830		DEC 21,76 1000		JAN 20,77 0920		FEB 16,77 1100	
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										
...CHROCOCCALES										
...CHROCOCCACEAE										
....AGMENELLUM	--	-	630#	16	--	-	--	-	--	-
....ANACYSTIS	--	-	98	2	670#	26	180	7	88	2
...HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
....CYLINDROSPERMUM	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	15	1	--	-
....OSCILLATORIA	--	-	320	8	--	-	15	1	260	5
....PHORMIDIUM	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
...CRYPTOMONADACEAE										
....CRYPTOMONAS	94	1	*	0	28	1	--	-	--	-
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	--	-	--	-
....LEPOCINCLIS	--	-	--	-	--	-	--	-	--	-
....PHACUS	--	-	--	-	--	-	--	-	--	-
....TRACHELUMONAS	--	-	*	0	*	0	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...PERIDINIALES										
...CERATIACEAE										
....CERATIUM	--	-	--	-	--	-	--	-	--	-
...GLENODINIAEAE										
...GLENODINIUM	--	-	--	-	*	0	*	0	--	-

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

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

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	MAY 24,77 1230	JUN 14,77 1155	JUL 19,77 1400	AUG 23,77 1330	SEP 20,77 1200
TOTAL CELLS/ML	15000	12000	7400	10000	17000
DIVERSITY: DIVISION	1.6	1.5	0.7	0.7	0.9
..CLASS	1.6	1.5	0.7	0.7	0.9
...ORDER	2.1	2.3	1.6	1.6	1.6
...FAMILY	2.5	2.9	2.0	1.9	1.9
....GENUS	3.1	3.7	2.4	2.6	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										
...CHLOROCOCCEALES										
...OOCYSTACEAE										
....DICHOTOMOCOCCUS	--	-	--	-	--	-	--	-	--	-
....CHARACIACEAE										
....SCHWUEDERIA	230	1	--	-	57	1	*	0	*	0
....COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	190	2	--	-
....HYDRODICTYACEAE										
....PEDIASTRUM	--	-	450	4	--	-	*	0	--	-
....MICRACITINACEAE										
....GULENKINIA	--	-	--	-	--	-	*	0	--	-
....MICRACITINIUM	--	-	--	-	--	-	57	1	--	-
...OOCYSTACEAE										
....ANKISTRUDESUS	*	0	--	-	*	0	110	1	110	1
....CHODATELLA	*	0	96	1	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	320	3	420	6	--	-	600	3
....FRANCEIA	--	-	--	-	--	-	--	-	*	0
....KIRCHNERIELLA	*	0	64	1	*	0	--	-	*	0
...OOCYSTIS	1600	10	--	-	--	-	--	-	110	1
....SELENASTRUM	--	-	*	0	--	-	57	1	--	-
....TETRAEDRON	--	-	*	0	*	0	--	-	--	-
....TREURARIA	--	-	--	-	--	-	*	0	--	-
....WESTELLA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	100	1	230	1
....CRUCIGENIA	1400	9	510	4	--	-	*	0	--	-
....SCENEDESMUS	2000	13	830	7	*	0	200	2	600	3
....TETRASTRUM	400	3	320	3	--	-	57	1	230	1
...TETRASPORALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	64	1	--	-	--	-	--	-
...PALMELLACEAE										
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	110	1	450	4	--	-	--	-	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...CUSCINODISCACEAE										
....CYCLOTETRA	1800	12	510	4	--	-	200	2	910	5
....MELOSIRA	850	6	1800	14	390	5	400	4	*	0
...PENNALES										
....ACHNANTHACEAE										
....COCCONEIS	--	-	--	-	--	-	--	-	*	0
....FRAGILARIACEAE										
....FRAGILARIA	--	-	--	-	--	-	*	0	--	-
....SYNEDRA	110	1	380	3	38	1	--	-	--	-
...NAVICULACEAE										
....NAVICULA	280	2	*	0	--	-	--	-	110	1
....NITZSCHIA	*	0	*	0	--	-	*	0	--	-
...CHRYSTOPHYCEAE										
...CHRYSUMONADACEAE										
...MALLOMONADACEAE										
....MALLOMONAS	--	-	--	-	--	-	--	-	*	0
...OCHROMONADACEAE										
....OCHROMONAS	--	-	--	-	--	-	--	-	--	-

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, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	MAY 24,77 1230		JUN 14,77 1155		JUL 19,77 1400		AUG 23,77 1330		SEP 20,77 1200	
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										
..CHROCCOCCEALES										
..CHROCCOCCEAE										
....AGMENELLUM	--	-	1000	8	2700#	36	340	3	6100#	36
....ANACYSTIS	1300	9	1900#	16	620	8	3000#	29	4700#	28
..HORMOGONALES										
..NOSTOCACEAE										
....ANABAFNA	--	-	960	8	130	2	270	3	2000	12
....CYLINDRUSPERMUM	--	-	--	-	740	10	--	-	--	-
..OSCILLATORIACEAE										
....LYNGBYA	--	-	380	3	--	-	1400	13	--	-
....OSCILLATORIA	4800#	32	2000#	16	--	-	3900#	37	880	5
....PHORMIMIDIUM	--	-	--	-	2300#	31	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
..CRYPTOMONIDACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-
..EUGLENOPHYCEAE										
..EUGLENALES										
..EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	*	0	--	-
....LEPOCINCLIS	--	-	--	-	--	-	--	-	*	0
....PHACUS	*	0	--	-	--	-	--	-	--	-
....TRACHELUMONAS	*	0	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
..PERIDINIALES										
..CERATIACEAE										
....CERATIUM	--	-	--	-	--	-	--	-	*	0
..GLENODINIACEAE										
....GLENODINIUM	--	-	--	-	--	-	--	-	--	-

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, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE=DAILY

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

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE=DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	239	245	246	246	837	260	258	294	266	294	242	247
2	239	262	243	261	883	268	259	266	268	296	239	248
3	246	250	293	246	955	256	262	263	267	292	241	247
4	242	246	---	247	1080	255	277	262	269	---	238	249
5	238	277	---	249	1190	256	262	264	272	284	244	246
6	242	246	---	249	1050	290	267	266	270	280	242	244
7	239	304	245	193	315	267	266	265	270	274	243	240
8	241	588	246	248	258	257	266	335	270	272	251	240
9	240	286	247	---	261	258	262	266	271	269	243	240
10	247	248	244	---	272	284	264	265	272	267	242	---
11	243	433	246	---	315	323	264	268	272	267	246	238
12	242	355	245	250	387	257	264	344	270	262	248	241
13	242	280	268	247	370	263	265	452	272	260	246	241
14	240	300	248	250	940	257	267	323	270	262	269	242
15	242	336	248	275	266	257	270	359	274	260	245	242
16	542	527	246	594	260	256	272	306	274	258	247	242
17	533	490	246	748	257	255	269	327	473	255	245	242
18	344	648	273	345	---	256	270	276	281	255	245	244
19	253	507	298	255	265	258	264	273	277	255	246	---
20	249	514	---	254	270	257	269	264	275	250	248	248
21	245	628	247	262	847	260	258	265	276	252	249	248
22	243	590	248	264	401	257	256	460	277	254	251	249
23	292	311	246	270	316	257	258	269	278	254	248	248
24	372	297	248	274	360	260	264	266	278	251	248	249
25	870	364	---	396	322	259	258	267	280	254	250	250
26	248	437	---	410	692	260	265	267	281	250	251	250
27	251	867	---	442	709	258	263	267	285	248	250	252
28	277	713	---	781	298	250	263	265	291	247	243	250
29	354	249	248	1020	---	254	263	267	294	243	248	252
30	411	245	250	887	---	254	263	267	297	244	247	---
31	424	---	248	837	---	256	---	265	---	225	249	---
MONTH	307	401	---	393	540	262	264	292	282	261	247	246
YEAR	MAX	1190	MIN	193	MEAN	311						

07194500 ARKANSAS RIVER NEAR MUSKOGEE, OK

LOCATION.--Lat 35°46'10", long 95°17'55", in NW 1/4 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)
OCT 26...	1028	9740	1600	800	7.8	15.5	13	9.4	96	16	206
NOV 17...	1028	9740	0800	1400	7.9	6.0	6	13.4	108	15	185
DEC 21...	1028	9740	1400	1100	8.2	6.0	6	12.6	102	12	208
FEB 16...	1028	9740	1500	1000	8.8	8.0	2	13.5	112	10	98
MAR 30...	1028	9740	1540	349	7.7	16.0	18	9.1	93	19	117
APR 20...	1028	9740	1700	871	8.2	21.0	12	9.3	106	11	162
MAY 24...	1028	9740	1600	1350	7.5	24.0	130	6.6	79	30	165
JUN 14...	1028	9740	1620	1350	8.1	29.5	18	11.8	151	18	193
JUL 19...	1028	9740	1615	245	7.5	27.5	14	5.8	73	12	110
AUG 23...	1028	9740	1700	259	7.0	26.0	16	5.5	68	12	98
SEP 20...	1028	9740	1600	400	7.4	25.0	53	7.5	90	14	126

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG)	TOTAL SODIUM (NA) (MG/L)	TOTAL POT- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 26...	63	16	160	5.8	--	258	.3	716	1.2	.06	--
NOV 17...	60	12	162	5.3	--	256	.4	664	1.6	.18	3
DEC 21...	61	13	160	9.2	--	286	.4	706	.90	.23	--
FEB 16...	35	5.2	15	3.1	21	22	.3	175	1.9	.07	<1
MAR 30...	4.0	2.8	10	2.0	31	38	.2	183	1.8	.22	--
APR 20...	52	11	112	4.5	71	173	.3	476	1.9	.19	--
MAY 24...	49	13	--	.9	55	266	.2	657	1.0	.37	8
JUN 14...	55	12	238	8.5	82	362	.3	845	.71	.17	--
JUL 19...	34	4.9	10	3.6	40	10	.2	152	1.6	.10	--
AUG 23...	34	4.9	<5.0	3.6	27	10	.1	152	.64	.14	3
SEP 20...	38	6.6	94	4.0	29	71	.2	272	1.3	.13	--

ARKANSAS RIVER BASIN

07194500 ARKANSAS RIVER NEAR MUSKOGEE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SEL- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 26...	--	--	--	200	--	51	--	--	--	--	--
NOV 17...	1	22	4	120	10	17	1.3	5	<1	3	3
DEC 21...	--	--	--	<100	--	32	--	--	--	--	--
FEB 16...	1	31	2	<100	9	30	<.5	4	--	2	7
MAR 30...	--	--	--	370	--	100	--	--	--	--	--
APR 20...	--	--	--	480	--	100	--	--	--	--	--
MAY 24...	4	38	12	4300	25	330	<.5	29	1	3	39
JUN 14...	--	--	--	340	--	80	--	--	--	--	--
JUL 19...	--	--	--	370	--	110	--	--	--	--	--
AUG 23...	<1	<5	4	680	10	140	<.5	6	<1	<2	14
SEP 20...	--	--	--	2400	--	110	--	--	--	--	--

07195500 ILLINOIS RIVER NEAR WATTS, OK

LOCATION.--Lat 36°07'48", long 94°34'12", in NE 1/4 sec.18, T.19 N., R.26 E., Adair County, Hydrologic Unit 11110103, near right bank on downstream side of pier of bridge on U.S. Highway 59, 1.5 mi (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) above mean sea level.

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.

COOPERATION.--Occasional discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--22 years, 600 ft³/s (16.99 m³/s), 12.84 in/yr (326 mm/yr), 434,700 acre-ft/yr (536 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. 28	0700	10,400 295	14.2 4.33	Sept. 29	2230	*11,700 331	14.99 4.569

Minimum daily discharge; 72 ft³/s (2.04 m³/s) Aug. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	128	134	112	107	150	188	948	187	110	143	124	108		
2	125	124	115	107	149	207	1170	179	107	224	111	101		
3	126	124	114	106	149	155	1160	174	105	208	104	94		
4	122	122	115	107	158	166	805	186	103	156	102	90		
5	156	126	133	107	168	171	679	170	102	130	97	88		
6	192	120	190	112	173	170	587	161	98	117	95	84		
7	174	116	261	111	170	160	516	151	94	108	90	82		
8	150	122	235	111	163	156	465	157	91	103	86	81		
9	140	112	168	128	159	152	422	181	90	114	81	80		
10	137	115	160	128	155	171	389	185	89	139	75	78		
11	129	157	149	135	156	162	364	164	89	144	73	88		
12	120	182	144	136	173	1070	329	148	88	117	72	103		
13	119	181	140	122	175	735	307	142	86	105	76	109		
14	123	158	136	119	177	503	296	138	104	100	80	120		
15	117	142	133	119	174	395	289	139	115	96	81	144		
16	114	135	131	119	169	339	273	132	108	91	79	162		
17	115	133	128	117	163	316	257	130	103	90	88	152		
18	121	131	127	116	152	271	265	124	99	86	112	135		
19	108	128	126	116	145	273	261	123	101	82	140	165		
20	117	127	115	112	145	245	284	131	105	81	127	227		
21	120	123	118	110	145	218	281	152	133	83	117	178		
22	125	121	117	110	174	210	257	135	141	103	106	138		
23	125	119	116	118	135	200	240	132	125	129	116	133		
24	116	120	127	123	162	203	232	123	114	121	104	120		
25	117	135	115	128	197	183	221	120	162	105	97	123		
26	119	134	114	136	194	180	211	118	212	105	92	127		
27	116	118	112	142	187	2910	214	116	159	121	90	114		
28	117	120	107	157	199	8410	200	119	148	127	84	129		
29	120	116	109	166	---	3780	190	120	137	129	89	3960		
30	130	113	106	167	---	1830	187	118	137	127	111	3470		
31	135	---	105	157	---	1210	---	114	---	139	117	---		
TOTAL	3973	3908	4178	3849	4616	25339	12299	4469	3455	3723	3016	10783		
MEAN	128	130	135	124	165	817	410	144	115	120	97.3	359		
MAX	192	182	261	167	199	8410	1170	187	212	224	140	3960		
MIN	108	112	105	106	135	152	187	114	86	81	72	78		
FSM	.20	.21	.21	.20	.26	1.29	.65	.23	.18	.19	.15	.57		
N.	.23	.23	.24	.23	.27	1.48	.72	.26	.20	.22	.18	.63		
C=FT	7880	7750	8290	7630	9160	50260	24400	8860	6850	7380	5980	21390		
AL YR 1976	TOTAL	161418	MEAN	441	MAX	19400	MIN	57	CFSM	.69	IN	9.46	AC=FT	320200
TR YR 1977	TOTAL	83608	MEAN	229	MAX	8410	MIN	72	CFSM	.36	IN	4.90	AC=FT	165800

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
UCT 20...	1028	9740	0930	300	8.0	14.0	13	10.9	104	--	108
NOV 17...	1028	9740	1140	360	8.3	8.0	--	10.4	88	20	137
DEC 07...	1028	9740	1125	210	9.1	5.0	8	8.6	69	9	112
FEB 15...	1028	9740	1215	230	8.2	7.0	2	10.2	84	14	126
MAR 15...	1028	9740	1125	210	7.4	13.0	61	10.1	97	21	106
APR 12...	1028	9740	1205	260	8.0	18.0	23	10.8	115	18	104
MAY 17...	1028	9740	1130	290	8.3	22.0	15	7.6	88	14	115
JUN 28...	1028	9740	1130	280	7.9	26.5	9	8.5	108	10	116
JUL 19...	1028	9740	1020	290	7.7	28.0	--	6.0	78	--	--
AUG 23...	1028	9740	1130	300	7.9	28.0	12	7.2	94	13	116
SEP 19...	1028	9740	1015	300	7.4	23.0	21	7.0	82	11	75

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT 20...	48	2.0	10	2.7	--	14	.1	163	--	.19	--
NOV 17...	51	1.8	<10	1.5	--	25	.1	160	.90	.19	<1
DEC 07...	46	1.8	11	2.1	--	14	.1	165	1.1	.19	--
FEB 15...	42	1.8	12	2.0	24	18	.0	158	1.3	.31	<1
MAR 15...	33	1.9	10	2.7	15	11	.1	157	1.8	.37	--
APR 12...	37	2.1	9.0	2.0	12	15	.1	94	1.2	.24	--
MAY 17...	42	2.0	13	2.5	14	10	.1	146	2.3	.25	<1
JUN 28...	44	1.8	9.0	2.9	8.0	10	.0	175	1.7	.28	--
JUL 19...	42	1.6	10	3.0	--	--	--	--	--	--	--
AUG 23...	45	1.8	15	3.3	8.0	13	.1	137	1.4	.25	4
SEP 19...	25	1.7	12	3.0	5.0	12	.0	151	1.0	.24	--

ARKANSAS RIVER BASIN

303

07195500 ILLINOIS RIVER NEAR WATTS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	300	--	139	--	--	--	--	--
NOV 17...	<1	16	<1	150	14	76	<.5	<1	<1	3	8
DEC 07...	--	--	--	220	--	52	--	--	--	--	--
FEB 15...	2	17	9	290	29	60	<.5	4	--	<1	12
MAR 15...	--	--	--	600	--	10	--	--	--	--	--
APR 12...	--	--	--	440	--	70	--	--	--	--	--
MAY 17...	2	10	6	380	6	250	<.5	5	<1	1	9
JUN 28...	--	--	--	380	--	260	--	--	--	--	--
JUL 19...	--	--	--	450	--	220	--	--	--	--	--
AUG 23...	<1	<5	4	360	9	150	<.5	5	<1	2	10
SEP 19...	--	--	--	1850	--	140	--	--	--	--	--

LOCATION.--Lat 36°11'54", long 94°42'30", in SW 1/4 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT 20...	1028	9740	0835	260	7.5	15.0	0	9.2	89	--	91
NOV 17...	1028	9740	1050	250	7.5	9.0	0	6.4	56	<3	112
DEC 07...	1028	9740	1040	240	7.9	6.0	1	6.8	56	<1	126
FEB 15...	1028	9740	1115	240	7.5	5.5	0	11.0	88	4	105
MAR 15...	1028	9740	1030	220	7.7	12.0	1	7.8	74	6	115
APR 12...	1028	9740	1110	240	7.5	15.0	1	10.9	108	13	95
MAY 17...	1028	9740	1040	250	7.3	20.0	0	8.4	93	<3	106
JUN 28...	1028	9740	1230	270	7.5	23.0	1	7.4	88	<3	111
JUL 19...	1028	9740	0940	280	7.2	25.0	--	6.1	74	--	--
AUG 23...	1028	9740	1045	280	7.1	24.0	2	6.4	77	<3	116
SEP 19...	1028	9740	0935	280	7.1	21.0	1	7.8	89	2	58

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLOU- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 20...	37	1.6	10	2.0	--	12	<.1	133	--	.09	--
NOV 17...	43	1.6	<10	2.2	--	14	--	139	.70	.09	<1
DEC 07...	39	1.6	<10	1.9	--	18	--	142	.60	.18	--
FEB 15...	38	1.7	14	2.0	27	21	--	158	.80	.17	<1
MAR 15...	36	1.5	17	1.3	7.0	9.0	.1	133	.90	.16	--
APR 12...	34	1.6	12	2.1	7.0	17	.1	92	1.2	.17	--
MAY 17...	39	1.7	16	2.8	8.0	27	.0	132	.93	.15	3
JUN 28...	43	1.6	7.0	2.5	6.0	9.0	.0	177	1.2	.13	--
JUL 19...	43	1.6	5.0	2.3	--	--	--	--	--	--	--
AUG 23...	44	1.6	5.0	2.3	10	12	.1	155	.97	.14	1
SEP 19...	20	1.4	6.0	1.5	5.0	7.0	<.6	100	1.6	.11	--

ARKANSAS RIVER BASIN

305

07196000 FLINT CREEK NEAR KANSAS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHROM- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANG- NESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	<100	--	15	--	--	--	--	--
NOV 17...	1	8	<1	<50	9	<5	<.5	<1	<1	2	3
DEC 07...	--	--	--	<100	--	<5	--	--	--	--	--
FEB 15...	1	21	7	<100	2	<10	<.5	5	--	<1	4
MAR 15...	--	--	--	120	--	<10	--	--	--	--	--
APR 12...	--	--	--	200	--	<10	--	--	--	--	--
MAY 17...	<1	6	3	<200	3	20	<.5	6	<1	2	6
JUN 28...	--	--	--	<200	--	30	--	--	--	--	--
JUL 19...	--	--	--	<200	--	10	--	--	--	--	--
AUG 23...	<1	6	3	90	15	20	<.5	4	<1	<2	3
SEP 19...	--	--	--	470	--	20	--	--	--	--	--

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK

LOCATION.--Lat 35°55'17", long 94°55'15", in SE 1/4 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) above mean sea level (Corps of Engineers bench mark). Prior to Feb. 23, 1939, nonrecording gage.

REMARKS.--Records good.

AVERAGE DISCHARGE.--42 years, 901 ft³/s (25.5 m³/s), 12.76 in/yr (324 mm/yr), 652,800 acre-ft/yr (805 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.--Maximum discharge, 10,400 ft³/s (295 m³/s) at 1145 Mar. 29, gage height, 12.29 ft (3.746 m), no other peak above base of 9,000 ft³/s (255 m³/s); minimum, 123 ft³/s (3.48 m³/s) June 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	197	199	185	264	319	1870	280	171	244	223	145
2	194	200	194	184	256	322	1530	272	171	223	216	149
3	190	198	191	184	251	306	1520	265	165	213	199	146
4	188	191	189	184	249	293	1510	255	161	252	182	142
5	245	188	190	183	250	284	1120	250	152	244	171	141
6	269	187	240	185	257	290	997	248	146	212	158	165
7	291	186	293	187	263	264	884	232	141	186	144	212
8	298	182	364	187	265	255	780	258	138	172	136	193
9	272	179	426	196	260	249	719	264	135	170	131	181
10	247	179	406	196	254	244	671	225	133	175	127	171
11	229	192	360	198	251	321	617	214	129	163	133	170
12	217	205	316	202	262	519	571	214	126	172	131	180
13	206	228	293	212	273	1040	528	211	124	173	127	235
14	197	252	274	213	282	1200	487	211	126	161	136	252
15	190	252	259	207	285	929	458	209	131	151	138	299
16	185	237	245	195	286	795	443	209	148	145	166	399
17	182	223	236	191	282	711	422	207	155	148	166	398
18	179	213	229	185	275	652	408	202	150	138	174	374
19	179	208	223	198	265	578	399	194	144	133	181	332
20	181	205	216	207	254	536	403	217	139	130	181	297
21	176	200	212	202	246	484	431	222	139	127	179	307
22	178	197	205	195	243	440	453	217	139	127	177	327
23	183	193	203	193	251	404	424	219	149	128	175	298
24	187	190	202	195	263	378	400	207	160	139	166	263
25	186	190	199	203	236	357	376	196	161	163	156	243
26	181	198	204	212	300	350	352	186	157	205	149	227
27	179	211	198	224	312	868	333	179	177	826	138	217
28	179	219	194	236	293	3600	317	176	209	386	144	217
29	181	210	192	249	---	9430	304	173	219	273	158	218
30	190	205	186	263	---	5400	290	172	294	247	148	3810
31	191	---	186	268	---	2730	---	172	---	231	141	---
TOTAL	6351	6115	7524	6319	7428	34548	20017	6756	4689	6457	4951	10708
MEAN	205	204	243	204	265	1114	667	218	156	208	160	357
MAX	298	252	426	268	512	9430	1870	280	294	826	225	3810
MIN	176	179	186	183	236	244	290	172	124	127	127	141
CFSM	.21	.21	.25	.21	.28	1.16	.70	.23	.16	.22	.17	.37
IN.	.25	.24	.29	.25	.29	1.34	.78	.26	.18	.25	.19	.42
AC-FT	12600	12130	14920	12530	14730	68530	39700	13400	9300	12810	9820	21240
CAL YR 1976 TOTAL	244599			MEAN 668	MAX 25800	MIN 174	CFSM .70	IN 9.49	AC-FT 485200			
WTR YR 1977 TOTAL	121863			MEAN 334	MAX 9430	MIN 124	CFSM .35	IN 4.73	AC-FT 241700			

ARKANSAS RIVER BASIN

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07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
20...	1028	9740	1145	260	7.8	15.0	2	9.1	90	5	122
NOV											
17...	1028	9740	1350	240	8.1	10.0	8	7.8	70	9	109
DEC											
07...	1028	9740	1330	230	8.3	8.0	3	6.5	56	5	97
FEB											
15...	1028	9740	1400	250	8.5	9.0	2	12.1	105	12	113
MAR											
15...	1028	9740	1315	220	8.0	14.0	13	12.6	124	12	108
APR											
12...	1028	9740	1355	220	7.5	18.0	7	10.7	114	6	95
MAY											
17...	1028	9740	1415	240	7.7	23.0	4	8.7	102	3	96
JUN											
28...	1028	9740	0930	250	7.4	24.0	2	7.6	93	4	102
JUL											
19...	1028	9740	1230	250	7.6	28.0	--	7.5	97	--	--
AUG											
23...	1028	9740	1330	260	7.1	26.0	5	7.4	90	4	99
SEP											
19...	1028	9740	1200	250	7.2	25.0	4	7.1	87	<3	68

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
20...	35	2.0	6.0	2.0	--	6.0	.1	156	1.0	<.08	--
NOV											
17...	41	1.9	<10	2.9	--	18	.3	124	.50	.03	<1
DEC											
07...	36	1.9	40	1.8	--	74	.1	129	.60	.04	--
FEB											
15...	38	2.0	6.0	2.0	61	10	.0	157	1.3	.12	<1
MAR											
15...	36	1.8	23	2.8	12	10	--	125	1.6	.15	--
APR											
12...	33	2.1	7.0	2.5	24	7.0	.1	71	1.7	.10	--
MAY											
17...	35	1.9	<10	1.8	11	7.0	.0	128	1.4	.07	<1
JUN											
28...	39	1.8	5.0	2.1	6.0	8.0	<.0	139	1.0	.07	--
JUL											
19...	37	1.8	10	2.1	--	--	--	--	--	--	--
AUG											
23...	38	1.8	5.0	2.3	8.0	9.0	.0	123	.81	.09	<1
SEP											
19...	24	1.8	10	2.1	5.0	9.0	<.0	113	.60	.07	--

ARKANSAS RIVER BASIN

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT											
20...	--	--	--	<100	--	11	--	--	--	--	--
NOV											
17...	<1	33	<1	<50	10	<5	<.5	<1	<1	1	3
DEC											
07...	--	--	--	120	--	<5	--	--	--	--	--
FEB											
15...	1	23	8	<100	4	<10	<.5	3	--	<1	5
MAR											
15...	--	--	--	370	--	20	--	--	--	--	--
APR											
12...	--	--	--	290	--	20	--	--	--	--	--
MAY											
17...	1	10	6	200	8	30	<.5	5	<1	<1	5
JUN											
28...	--	--	--	<200	--	30	--	--	--	--	--
JUL											
19...	--	--	--	<200	--	30	--	--	--	--	--
AUG											
23...	<1	<5	3	170	<5	50	<.5	4	4	<2	3
SEP											
19...	--	--	--	710	--	40	--	--	--	--	--

ARKANSAS RIVER BASIN

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07196510 TAHLEQUAH CREEK AT TAHLEQUAH, OK

LOCATION.--Lat 35°53'34", long 94°57'23", on south line of NE 1/4 sec.3, T.16 N., R.22 E., Cherokee County, Hydrologic Unit 11110103, at county road bridge, 0.8 miles (1.3 km) upstream from the Illinois River, 1.6 miles (2.6 km) southeast of Tahlequah, and at mile 1.0 (1.6 km).

DRAINAGE AREA.--13.4 mi² (34.7 km²).

PERIOD OF RECORD.--October 1976 to September 1977 (discontinued).

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COLLECTING SAMPLE	CODE FOR AGENCY ANALYZING SAMPLE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHMS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARDNESS (CA, MG) (MG/L)
CT												
20...	1028	9740	1230	--	320	8.5	13.0	2	11.4	108	9	152
OV												
17...	1028	9740	1450	--	280	7.7	12.0	1	10.8	102	<3	112
EC												
07...	1028	9740	1430	--	280	8.4	7.0	6	7.4	62	2	137
EB												
15...	1028	9740	1450	10	310	8.6	8.0	1	12.4	105	4	24
AR												
15...	1028	9740	1415	48	240	8.3	18.0	7	9.4	101	9	131
PR												
12...	1028	9740	1435	17	290	7.6	20.0	3	9.9	109	19	76
AY												
17...	1028	9740	1500	4.0	240	8.0	24.0	6	9.6	116	23	102
JN												
28...	1028	9740	0900	5.5	280	7.8	21.5	6	8.9	103	11	125
JG												
23...	1028	9740	1415	33	230	7.5	26.0	35	6.9	86	19	88
IP												
19...	1028	9740	1230	44	260	7.6	21.0	2	8.1	92	<3	78

DATE	TOTAL CALCIUM (CA) (MG/L)	TOTAL MAGNESIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL POTASSIUM (K) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	TOTAL FLUORIDE (F) (MG/L)	TOTAL FILTERABLE RESIDUE (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT											
20...	45	2.6	10	2.4	--	10	.2	185	.70	.12	--
NOV											
17...	46	2.3	<10	2.9	--	14	.4	165	.50	.11	2
DEC											
07...	50	2.5	<10	2.3	--	18	.1	176	1.0	.14	--
FEB											
15...	5.2	2.6	12	1.4	34	18	.1	195	1.4	.15	1
MAR											
15...	41	1.9	<10	1.8	--	7.0	.1	139	1.0	.15	--
APR											
12...	27	1.8	9.0	2.5	11	16	1.3	38	.90	.12	--
MAY											
17...	39	2.0	10	2.5	18	6.0	.2	153	1.4	.19	4
JUN											
28...	48	2.2	8.0	2.6	11	7.0	.1	254	1.4	.20	--
AUG											
23...	31	1.7	<5.0	4.6	12	7.0	.1	147	1.2	.24	3
SEP											
19...	27	2.0	11	1.8	9.0	6.0	.0	185	.84	.11	--

ARKANSAS RIVER BASIN

07196510 TAHLEQUAH CREEK AT TAHLEQUAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT											
20...	--	--	--	100	--	8	--	--	--	--	--
NOV											
17...	1	13	<1	<50	15	<5	<.5	<1	<1	2	3
DEC											
07...	--	--	--	160	--	14	--	--	--	--	--
FEB											
15...	1	20	4	<100	7	<10	<.5	4	--	3	6
MAR											
15...	--	--	--	270	--	30	--	--	--	--	--
APR											
12...	--	--	--	200	--	<10	--	--	--	--	--
MAY											
17...	<1	9	6	220	24	20	<.5	6	<1	3	13
JUN											
28...	--	--	--	<200	--	100	--	--	--	--	--
AUG											
23...	<1	<5	2	340	5	40	<.5	7	<1	<2	5
SEP											
19...	--	--	--	160	--	10	--	--	--	--	--

ARKANSAS RIVER BASIN

311

07197000 BARON FORK AT ELDON, OK

LOCATION.--Lat 35°55'16", long 94°50'18", in SE 1/4 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) above mean sea level (levels by Corps of Engineers). Prior to Dec. 14, 1948, nonrecording gaging at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--29 years, 295 ft³/s (8,354 m³/s), 13.04 in/yr (331 mm/yr), 213,700 acre-ft/y (263 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.--Maximum discharge, 11,600 ft³/s (329 m³/s) at 2245 Mar. 27, gage height, 15.32 ft (4.670 m), no other peak above base of 6,000 ft³/s (170 m³/s); minimum, 15 ft³/s (0.42 m³/s) July 8,9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	48	40	39	86	113	756	93	38	23	83	51
2	32	48	39	39	79	104	759	90	36	22	70	46
3	31	48	39	38	77	99	743	87	35	21	63	42
4	31	45	38	38	77	99	589	84	33	20	56	38
5	48	44	38	37	84	103	489	83	32	18	50	35
6	55	43	58	37	97	100	418	79	31	17	45	33
7	59	42	117	37	97	93	363	76	29	17	41	33
8	56	40	183	37	90	88	321	74	28	16	36	34
9	51	40	145	40	84	83	284	77	27	18	33	34
10	46	39	117	40	79	80	252	73	25	59	30	33
11	42	47	98	40	77	127	227	69	24	59	28	34
12	41	54	87	38	81	776	207	66	23	42	51	37
13	38	54	79	39	85	584	192	64	22	34	86	42
14	37	53	73	39	95	435	180	61	22	30	71	51
15	36	54	68	40	92	350	168	59	21	28	60	112
16	35	53	65	40	86	290	158	57	21	27	52	309
17	34	51	62	40	81	246	150	54	22	25	51	258
18	34	50	58	40	76	218	148	54	22	23	49	202
19	35	49	56	40	72	192	146	51	21	21	47	166
20	34	48	53	39	68	170	139	56	21	20	44	139
21	34	46	51	39	66	151	160	57	21	20	41	117
22	34	45	50	39	64	136	151	58	20	22	38	101
23	36	44	48	41	65	123	140	55	19	21	38	88
24	37	43	47	43	77	113	131	52	19	19	36	80
25	37	41	46	46	106	104	123	50	22	18	34	72
26	37	43	45	51	105	98	117	47	24	18	31	68
27	49	41	44	62	99	2810	111	44	24	171	29	62
28	52	41	43	79	115	5880	104	42	23	268	30	59
29	50	40	42	96	---	2680	99	42	23	178	37	57
30	49	40	41	99	---	1460	95	41	23	125	56	58
31	48	---	39	93	---	976	---	39	---	99	56	---
TOTAL	1271	1374	2009	1465	2360	18881	7920	1936	751	1499	1472	2491
MEAN	41.0	45.8	64.8	47.3	84.3	609	264	62.5	25.0	48.4	47.5	83.0
MAX	59	54	183	99	115	5880	759	93	38	268	86	309
MIN	31	39	38	37	64	80	95	39	19	16	28	33
CFSM	.13	.15	.21	.15	.28	1.98	.86	.20	.08	.16	.16	.27
IN.	.15	.17	.24	.18	.29	2.29	.96	.23	.09	.18	.18	.30
AC-FT	2520	2730	3980	2910	4680	37450	15710	3840	1490	2970	2420	4940
CAL YR 1976	TOTAL	86851	MEAN 237	MAX 16700	MIN 23	CFSM .77	IN 10.52	AC-FT 172300				
WTR YR 1977	TOTAL	43429	MEAN 119	MAX 5880	MIN 16	CFSM .39	IN 5.26	AC-FT 86140				

ARKANSAS RIVER BASIN

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT 20...	1028	9740	1050	220	7.4	16.0	12	9.4	93	3	126
NOV 17...	1028	9740	1300	200	7.6	12.0	0	10.2	95	<3	95
DEC 07...	1028	9740	1245	180	8.3	8.0	0	6.4	55	2	103
FEB 15...	1028	9740	1315	200	7.7	8.0	0	11.2	95	5	97
MAR 15...	1028	9740	1230	180	7.6	14.0	2	10.2	100	5	90
APR 12...	1028	9740	1310	180	7.4	17.0	2	10.1	105	4	82
MAY 17...	1028	9740	1235	200	7.4	20.0	0	9.4	104	<3	83
JUN 28...	1028	9740	1030	200	7.2	20.5	0	7.9	90	<3	87
JUL 19...	1028	9740	1145	210	7.1	24.0	--	7.0	84	--	--
AUG 23...	1028	9740	1235	200	7.4	25.0	1	7.9	96	<3	84
SEP 19...	1028	9740	1120	230	7.4	23.0	1	7.2	82	<3	67

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 20...	30	1.7	7.0	1.2	--	10	.1	137	.10	<.08	--
NOV 17...	33	1.6	<10	2.8	--	11	.1	119	.70	.04	<1
DEC 07...	31	1.7	<10	<1.0	--	11	.1	96	.50	<.03	--
FEB 15...	32	3.8	7.0	1.4	31	10	.0	131	.70	.06	<1
MAR 15...	30	1.5	<10	1.5	--	5.0	.1	96	1.0	.05	--
APR 12...	29	1.9	5.0	2.0	9.0	6.0	.1	60	1.1	.04	--
MAY 17...	31	1.6	<10	1.2	11	4.0	.0	106	1.4	.03	<1
JUN 28...	33	1.6	3.0	1.5	0.0	4.0	<.0	124	.70	.03	--
JUL 19...	32	1.5	6.0	1.2	--	--	--	--	--	--	--
AUG 23...	34	1.6	10	1.3	8.0	6.0	.1	104	.81	.06	<1
SEP 19...	23	2.2	13	1.4	5.0	7.0	<.0	127	.60	.04	--

ARKANSAS RIVER BASIN

313

07197000 BARON FORK AT ELDON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT											
20...	--	--	--	<100	--	5	--	--	--	--	--
NOV											
17...	1	9	<1	<50	5	<5	<.5	<1	<1	1	9
DEC											
07...	--	--	--	<100	--	<5	--	--	--	--	--
FEB											
15...	1	18	10	<100	3	<10	1.3	3	--	3	3
MAR											
15...	--	--	--	310	--	<10	--	--	--	--	--
APR											
12...	--	--	--	280	--	10	--	--	--	--	--
MAY											
17...	<1	4	5	<200	11	<10	<.5	3	<1	<1	4
JUN											
28...	--	--	--	<200	--	10	--	--	--	--	--
JUL											
19...	--	--	--	<200	--	<10	--	--	--	--	--
AUG											
23...	<1	<5	<2	<100	5	10	<.5	<3	<1	<2	2
SEP											
19...	--	--	--	840	--	20	--	--	--	--	--

ARKANSAS RIVER BASIN

07197500 TENKILLER FERRY LAKE NEAR GORE, OK

LOCATION.--Lat 35°35'43", long 95°02'57", in SE 1/4 SW 1/4 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 mean sea level. 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, 635,100 acre-ft (783 hm³) May 28, elevation, 630.52 ft (192.182 m); minimum, 428,400 acre-ft (528 hm³) Jan. 19, elevation, 611.78 ft (186.471 m).

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

611	420,800	623	545,200
615	459,900	627	591,800
619	501,200	631	641,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	543900	480400	466200	463100	435700	452800	602000	632400	633900	624100	610200	590800
2	544100	479900	464200	463400	436400	453700	609400	630200	633900	624100	610500	588400
3	544100	478500	464000	460200	437100	454600	614900	630200	633900	624100	610000	588200
4	543100	477100	464000	458100	437800	455300	620300	629800	633900	624100	609000	588200
5	541700	475800	464900	456900	438400	456000	621100	629700	633600	624100	607900	588700
6	540700	476100	465800	456000	439100	456500	621300	630200	632100	623300	607900	588800
7	540400	476200	465400	454300	439700	457100	624400	630800	631900	622300	607800	588600
8	539600	475400	465100	452800	440300	457800	627100	631500	631500	621800	605900	587200
9	537600	475600	464900	448000	441100	458400	629600	629100	630900	622200	603200	587300
10	537900	475600	464900	443600	441700	459000	631500	628100	629900	622100	601500	587200
11	535400	474200	466000	439000	442700	465000	630500	628300	629800	620100	601400	587500
12	531800	471900	467000	434600	443400	468600	628900	628200	629800	618200	601300	585800
13	528100	472000	466400	434400	443900	472500	627000	628500	627800	616400	602500	587300
14	524600	472400	465800	435000	444500	476400	624800	628800	627600	613700	602500	587400
15	521400	472400	465600	435600	444200	479800	623200	629300	626500	611400	601600	587900
16	521200	472100	465100	436000	444800	482400	624400	629300	626200	611100	601500	588500
17	521100	472100	464900	432300	445600	484500	625900	629900	625000	610900	600400	589500
18	517300	471900	464500	429800	446200	486800	624800	630200	624900	608000	600200	590200
19	513200	472500	466200	428800	446600	488400	625400	630500	624800	605600	600000	590900
20	509200	472800	464800	429200	447200	489900	627000	631800	624400	603600	600000	591400
21	505600	473000	464000	429600	447700	491500	628900	632400	624400	601800	599900	591800
22	501300	472600	462500	430000	448200	492600	627700	632600	623900	601400	599800	591600
23	500200	471800	462500	430500	449000	493700	629100	633000	623400	601100	599800	591200
24	500700	470600	462900	431200	449600	494700	630200	633400	624300	600300	598100	591700
25	497100	470900	463300	431700	450300	495700	627700	633900	624400	597500	596100	591900
26	493000	470200	463700	432300	451000	498000	628600	634000	626600	595700	594600	592200
27	489100	470500	463300	433000	451600	519100	628900	634100	626500	605000	594300	592400
28	485300	470600	463500	433600	452300	543100	629900	634800	625600	606600	595500	593000
29	483600	468900	463300	434200	---	568900	630700	633600	625000	607400	595700	591800
30	483800	467000	463500	435000	---	585600	631700	633600	623800	608400	595500	593600
31	484200	---	462800	434900	---	595100	---	633700	---	610400	593300	---
MAX	544100	480400	467000	463400	452300	595100	631700	634800	633900	624100	610500	593600
MIN	483600	467000	462500	428800	435700	452800	602000	623400	595700	593300	585800	585800
†	617.37	615.69	615.28	612.45	614.24	627.27	630.24	630.41	629.60	628.51	627.12	627.15
‡	-61,000	-17,200	-4,200	-27,900	+17,400	+142,800	+36,600	+2,000	-9,900	-13,400	-17,100	+300

CAL YR 1976 MAX 810600 MIN 462500 ‡ -190,800
WTR YR 1977 MAX 634800 MIN 428800 ‡ +48,400

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

ARKANSAS RIVER BASIN

315

07198000 ILLINOIS RIVER NEAR GORE, OK

LOCATION.--Lat 35°34'23", long 95°04'07", in NE 1/4 SW 1/4 sec.27, T.13 N., R.21 E., Sequoyah County, Hydrologic Unit 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) above mean sea level. 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 19 discharge measurement furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--39 years (water years 1924-25, 1939-77), 1,549 ft³/s (43.87 m³/s), 1,122,000 acre-ft/yr (1.38 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, 4,000 ft³/s (113 m³/s) Jan. 17, gage height, 7.56 ft (2.304 m); minimum daily, 48 ft³/s (1.36 m³/s) Nov. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	560	2030	494	61	89	85	100	76	71	138	222	1520
2	110	448	1020	58	82	85	92	1690	133	118	143	1530
3	64	753	280	1710	85	94	87	443	129	122	521	155
4	1050	720	64	1130	80	96	155	584	165	135	747	124
5	1760	631	82	601	80	89	1780	505	126	138	696	143
6	760	77	662	720	84	84	1830	87	934	650	133	140
7	222	61	453	823	85	84	102	80	129	637	133	299
8	484	350	453	1110	79	85	87	80	131	359	1190	989
9	1200	118	544	3030	79	85	84	1690	367	129	1350	150
10	79	165	510	2620	85	84	74	753	607	122	1180	124
11	1490	1060	64	2540	80	239	1510	201	135	1150	919	126
12	2120	1220	52	2570	82	157	1860	397	129	1090	143	981
13	2230	74	500	411	77	102	1950	147	1010	1100	129	150
14	2040	61	521	79	163	96	2030	82	150	1550	145	145
15	1970	273	371	67	595	87	1720	70	637	1330	675	145
16	85	280	384	70	96	92	107	150	155	147	210	147
17	65	222	342	2250	92	89	65	87	681	133	904	138
18	1930	219	60	1380	79	89	1980	70	135	1470	150	143
19	2270	65	53	753	70	87	669	77	124	1410	140	138
20	2190	60	662	67	71	82	1540	105	138	973	138	135
21	1890	61	458	98	71	85	479	76	138	973	193	135
22	2270	270	845	67	84	82	1640	76	131	277	216	505
23	981	453	204	61	79	87	131	74	288	129	681	532
24	82	681	57	87	74	84	84	84	140	484	1110	133
25	1980	105	55	173	77	87	1940	74	129	1410	1170	126
26	2160	448	55	89	80	76	110	77	138	1200	845	143
27	2080	77	334	150	77	747	195	79	201	157	147	140
28	2080	48	120	90	79	291	96	79	644	213	150	468
29	1330	1090	120	94	---	138	84	889	957	210	143	1080
30	76	572	201	87	---	107	84	126	874	145	219	1300
31	61	---	346	468	---	98	---	76	---	150	1360	---
TOTAL	37669	12692	10366	23514	2654	3873	22665	9084	9726	18249	16302	11984
MEAN	1215	423	334	759	102	125	756	293	324	589	526	399
MAX	2270	2030	1020	3030	595	747	2030	1690	1010	1550	1360	1530
MIN	61	48	52	58	70	76	65	70	71	118	129	124
AC-FT	74720	25170	20560	46640	5660	7680	44960	18020	19290	36200	32340	23770
CAL YR 1976 TOTAL	513514			1403	MAX 10400	MIN 48	AC-FT 1019000					
WTR YR 1977 TOTAL	178978			MEAN 490	MAX 3030	MIN 48	AC-FT 355000					

ARKANSAS RIVER BASIN

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT												
01...	--	--	0830	17	174	7.8	16.0	--	--	--	--	75
14...	1028	9740	1330	3550	--	7.1	19.0	9	4.2	47	9	--
15...	--	--	1430	3530	162	7.0	17.0	--	--	--	--	--
NOV												
09...	--	--	1145	368	185	8.0	15.5	--	9.5	96	--	75
09...	1028	9740	1146	368	185	8.0	15.5	2	9.5	96	8	--
DEC												
14...	--	--	1100	3650	630	7.0	9.5	--	14.0	122	--	150
14...	1028	9740	1101	3650	630	7.0	9.5	2	14.0	122	2	--
JAN												
26...	--	--	1215	87	175	7.5	8.0	--	13.2	114	--	49
26...	1028	9740	1216	87	175	7.5	8.0	1	13.2	114	4	--
FEB												
08...	--	--	1105	448	210	8.4	4.0	--	13.8	104	--	82
08...	1028	9740	1106	448	210	8.4	4.0	2	13.8	104	12	--
MAR												
08...	1028	9740	1130	438	295	8.3	13.0	1	14.2	135	8	--
APR												
12...	--	--	1230	3250	207	7.1	10.0	--	10.1	89	--	79
12...	1028	9740	1231	3250	207	7.1	10.0	2	10.1	89	0	--
MAY												
10...	--	--	1140	3390	179	7.5	10.5	--	8.8	79	--	87
10...	1028	9740	1141	3390	179	7.5	10.5	1	8.8	79	3	--
JUN												
07...	--	--	1100	27	190	7.8	8.0	--	8.9	76	--	81
07...	1028	9740	1101	27	190	7.8	8.0	1	8.9	76	4	--
JUL												
12...	1028	9740	1145	118	180	7.4	9.0	0	7.9	69	<3	--
12...	--	--	1146	118	180	7.4	9.0	--	7.9	69	--	84
AUG												
09...	1028	9740	1200	1540	220	7.9	11.0	0	3.8	35	3	--
09...	--	--	1230	2430	220	7.9	11.0	--	3.8	35	--	84
SEP												
13...	--	--	1645	73	240	7.6	13.5	--	6.8	66	--	84
13...	1028	9740	1700	64	240	7.6	13.5	1	6.8	66	--	--

07198000 ILLINOIS RIVER NEAR GORE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CaCO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)
OCT 01...	11	27	1.9	16	31	.8	2.2	78	0	64	2.0
14...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
NOV 09...	10	27	1.8	4.7	12	.2	2.0	79	0	65	1.3
09...	--	--	--	--	--	--	--	--	--	--	--
DEC 14...	71	29	18	68	49	2.4	5.7	92	0	75	15
14...	--	--	--	--	--	--	--	--	--	--	--
JAN 26...	0	17	1.6	3.8	14	.2	1.9	90	0	74	4.6
26...	--	--	--	--	--	--	--	--	--	--	--
FEB 08...	6	30	1.7	3.9	9	.2	1.9	92	0	75	.6
08...	--	--	--	--	--	--	--	--	--	--	--
MAR 08...	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
APR 12...	6	29	1.6	3.2	8	.2	1.9	89	0	73	11
12...	--	--	--	--	--	--	--	--	--	--	--
MAY 10...	12	32	1.7	3.5	8	.2	1.9	91	0	75	4.6
10...	--	--	--	--	--	--	--	--	--	--	--
JUN 07...	6	30	1.5	4.1	10	.2	2.9	91	0	75	2.3
07...	--	--	--	--	--	--	--	--	--	--	--
JUL 12...	--	--	--	--	--	--	--	--	--	--	--
12...	9	31	1.7	3.8	9	.2	2.2	92	0	75	5.9
AUG 09...	--	--	--	--	--	--	--	--	--	--	--
09...	8	31	1.7	2.9	7	.1	1.8	93	0	76	1.9
SEP 13...	8	31	1.7	7.4	16	.4	2.0	93	0	76	3.7
13...	--	--	--	--	--	--	--	--	--	--	--

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	TOTAL FLUORIDE (F) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 01...	7.6	26	--	--	124	.17	5.69	.11	--	--	--
14...	--	--	<.1	--	--	--	--	--	.10	<.12	--
15...	--	--	--	--	--	--	--	--	--	--	--
NOV 09...	7.3	7.0	--	.1	98	.13	97.4	.42	--	--	--
09...	--	--	--	--	--	--	--	--	.20	.02	<1
DEC 14...	130	92	--	.2	374	.51	3690	.06	--	--	--
14...	--	--	--	--	--	--	--	--	--	<.02	--
JAN 26...	7.8	5.8	--	.1	91	.12	21.4	.18	--	--	--
26...	--	--	--	--	--	--	--	--	1.1	<.10	--
FEB 08...	7.4	5.6	--	--	110	.15	133	.41	--	--	--
08...	--	--	.1	--	--	--	--	--	.90	.06	<1
MAR 08...	--	--	--	--	--	--	--	--	1.2	.40	--
08...	--	--	--	--	--	--	--	--	--	--	--
APR 12...	13	5.5	--	--	96	.13	842	.13	--	--	--
12...	--	--	.1	--	--	--	--	--	1.9	.04	--
MAY 10...	8.6	4.8	--	--	88	.12	805	.22	--	--	--
10...	--	--	.1	--	--	--	--	--	1.2	.01	<1
JUN 07...	5.0	6.4	--	--	92	.13	6.71	.83	--	--	--
07...	--	--	.1	--	--	--	--	--	1.2	.04	--
JUL 12...	--	--	.1	--	--	--	--	--	1.5	.02	--
12...	9.7	8.0	--	--	92	.13	29.3	--	--	--	--
AUG 09...	--	--	.0	--	--	--	--	--	1.4	.01	<1
09...	6.5	5.7	--	--	91	.12	597	--	--	--	--
SEP 13...	6.0	14	--	--	142	.19	28.0	--	--	--	--
13...	--	--	.0	--	--	--	--	--	<.63	.02	--

ARKANSAS RIVER BASIN

07198000 ILLINOIS RIVER NEAR GORE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	500	--	387	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
NOV											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	2	25	<1	90	<5	40	<.5	<1	<1	<1	4
DEC											
14...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	<100	--	35	--	--	--	--	--
JAN											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	<100	--	30	--	--	--	--	--
FEB											
08...	--	--	--	--	--	--	--	--	--	--	--
08...	1	19	7	310	10	10	<.5	<1	<1	3	3
MAR											
08...	--	--	--	220	--	20	--	--	--	--	--
APR											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	300	--	60	--	--	--	--	--
MAY											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	<1	<10	8	<200	15	20	1.2	<1	<1	3	16
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	<200	--	110	--	--	--	--	--
JUL											
12...	--	--	--	110	--	70	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
AUG											
09...	<1	5	2	100	<5	60	<.5	5	<1	<2	6
09...	--	--	--	--	--	--	--	--	--	--	--
SEP											
13...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	125	--	160	--	--	--	--	--

ARKANSAS RIVER BASIN

319

07228000 CANADIAN RIVER NEAR CANADIAN, TX

LOCATION.--Lat 35°56'06", long 100°22'13", Hemphill County, Hydrologic Unit 11090201, at bridge on U.S. Highways 60 and 83, 1.6 mi (2.6 km) northeast of Canadian, and at mile 433.9 (698.1 km).

DRAINAGE AREA.--22,866 mi² (59,222 km²) of which 4,688 mi² (12,142 km²) is probably noncontributing.

PERIOD OF RECORD.--Water years 1976 to September 1977 (discontinued).

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)
OCT												
07...	--	--	0930	10	3770	8.0	8.5	4	10.9	97	--	700
27...	1028	9740	1000	13	2900	8.5	5.5	3	11.4	96	--	550
NOV												
03...	--	--	1230	33	3300	8.4	13.5	6	10.3	103	--	660
23...	1028	9740	0845	33	2400	8.1	2.0	7	12.5	98	30	540
DEC												
09...	--	--	0930	36	2960	8.2	4.0	10	11.9	94	--	--
28...	1028	9740	0950	31	2700	8.5	2.5	7	12.4	98	20	519
JAN												
05...	--	--	1215	20	2820	8.1	1.0	4	13.1	96	--	550
26...	1028	9740	0945	43	2500	8.1	1.0	10	14.8	114	25	523
FEB												
10...	--	--	0915	45	2970	8.3	7.5	8	11.3	98	--	550
24...	1028	9740	1244	42	2800	8.4	12.0	6	11.4	116	15	582
MAR												
16...	--	--	0900	30	2980	8.3	7.5	2	12.3	107	--	--
22...	1028	9740	1640	27	3400	8.5	16.0	2	10.2	112	29	506
APR												
07...	--	--	0900	28	3120	8.3	12.5	5	10.5	103	--	600
26...	1028	9740	1605	80	3350	8.5	24.0	7	9.9	125	29	544
MAY												
04...	--	--	0930	261	2350	7.9	18.5	65	7.8	86	--	440
17...	1028	9740	1550	6000	700	7.9	21.5	130	6.7	83	39	830
JUN												
01...	1028	9740	1730	4100	910	7.9	28.5	320	5.9	83	37	165
09...	--	--	0900	40	3630	8.2	21.5	25	8.6	101	--	660
JUL												
13...	--	--	0915	1.5	3120	8.2	22.0	3	8.0	95	--	460
26...	1028	9740	1615	.14	2300	8.5	33.0	2	7.7	115	19	368
AUG												
11...	--	--	0945	60	1030	7.5	18.5	40	6.1	67	--	200
18...	1028	9740	1030	40	3000	8.4	19.0	28	9.4	110	39	536
SEP												
01...	--	--	0915	200	1630	8.2	23.0	200	7.4	89	--	--
22...	1028	9740	1230	10	3600	8.3	25.0	5	9.1	104	23	408

ARKANSAS RIVER BASIN

07228000 CANADIAN RIVER NEAR CANADIAN, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
07...	--	--	--	--	380	830	--	--	.60	.07	4
27...	103	47	360	25	--	157	.9	1831	--	<.03	--
NOV											
03...	--	--	--	--	320	890	--	--	--	.08	--
23...	113	49	340	16	--	609	--	1795	1.1	.03	3
DEC											
09...	--	--	--	--	--	--	--	--	2.3	.10	--
28...	122	58	350	21	--	696	--	1731	1.0	.13	--
JAN											
05...	--	--	--	--	240	660	--	--	.98	.12	--
26...	49	21	330	16	268	601	--	1768	1.9	.12	--
FEB											
10...	--	--	--	--	280	710	--	--	.91	.10	3
24...	144	64	360	25	284	649	--	1979	1.7	.27	4
MAR											
16...	--	--	--	--	--	--	--	--	.65	.11	--
22...	122	60	480	24	283	905	1.4	--	1.7	--	--
APR											
07...	--	--	--	--	300	730	--	--	1.0	.15	--
26...	131	67	410	29	279	761	1.7	1898	2.3	.13	--
MAY											
04...	--	--	--	--	220	500	--	--	.77	.06	--
17...	299	22	72	10	37	108	.5	479	6.9	1.7	24
JUN											
01...	111	20	123	9.0	46	160	.5	549	2.3	.48	--
09...	--	--	--	--	330	930	--	--	.80	.15	5
JUL											
13...	--	--	--	--	240	730	--	--	.70	.05	--
26...	74	36	270	9.0	141	551	1.2	1278	1.6	.05	--
AUG											
11...	--	--	--	--	80	190	--	--	1.9	.59	5
18...	98	43	150	1.4	283	536	3.1	1639	7.2	.31	9
SEP											
01...	--	--	--	--	--	--	--	--	--	.18	--
22...	68	57	550	20	235	563	1.5	1835	1.3	.09	--

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT											
07...	0	10	3	170	2	40	.1	--	1	--	80
27...	--	--	--	100	--	240	--	--	--	--	--
NOV											
03...	--	--	--	--	--	--	--	--	--	--	--
23...	3	21	<2	210	21	20	<.5	12	1	1	7
DEC											
09...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	330	--	14	--	--	--	--	--
JAN											
05...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	120	--	36	--	--	--	--	--
FEB											
10...	0	10	2	1100	4	40	.0	--	2	--	10
24...	3	21	13	540	15	40	<.5	12	--	5	10
MAR											
16...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	300	--	30	--	--	--	--	--
APR											
07...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	420	--	40	--	--	--	--	--
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
17...	5	101	75	2800	108	1000	<.5	100	2	11	240
JUN											
01...	--	--	--	850	--	440	--	--	--	--	--
09...	<10	10	<10	550	<100	60	.0	--	3	--	0
JUL											
13...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	<100	--	80	--	--	--	--	--
AUG											
11...	<10	0	<10	1100	<100	120	.0	--	0	<10	80
18...	1	17	8	250	10	70	<.5	20	2	3	30
SEP											
01...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	530	--	50	--	--	--	--	--

ARKANSAS RIVER BASIN

321

07228200 CANADIAN RIVER NEAR ROLL, OK

LOCATION.--Lat 35°52'12", long 99°43'40", in SE 1/4 SE 1/4 sec.10, T.16 N., R.24 W., Roger Mills County, Hydrologic Unit 11090201, at bridge on U.S. Highway 283, 6.0 mi (9.6 km) northwest of Roll, and at mile 383.6 (617.2 km).

DRAINAGE AREA.--23,615 mi² (61,162 km²) of which 63.4 mi² (164.2 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1976 to September 1977 (discontinued).

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. No flow was observed on Oct. 27.

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MH/CM)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
NOV 23...	1028	9740	1145	2500	8.2	7.0	7	11.5	101	28	509
DEC 28...	1028	9740	1210	2850	8.5	5.0	18	12.4	103	13	488
JAN 26...	1028	9740	1230	2000	8.3	3.0	50	12.0	96	22	459
FEB 24...	1028	9740	1611	2500	8.6	14.0	18	10.0	104	15	511
MAR 22...	1028	9740	1230	3250	8.4	14.5	6	10.2	106	30	506
APR 26...	1028	9740	1245	3200	8.2	20.5	25	9.8	115	32	541
MAY 17...	1028	9740	1230	2600	8.3	20.0	54	9.1	107	37	535
JUN 01...	1028	9740	1245	850	7.9	24.0	260	7.4	94	4	186
JUL 26...	1028	9740	1400	4000	7.9	26.5	28	12.0	158	33	1303
AUG 18...	1028	9740	0745	1880	8.3	18.0	100	8.6	98	34	376
SEP 22...	1028	9740	1015	3400	8.4	20.0	6	8.7	102	21	404

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SILICUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
NOV 23...	115	54	330	16	--	627	1.7	1809	1.3	.05	<1
DEC 28...	119	56	300	18	--	591	1.1	1702	1.0	<.03	--
JAN 26...	112	50	350	15	229	451	1.2	1331	.80	.09	--
FEB 24...	119	52	310	19	291	591	1.3	1834	1.3	.13	5
MAR 22...	123	61	460	19	281	631	1.4	1804	1.3	.11	--
APR 26...	136	65	390	22	281	665	1.7	1756	2.7	.13	--
MAY 17...	130	58	260	17	300	442	.9	1433	2.3	.14	<1
JUN 01...	249	30	102	9.7	77	130	.6	570	3.6	1.5	--
JUL 26...	345	109	320	5.0	1064	545	.6	2967	2.3	.12	--
AUG 18...	98	33	205	16	186	367	1.7	1052	2.2	.62	10
SEP 22...	58	62	470	17	390	510	1.1	2018	1.2	.05	--

ARKANSAS RIVER BASIN

07228200 CANADIAN RIVER NEAR ROLL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
NOV 23...	2	19	2	350	38	<5	<.5	11	1	5	5
DEC 28...	--	--	--	200	--	<5	--	--	--	--	--
JAN 26...	--	--	--	360	--	45	--	--	--	--	--
FEB 24...	3	21	13	630	18	30	<.5	11	--	13	9
MAR 22...	--	--	--	380	--	20	--	--	--	--	--
APR 26...	--	--	--	670	--	80	--	--	--	--	--
MAY 17...	4	31	15	720	31	80	<.5	26	<1	6	27
JUN 01...	--	--	--	1130	--	980	--	--	--	--	--
JUL 26...	--	--	--	200	--	870	--	--	--	--	--
AUG 18...	2	21	11	<100	30	140	<.5	20	2	3	25
SEP 22...	--	--	--	470	--	30	--	--	--	--	--

07228500 CANADIAN RIVER AT BRIDGEPORT, OK

LOCATION.--Lat 34°34'00", long 98°22'45", in SE 1/4 SW 1/4 sec.28, T.13 N., R.11 W., Blaine County, Hydrologic 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 267.1 (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) above mean sea level (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.--28 years, 405 ft³/s (11.47 m³/s), 293,400 acre-ft/yr (362 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.--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)
May 21	1900	*17,600 498	12.86 3.920	June 29	1330	6,920 196	9.58 2.920

Minimum daily discharge, 9.0 ft³/s (0.25 m³/s) Sept. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	45	26	32	49	64	56	673	2070	384	63	24
2	10	45	25	33	45	62	56	977	2280	288	37	20
3	10	40	23	38	44	60	54	768	2760	215	30	19
4	11	40	22	45	43	58	54	851	2290	157	25	20
5	13	35	22	55	40	58	52	894	1120	116	20	60
6	13	35	22	50	39	56	49	860	583	91	17	24
7	15	32	31	52	38	56	46	333	408	71	15	11
8	18	30	35	33	38	55	43	244	332	76	13	9.6
9	17	28	33	49	38	55	42	190	300	138	12	9.6
10	14	27	35	39	39	48	40	165	300	75	12	9.2
11	12	28	34	40	47	60	39	290	269	54	12	9.0
12	12	29	33	40	119	106	39	413	242	42	17	9.0
13	12	32	33	40	83	80	40	213	261	35	19	10
14	12	30	34	40	72	73	49	147	212	29	20	110
15	12	30	33	40	104	67	53	169	186	24	23	70
16	11	31	33	40	90	64	55	304	192	24	16	55
17	11	31	32	40	80	60	78	770	178	22	13	45
18	11	33	32	45	74	58	92	1240	160	19	19	40
19	11	32	32	50	70	56	83	1040	133	16	25	35
20	11	33	30	55	70	53	98	2380	120	14	321	30
21	10	33	30	60	66	52	563	11700	110	13	140	28
22	10	31	30	60	66	50	398	8930	140	13	55	26
23	10	31	30	60	66	47	396	8970	351	13	36	24
24	10	31	29	55	64	47	164	7690	207	12	36	22
25	10	33	29	55	64	46	127	2980	490	11	30	20
26	10	34	29	50	66	45	123	1520	248	11	30	19
27	30	30	29	48	90	60	96	2710	648	122	35	18
28	40	27	30	42	70	100	79	2030	501	118	48	18
29	70	18	29	60	---	70	65	1210	3860	80	37	17
30	110	16	29	52	---	60	377	749	899	51	30	16
31	50	---	30	50	---	58	---	1090	---	38	26	---
TOTAL	606	950	924	1448	1774	1884	3506	62500	21850	2372	1232	827.4
MEAN	19.5	31.7	29.8	46.7	63.4	60.8	117	2016	728	76.5	39.7	27.6
MAX	110	45	35	60	119	106	563	11700	3860	384	321	110
MIN	10	16	22	32	38	45	39	147	110	11	12	9.0
AC=FT	1200	1880	1830	2870	3520	3740	6950	124000	43340	4700	2440	1640
CAL YR 1976	TOTAL	61056.9	MEAN 167	MAX 4110	MIN 5.0	AC=FT 121100						
WTR YR 1977	TOTAL	99873.4	MEAN 274	MAX 11700	MIN 9.0	AC=FT 198100						

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, 2,970 micromhos June 21; minimum daily, 396 micromhos June 30.

WATER TEMPERATURE: Maximum daily, 28.5°C Sept. 11, 12; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
12...	--	--	0945	12	918	8.1	--	--	--	--
12...	1028	9740	0950	12	900	7.9	14.5	3	8.8	90
26...	--	--	1015	10	1000	8.0	--	--	--	--
30...	--	--	1030	110	840	7.9	--	--	--	--
NOV										
02...	--	--	0945	45	1130	8.3	--	--	--	--
07...	--	--	1045	32	1000	8.3	--	--	--	--
09...	1028	9740	1010	28	1100	8.4	7.0	5	13.2	114
30...	--	--	0915	27	1300	8.2	--	--	--	--
DEC										
04...	--	--	0930	22	1100	8.2	--	--	--	--
14...	1028	9740	1030	30	1400	8.1	2.0	11	13.7	104
18...	--	--	1015	40	1190	8.2	--	--	--	--
24...	--	--	1045	52	1310	8.3	--	--	--	--
JAN										
03...	--	--	0915	64	1250	8.5	--	--	--	--
11...	--	--	1015	126	1460	8.3	--	--	--	--
25...	1028	9740	1400	41	1050	8.1	5.5	13	--	--
26...	--	--	1015	50	1040	8.5	--	--	--	--
FEB										
04...	--	--	0945	44	1140	8.3	--	--	--	--
08...	1028	9740	1100	40	1230	8.4	5.0	15	11.2	91
18...	--	--	1015	80	2150	7.9	--	--	--	--
28...	--	--	0915	166	1670	8.2	--	--	--	--
MAR										
06...	--	--	1040	155	1810	8.1	--	--	--	--
09...	1028	9740	1630	56	1550	8.7	17.0	11	11.4	124
12...	--	--	0940	113	1060	7.4	--	--	--	--
18...	--	--	0915	84	1410	7.9	--	--	--	--
APR										
13...	1028	9740	0930	39	1000	8.4	16.5	5	9.4	100
16...	--	--	0915	55	1150	7.9	--	--	--	--
21...	--	--	0915	692	1880	7.6	--	--	--	--
27...	--	--	1030	95	2450	7.8	--	--	--	--
MAY										
02...	--	--	0920	1030	1480	7.7	--	--	--	--
03...	1028	9740	1000	734	1450	8.0	21.0	240	8.0	93
16...	--	--	1045	401	2240	7.4	--	--	--	--
24...	--	--	1030	8540	886	7.5	--	--	--	--
JUN										
04...	--	--	1015	2450	1170	7.5	--	--	--	--
08...	1028	9740	1645	328	1750	8.3	28.0	230	8.1	108
21...	--	--	0900	170	2910	8.0	--	--	--	--
28...	--	--	0935	502	2030	7.6	--	--	--	--
JUL										
01...	--	--	0930	316	640	7.8	--	--	--	--
09...	--	--	0930	143	1610	7.3	--	--	--	--
20...	1028	9740	1120	15	1000	7.9	29.0	6	7.5	101

07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JUL 27...	--	--	1030	93	1120	7.6	--	--	--	--
AUG 03...	--	--	0835	47	888	8.3	--	--	--	--
06...	--	--	0935	47	1110	7.6	--	--	--	--
10...	1028	9740	1600	12	1000	8.5	33.5	14	10.4	153
29...	--	--	0845	40	1780	8.2	--	--	--	--
SEP 03...	--	--	2020	27	2630	7.5	--	--	--	--
08...	1028	9740	1430	29	1500	8.5	29.0	215	6.4	86
14...	--	--	0940	24	941	7.7	--	--	--	--
19...	--	--	1015	29	1310	7.8	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT 12...	--	470	270	--	150	--	24	--	35	14
12...	--	--	--	--	--	--	--	--	--	--
26...	--	480	260	--	150	--	26	--	34	13
30...	--	360	190	--	110	--	21	--	42	20
NOV 02...	--	550	350	--	170	--	31	--	39	13
07...	--	480	280	--	150	--	25	--	36	14
09...	15	--	--	--	--	--	--	--	--	--
30...	--	620	390	--	190	--	36	--	44	13
DEC 04...	--	550	390	--	170	--	30	--	38	13
14...	9	--	--	--	--	--	--	--	--	--
18...	--	590	400	--	180	--	33	--	39	13
24...	--	680	460	--	210	--	38	--	44	12
JAN 03...	--	620	410	--	190	--	36	--	42	13
11...	--	700	460	--	210	--	42	--	55	15
25...	10	--	--	--	--	--	--	--	--	--
26...	--	500	310	--	150	--	31	--	37	14
FEB 04...	--	580	380	--	160	--	44	--	150	36
08...	18	--	--	--	--	--	--	--	--	--
18...	--	610	420	--	160	--	51	--	240	46
28...	--	540	370	--	160	--	35	--	45	15
MAR 06...	--	660	480	--	180	--	50	--	150	33
09...	20	--	--	--	--	--	--	--	--	--
12...	--	420	300	--	120	--	29	--	65	25
18...	--	610	410	--	180	--	40	--	81	22
APR 13...	11	--	--	--	--	--	--	--	--	--
16...	--	540	350	--	160	--	35	--	49	16
21...	--	720	550	--	200	--	54	--	150	31
27...	--	630	400	--	160	--	55	--	290	50
MAY 02...	--	460	300	--	120	--	38	--	140	40
03...	51	--	--	--	--	--	--	--	--	--
16...	--	690	540	--	180	--	59	--	220	40
24...	--	280	150	--	76	--	21	--	79	38
JUN 04...	--	330	180	--	90	--	26	--	120	43
08...	42	--	--	--	--	--	--	--	--	--
21...	--	750	570	--	190	--	66	--	360	51
28...	--	560	410	--	150	--	46	--	230	46
JUL 01...	--	190	87	--	56	--	13	--	62	41
09...	--	510	330	--	140	--	40	--	150	38
20...	20	--	--	--	--	--	--	--	--	--
27...	--	440	300	--	120	--	33	--	74	27
AUG 03...	--	360	190	--	100	--	26	--	52	24
06...	--	490	370	--	140	--	34	--	56	20
10...	18	--	--	--	--	--	--	--	--	--
29...	--	530	380	--	140	--	43	--	190	43
SEP 03...	--	700	570	--	170	--	68	--	310	48
08...	48	--	--	--	--	--	--	--	--	--
14...	--	310	210	--	88	--	23	--	72	33
19...	--	440	320	--	120	--	34	--	100	33

ARKANSAS RIVER BASIN

07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
12...	.7	--	3.1	248	0	203	3.2	340	16	--
12...	--	--	--	--	--	--	--	--	--	.3
26...	.7	--	3.4	266	0	218	4.3	310	18	--
30...	1.0	--	5.1	208	0	171	4.2	220	33	--
NOV										
02...	.7	--	4.0	249	0	204	2.0	400	25	--
07...	.7	--	3.9	240	0	197	1.9	310	22	--
09...	--	--	--	--	--	--	--	--	--	.3
30...	.8	--	3.0	283	0	232	2.9	430	26	--
DEC										
04...	.7	--	2.5	198	0	162	2.0	360	23	--
14...	--	--	--	--	--	--	--	--	--	.4
18...	.7	--	2.4	223	0	183	2.3	410	24	--
24...	.7	--	2.7	266	0	218	2.1	470	27	--
JAN										
03...	.7	--	2.5	257	1	212	1.3	450	26	--
11...	.9	--	3.0	291	0	239	2.3	510	38	--
25...	--	--	--	--	--	--	--	--	--	.3
26...	.7	--	2.1	219	8	193	1.2	330	27	--
FEB										
04...	2.7	--	6.8	240	0	200	1.9	420	190	--
08...	--	--	--	--	--	--	--	--	--	.3
18...	4.2	--	9.8	227	0	186	4.6	410	340	--
28...	.8	--	2.2	210	0	172	2.1	390	30	--
MAR										
06...	2.6	--	7.4	220	0	180	2.8	510	200	--
09...	--	--	--	--	--	--	--	--	--	.6
12...	1.4	--	6.5	150	0	120	9.6	310	72	--
18...	1.4	--	5.3	250	0	210	5.0	460	84	--
APR										
13...	--	--	--	--	--	--	--	--	--	.3
16...	.9	--	3.3	240	0	197	4.8	390	37	--
21...	2.4	--	7.5	210	0	172	8.4	560	180	--
27...	5.0	--	11	270	0	221	6.8	410	420	--
MAY										
02...	2.9	--	7.9	190	0	160	6.1	340	180	--
03...	--	--	--	--	--	--	--	--	--	.8
16...	3.6	--	10	190	0	160	12	570	340	--
24...	2.1	--	5.8	150	0	120	7.6	180	89	--
JUN										
04...	2.9	--	6.8	190	0	156	9.6	200	150	--
08...	--	--	--	--	--	--	--	--	--	1.0
21...	5.7	--	13	220	0	180	3.5	540	590	--
28...	4.2	--	10	190	0	160	7.6	380	350	--
JUL										
01...	1.9	--	3.8	130	0	107	3.3	98	83	--
09...	2.9	--	7.8	230	0	189	18	360	200	--
20...	--	--	--	--	--	--	--	--	--	.3
27...	1.5	--	5.1	170	0	139	6.8	360	74	--
AUG										
03...	1.2	--	5.4	200	0	160	1.6	240	50	--
06...	1.1	--	5.2	140	0	110	5.6	430	49	--
10...	--	--	--	--	--	--	--	--	--	.3
29...	3.6	--	9.7	180	0	150	1.8	380	270	--
SEP										
03...	5.1	--	12	160	0	130	8.1	520	490	--
08...	--	--	--	--	--	--	--	--	--	1.5
14...	1.8	--	6.5	130	0	110	4.2	220	95	--
19...	2.1	--	7.3	150	0	120	3.8	340	140	--

ARKANSAS RIVER BASIN

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07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TUNS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
12...	--	699	--	.95	22.6	.94	--	--	--	--
12...	--	--	--	--	--	--	--	.28	--	--
26...	--	715	--	.97	19.3	.75	--	--	--	--
30...	--	575	--	.78	171	1.8	--	--	--	--
NOV										
02...	--	825	--	1.12	100	1.2	--	--	--	--
07...	--	723	--	.98	62.5	1.2	--	--	--	--
09...	--	--	--	--	--	--	1.3	.47	4	3
30...	--	967	--	1.32	70.5	1.4	--	--	--	--
DEC										
04...	--	804	--	1.09	47.8	1.3	--	--	--	--
14...	--	--	--	--	--	--	2.3	.36	--	--
18...	--	892	--	1.21	96.3	1.1	--	--	--	--
24...	--	951	--	1.29	134	1.4	--	.29	--	--
JAN										
03...	--	938	--	1.28	162	1.8	--	--	--	--
11...	--	1110	--	1.51	378	2.1	--	--	--	--
25...	--	--	--	--	--	--	1.3	.77	--	--
26...	--	740	--	1.01	99.9	1.2	--	--	--	--
FEB										
04...	--	1130	--	1.54	134	.63	--	--	--	--
08...	--	--	--	--	--	--	1.2	.30	3	1
18...	--	1400	--	1.90	302	1.0	--	--	--	--
28...	--	851	--	1.16	381	.87	--	--	--	--
MAR										
06...	--	1250	--	1.70	523	.42	--	--	--	--
09...	--	--	--	--	--	--	1.6	.24	--	--
12...	--	712	--	.97	217	1.8	--	--	--	--
18...	--	1010	--	1.37	229	.82	--	--	--	--
APR										
13...	--	--	--	--	--	--	1.3	.36	--	--
16...	--	839	--	1.14	125	.82	--	--	--	--
21...	--	1360	--	1.85	2540	.58	--	--	--	--
27...	--	1560	--	2.12	400	.17	--	--	--	--
MAY										
02...	--	966	--	1.31	2690	--	--	--	--	--
03...	--	--	--	--	--	--	3.3	.59	18	2
16...	--	1540	--	2.09	1670	--	--	--	--	--
24...	--	562	--	.76	13000	--	--	--	--	--
JUN										
04...	--	725	--	.99	4800	--	--	--	--	--
08...	--	--	--	--	--	--	1.2	.44	--	--
21...	--	1940	--	2.64	890	--	--	--	--	--
28...	--	1310	--	1.78	1780	--	--	--	--	--
JUL										
01...	--	376	--	.51	321	--	--	--	--	--
09...	--	1060	--	1.44	409	--	--	--	--	--
20...	--	--	--	--	--	--	1.7	.23	--	--
27...	--	775	--	1.05	195	--	--	--	--	--
AUG										
03...	--	587	--	.80	74.5	--	--	--	--	--
06...	--	805	--	1.09	102	--	--	--	--	--
10...	--	--	--	--	--	--	1.4	.19	13	3
29...	--	1140	--	1.55	123	--	--	--	--	--
SEP										
03...	--	1700	--	2.31	124	--	--	--	--	--
08...	--	--	--	--	--	--	.65	.74	--	--
14...	--	593	--	.81	38.4	--	--	--	--	--
19...	--	859	--	1.17	67.3	--	--	--	--	--

[illegible]

07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	9.0	3.0	0.0	0.0	5.0	8.0	18.0	21.0	26.0	24.0	23.5
2	13.0	10.0	1.0	1.0	1.0	5.0	10.0	16.0	23.0	25.0	25.0	22.5
3	20.0	10.0	1.0	0.0	4.0	6.0	9.0	17.0	24.0	25.0	24.0	23.5
4	19.0	8.0	2.0	1.0	3.0	4.0	7.0	20.0	26.0	24.0	25.0	23.5
5	13.0	8.0	3.0	0.0	2.0	5.0	6.0	21.0	25.0	26.0	25.5	25.0
6	11.0	10.0	2.0	0.0	3.0	8.0	10.0	20.0	25.0	27.0	24.0	24.5
7	---	7.0	0.0	1.0	0.0	8.5	11.0	21.0	22.0	27.0	26.0	23.5
8	---	5.0	2.0	0.0	1.0	9.0	12.0	20.0	26.0	25.0	25.0	24.5
9	9.0	7.0	2.0	0.0	4.0	9.0	12.0	23.0	28.0	25.0	25.0	25.5
10	10.0	8.0	0.0	0.0	7.0	7.0	12.0	20.0	24.0	26.0	25.0	20.5
11	12.0	5.0	0.0	0.0	---	6.0	13.0	21.0	24.0	26.5	23.0	28.5
12	12.5	5.0	3.0	0.0	6.0	6.0	14.0	17.0	25.0	25.0	20.0	28.5
13	12.0	5.0	2.0	0.0	6.0	10.0	11.0	20.0	27.0	26.0	21.0	21.5
14	---	2.0	2.0	1.0	4.0	10.0	---	19.0	27.5	16.5	24.0	19.5
15	13.0	3.0	3.0	2.0	4.0	9.0	14.0	20.0	25.0	17.0	24.0	20.5
16	14.0	3.0	3.0	0.0	3.0	9.0	10.0	22.0	27.0	16.0	25.0	20.0
17	14.0	5.0	2.0	0.0	5.0	10.0	17.0	19.0	27.0	17.0	25.0	21.0
18	8.0	5.0	3.5	0.0	5.5	9.0	18.0	16.0	27.0	24.0	24.5	19.0
19	7.0	7.0	3.0	1.0	5.5	8.0	19.0	21.0	27.0	25.0	22.0	19.0
20	7.0	---	0.0	3.0	7.0	10.0	16.0	18.5	26.0	26.0	21.0	17.0
21	8.0	5.0	0.0	3.0	8.0	9.0	15.0	---	25.0	28.0	23.0	19.0
22	8.0	5.0	1.0	2.0	9.0	8.0	11.0	19.0	26.0	26.0	21.0	22.0
23	8.0	7.0	3.0	1.0	9.0	9.0	12.0	20.0	23.0	27.0	25.0	21.0
24	7.0	6.0	3.0	0.0	10.0	7.0	10.0	22.0	24.0	28.0	26.5	19.0
25	7.0	6.0	---	1.0	7.0	11.0	12.0	21.0	23.0	26.0	25.0	19.0
26	8.0	8.0	3.0	2.0	6.0	11.0	14.0	22.0	24.0	26.5	24.0	20.0
27	7.0	2.0	---	2.0	8.0	12.0	16.0	21.0	25.0	25.0	25.0	21.0
28	7.0	2.0	4.0	0.0	8.0	10.0	16.0	23.0	26.0	24.0	25.0	20.0
29	8.0	0.0	1.0	0.5	---	10.0	18.0	25.0	26.0	25.0	23.0	22.0
30	8.0	0.0	0.0	2.0	---	9.0	17.0	22.0	25.0	25.0	20.5	22.0
31	9.0	---	0.0	1.0	---	7.0	---	23.0	---	24.5	24.5	---
MONTH	10.5	5.5	2.0	1.0	5.0	8.5	13.0	20.5	25.0	24.5	24.0	22.0
YEAR	MAX	28.5	MIN	0.0	MEAN	13.5						

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1020	1280	1390	1170	1720	1410	1380	1630	640	1080	1640
2	976	1130	1140	1280	1210	1770	1350	1480	1590	1510	972	1620
3	981	1120	1150	1250	1170	1780	1310	1700	1350	1130	888	2630
4	973	1110	1100	1220	1140	1800	1570	1730	1170	1360	983	2070
5	956	1110	1090	1220	1180	1800	1680	1750	1480	1380	1050	1560
6	903	1090	1110	1250	1170	1810	1590	1600	1560	1450	1110	1340
7	---	1000	1130	1230	1190	1800	1520	1440	1590	1520	1130	1530
8	---	1070	1230	1210	1190	1780	1350	1920	1620	1550	1050	1810
9	930	1090	1180	1170	1160	1790	1350	1950	1690	1610	991	1580
10	867	1070	1120	1350	1150	1730	1410	2000	1780	1530	1000	1400
11	845	1070	1160	1460	---	1470	1220	2040	1900	1390	1020	1390
12	918	1080	1140	1460	1150	1060	1260	2090	2170	1420	1030	1320
13	1000	1080	1120	1360	1490	1230	1210	2130	2160	1480	1050	1270
14	---	1060	1120	1300	1710	1480	---	2160	2160	1520	1030	941
15	997	1060	1100	1240	1730	1450	1200	2170	2240	1560	1010	1350
16	989	1070	1120	1120	1750	1440	1150	2240	2340	1500	994	1250
17	1000	1060	1180	1200	2000	1450	1160	1240	2450	1390	1000	1390
18	945	1080	1190	1330	2150	1410	1170	1270	2560	1300	997	1370
19	948	1080	1110	1340	2070	1350	1230	1360	2250	1290	980	1310
20	968	1080	1280	1340	2050	1350	1420	1260	2580	1260	1000	1200
21	950	1080	1670	1300	1990	1340	1880	---	2910	1220	989	1060
22	889	1090	769	1110	1950	1340	2410	1280	2900	1130	983	1080
23	973	1110	1300	1120	1950	1260	2270	897	1940	1110	1010	1100
24	976	1100	1310	1140	1920	1310	2340	886	1570	1070	1090	1090
25	918	1100	---	1090	1920	1230	2360	1110	1690	1060	1240	1060
26	1000	1080	1120	1040	1890	1200	2440	1330	1680	1040	1250	1030
27	1010	1070	1170	1140	1780	1200	2450	1160	2050	1120	1280	1000
28	984	1120	1140	1160	1670	1170	2420	1250	2030	954	1490	989
29	943	1180	1180	1190	---	1240	2440	1200	1890	934	1780	962
30	840	1300	1220	1310	---	1290	1380	1700	396	840	1480	972
31	907	---	1280	1270	---	1330	---	1690	---	938	1630	---
MONTH	948	1090	1180	1240	1590	1460	1650	1580	1910	1260	1120	1340
YEAR	MAX	2910	MIN	396	MEAN	1370						

ARKANSAS RIVER BASIN

07229200 CANADIAN RIVER AT PURCELL, OK

LOCATION.--Lat 35°00'50", long 97°20'50", in NW 1/4 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
20...	1028	9740	1115	790	8.8	9.0	4	15.1	133	36	131
NOV											
17...	1028	9740	1400	950	8.4	8.0	6	13.2	109	32	319
DEC											
21...	1028	9740	1050	1090	8.0	8.0	8	13.6	96	20	438
JAN											
19...	1028	9740	1145	1400	8.2	1.0	7	12.5	91	27	615
FEB											
17...	1028	9740	1305	1150	8.5	10.0	12	12.0	110	20	441
MAR											
17...	1028	9740	1220	1000	8.4	12.5	12	10.3	102	30	359
APR											
21...	1028	9740	1220	970	8.3	18.5	17	10.0	110	33	345
MAY											
05...	1028	9740	1300	1700	7.8	23.0	24	7.4	89	79	501
JUN											
15...	1028	9740	0930	1900	8.4	26.0	90	8.8	111	33	487
JUL											
20...	1028	9740	1415	1200	9.7	36.0	11	14.6	215	64	305
AUG											
10...	1028	9740	1315	1100	10.0	35.5	10	15.4	230	60	239
SEP											
15...	1028	9740	1430	1400	8.8	26.0	37	11.3	143	38	261

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (NA) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL POTAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RAHLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
20...	29	17	120	12	--	68	1.0	510	12	2.9	--
NOV											
17...	40	14	81	6.6	--	130	.5	665	8.2	3.1	7
DEC											
21...	116	34	79	5.9	--	145	.4	812	4.5	1.4	--
JAN											
19...	169	57	107	8.0	480	201	.6	1133	5.7	1.2	--
FEB											
17...	126	35	94	6.3	295	63	.4	904	4.0	1.5	4
MAR											
17...	99	36	87	7.7	275	90	.6	742	3.9	1.5	--
APR											
21...	101	38	76	6.3	46	115	.4	674	3.8	1.5	--
MAY											
05...	164	61	199	19	364	258	.6	1446	6.6	1.2	20
JUN											
15...	142	44	210	13	221	284	.7	1229	1.2	.61	--
JUL											
20...	71	31	157	13	262	137	.6	768	2.9	.90	--
AUG											
10...	53	29	129	12	267	99	.0	691	5.3	.59	8
SEP											
15...	58	27	125	9.2	244	187	.8	864	4.63	1.3	--

ARKANSAS RIVER BASIN

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07229200 CANADIAN RIVER AT PURCELL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	100	--	15	--	--	--	--	--
NOV 1/...	3	18	6	190	15	6	1.1	5	1	2	12
DEC 21...	--	--	--	100	--	9	--	--	--	--	--
JAN 14...	--	--	--	100	--	20	--	--	--	--	--
FEB 17...	1	49	9	220	3	50	.5	9	--	6	12
MAR 17...	--	--	--	250	--	70	--	--	--	--	--
APR 21...	--	--	--	530	--	160	--	--	--	--	--
MAY 05...	4	67	19	3800	49	1070	.9	24	<1	5	104
JUN 15...	--	--	--	650	--	130	--	--	--	--	--
JUL 20...	--	--	--	<200	--	50	--	--	--	--	--
AUG 10...	<1	<10	7	120	10	20	<.5	8	3	2	8
SEP 15...	--	--	--	1700	--	90	--	--	--	--	--

ARKANSAS RIVER BASIN

07229300 WALNUT CREEK AT PURCELL, OK

LOCATION.--Lat 34°59'56", long 97°22'00", in NW 1/4 NW 1/4 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).

WATER-DISCHARGE RECORDS

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) above mean sea level (Oklahoma State Highway Department bench mark).

REMARKS.--Records fair.

AVERAGE DISCHARGE.--12 years, 49.8 ft³/s (1.410 m³/s), 36,080 acre-ft/yr (44.5 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.--Maximum discharge, 6,560 ft³/s (186 m³/s) at 0300 May 21, gage height, 10.71 ft (3.264 m), no other peaks above base of 3,000 ft³/s (85.0 m³/s); minimum daily, 0.16 ft³/s (0.005 m³/s) Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	13	12	16	16	13	9.6	126	24	126	.47	.52
2	3.0	11	13	17	17	13	44	39	20	109	.45	.50
3	2.8	11	13	17	18	61	19	22	17	26	.43	.48
4	3.9	10	12	17	17	20	13	36	16	9.7	.36	.47
5	4.2	9.6	11	14	16	15	8.9	18	17	5.7	.31	.59
6	4.2	9.6	25	17	15	13	8.3	19	17	3.2	.27	.50
7	5.3	9.6	19	16	15	12	7.7	13	16	2.3	.21	.46
8	6.6	9.6	17	15	14	11	7.7	5.3	15	1.7	.17	.44
9	6.2	9.6	15	15	14	10	7.7	3.9	15	1.3	.16	.42
10	5.7	9.6	13	15	14	22	7.7	2.8	15	1.1	.19	.42
11	4.6	9.4	12	14	32	172	7.7	2.4	15	.90	1.1	.39
12	3.9	9.4	12	12	61	36	7.7	2.1	14	.75	.86	1.5
13	3.6	9.4	11	11	28	15	8.9	2.6	15	.60	.77	61
14	3.6	9.4	11	11	19	13	9.6	4.2	15	.50	.74	4.9
15	3.9	9.4	11	11	16	12	10	101	14	.45	.70	2.0
16	4.9	9.4	11	13	15	9.6	14	59	14	.40	.66	1.4
17	4.9	9.2	11	14	15	10	24	7.7	14	.35	.65	1.1
18	4.6	9.2	11	16	14	11	25	4.9	12	.32	.66	1.1
19	6.2	9.2	11	19	13	9.6	20	223	11	.30	.89	.99
20	5.7	9.2	10	24	13	7.7	111	741	10	.31	.77	.96
21	5.7	9.0	7.1	32	13	7.1	272	1600	9.4	.30	.72	.90
22	6.2	9.0	10	27	13	6.6	74	161	8.1	.34	.69	.88
23	7.7	10	12	28	12	7.7	39	117	7.9	.33	.63	.91
24	10	11	13	23	12	7.1	23	50	11	.34	.59	.92
25	8.9	11	13	19	12	8.3	14	20	88	.27	.54	.84
26	8.3	12	13	17	13	15	10	9.6	111	.34	.49	.77
27	8.3	13	12	16	13	74	9.6	310	57	1.1	.43	.78
28	9.6	11	13	15	13	59	8.9	94	13	.71	7.3	.80
29	28	11	12	16	---	18	8.3	42	94	.86	7.4	.71
30	50	12	11	13	---	11	11	34	31	.61	.84	.59
31	24	---	13	16	---	8.3	---	26	---	.46	.59	---
TOTAL	257.5	304.8	390.1	526	483	708.0	841.3	3896.5	736.4	296.54	31.04	88.24
MEAN	8.31	10.2	12.6	17.0	17.3	22.8	28.0	126	24.5	9.57	1.00	2.94
MAX	50	13	25	32	61	172	272	1600	111	126	7.4	61
MIN	2.8	9.0	7.1	11	12	6.6	7.7	2.1	7.9	.27	.16	.39
AC-FT	511	605	774	1040	958	1400	1670	7730	1460	588	62	175
CAL YR 1976 TOTAL	7657.12			MEAN 20.9	MAX 362	MIN .33	AC-FT 15190					
WTR YR 1977 TOTAL	8559.42			MEAN 23.5	MAX 1600	MIN .16	AC-FT 16980					

07229300 WALNUT CREEK AT PURCELL, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-55, 1958-62, 1976 to September 1977 (discontinued).

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)
OCT											
20...	1028	9740	1000	750	8.2	6.0	3	12.8	105	7	379
NOV											
17...	1028	9740	1300	750	7.1	8.0	6	12.3	102	11	374
DEC											
21...	1028	9740	0950	890	8.3	.5	8	12.7	88	9	440
JAN											
19...	1028	9740	1300	835	8.1	2.0	6	12.5	93	13	424
FEB											
17...	1028	9740	1047	780	8.3	7.0	6	12.2	103	14	388
MAR											
17...	1028	9740	1022	700	8.3	12.0	11	9.8	95	10	369
APR											
21...	1028	9740	1125	340	8.1	16.5	68	6.7	70	137	146
MAY											
05...	1028	9740	1210	620	8.2	25.0	78	8.2	102	26	296
JUN											
15...	1028	9740	0830	760	8.2	23.5	4	7.6	91	11	341
JUL											
20...	1028	9740	1230	650	9.4	34.0	4	17.8	254	40	248
AUG											
10...	1028	9740	1215	670	9.0	34.5	7	15.1	216	58	247
SEP											
15...	1028	9740	1325	580	8.4	25.0	12	7.9	98	17	194

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLU- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FIL- TABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
20...	51	67	39	2.3	--	54	.3	536	1.0	<.12	--
NOV											
17...	68	48	33	1.4	--	46	.3	508	.70	.02	2
DEC											
21...	64	58	29	1.2	--	40	.3	537	.30	.12	--
JAN											
19...	75	68	43	2.5	41	86	.3	678	.70	.04	--
FEB											
17...	65	61	51	2.5	61	31	.3	488	1.7	.09	3
MAR											
17...	54	60	39	2.5	42	58	.4	468	1.2	.12	--
APR											
21...	98	46	10	6.6	30	15	.3	118	7.8	2.0	--
MAY											
05...	50	45	26	6.8	33	21	.2	363	3.0	.16	6
JUN											
15...	55	15	47	5.8	47	36	.3	478	.71	.11	--
JUL											
20...	49	31	43	2.8	35	--	--	333	2.9	.79	--
AUG											
10...	49	30	47	3.3	36	42	.6	401	5.5	1.3	7
SEP											
15...	33	26	17	3.8	24	16	.3	305	<.63	.18	--

ARKANSAS RIVER BASIN

07229300 WALNUT CREEK AT PURCELL, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
UCT											
20...	--	--	--	200	--	52	--	--	--	--	--
NOV											
17...	1	15	5	220	35	34	<.5	4	<1	5	6
DEC											
21...	--	--	--	170	--	143	--	--	--	--	--
JAN											
19...	--	--	--	100	--	50	--	--	--	--	--
FEB											
17...	2	21	6	<100	11	90	<.5	6	--	<1	8
MAR											
17...	--	--	--	220	--	90	--	--	--	--	--
APR											
21...	--	--	--	5900	--	5000	--	--	--	--	--
MAY											
05...	1	13	8	690	11	170	<.5	10	<1	3	16
JUN											
15...	--	--	--	240	--	100	--	--	--	--	--
JUL											
20...	--	--	--	310	--	130	--	--	--	--	--
AUG											
10...	2	<10	6	230	10	110	<.5	9	3	3	14
SEP											
15...	--	--	--	1060	--	150	--	--	--	--	--

07229900 LAKE THUNDERBIRD NEAR NORMAN, OK

LOCATION.--Lat 35°13'15", long 97°13'05", in NW 1/4 SE 1/4 sec.29, T.9 N., R.1 E., Cleveland Countv, Hyrdo-logic 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.

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, 112,500 acre-ft (139 hm³) May 30, elevation 1,037.80 ft (316.321 m); minimum 98,400 acre-ft (121 hm³) Sept. 30, elevation, 1,035.29 (315.556 m).

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30	1,037.37	109,800	--	--
Oct. 31	1,036.95	107,500	-2,300	1,081
Nov. 30	1,036.59	105,500	-2,000	839
Dec. 31	1,036.41	104,600	-7,800	855
CAL YR 76	--	--	-7,800	11,111
Jan 31	1,036.32	104,100	-500	595
Feb. 28	1,036.35	104,200	+100	418
Mar. 31	1,036.42	104,600	+400	795
Apr. 30	1,036.32	104,100	-500	1,130
May 31	1,037.76	112,200	+8,100	1,110
June 30	1,037.17	108,700	-3,500	1,226
July 31	1,036.50	105,000	-3,700	1,501
Aug. 31	1,035.93	101,900	-3,100	1,186
Sept. 30	1,035.29	98,400	-3,500	1,138
WTR YR 77	--	--	-11,400	-11,674

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 1976 TO SEPTEMBER 1977

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT								
14...	1230	108200	417	8.4	21.0	--	--	--
NOV								
23...	1215	106100	430	8.2	11.0	30	--	--
JAN								
05...	0955	104100	434	8.0	--	--	--	--
FEB								
23...	1240	104400	439	8.0	8.0	--	--	--
MAR								
17...	1334	104300	420	8.4	11.0	15	10.4	99
APR								
21...	1349	104400	431	8.4	18.0	8	9.9	108
MAY								
05...	1450	104100	460	8.2	21.0	6	9.1	106
JUN								
15...	1145	110100	420	8.5	27.0	2	8.8	113
JUL								
20...	1845	106200	420	8.6	29.0	10	8.3	111
AUG								
10...	1645	103200	435	8.8	30.0	2	9.6	130
SEP								
15...	1700	100500	460	8.3	24.5	10	7.6	94

DATE	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
OCT									
14...	170	8	29	24	26	24	.9	4.7	187
NOV									
23...	180	4	31	25	18	17	.6	4.5	215
JAN									
05...	180	2	31	25	19	18	.6	4.7	217
FEB									
23...	180	5	32	25	19	18	.6	4.7	217
MAR									
17...	180	9	31	25	18	17	.6	4.4	207
APR									
21...	180	0	34	24	18	17	.6	4.8	220
MAY									
05...	190	5	33	25	19	18	.6	4.5	220
JUN									
15...	180	9	33	24	19	18	.6	4.5	210
JUL									
20...	170	1	30	24	20	19	.7	4.9	210
AUG									
10...	180	3	29	25	20	19	.7	4.8	210
SEP									
15...	180	6	30	25	19	18	.6	4.8	210

ARKANSAS RIVER BASIN

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07229900 LAKE THUNDERBIRD NEAR NORMAN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)
OCT 14...	0	163	1.3	12	28	220	.30	.16
NOV 23...	0	176	2.2	10	30	217	.30	.25
JAN 05...	0	178	3.5	9.1	30	234	.32	.12
FEB 23...	0	178	3.5	9.4	30	237	.32	.01
MAR 17...	1	171	1.3	16	32	236	.32	.05
APR 21...	2	180	1.4	9.1	28	235	.32	.02
MAY 05...	0	180	2.2	18	30	250	.34	.14
JUN 15...	0	170	1.1	9.7	30	230	.31	--
JUL 20...	0	170	.8	10	28	230	.31	--
AUG 10...	0	170	.5	7.2	31	225	.31	--
SEP 15...	0	170	1.7	6.9	29	236	.32	--

07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD, NEAR NORMAN, OK

LOCATION.--Lat 35°13'14", long 97°13'00", in NE 1/4 SE 1/4 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) above mean sea level. 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) 12 years, (water years 1966-77), 17.7 ft³/s (0.501 m³/s), 12,820 acre-ft/yr (15.8 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, 18 ft³/s (0.51 m³/s) May 19, gage height, 3.73 ft (1.137 m); minimum daily, 0.45 ft³/s (0.013 m³/s) Jan 6-22, 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	.69	1.0	.54	.53	.53	.59	.61	.53	.67	.53	.53
2	.78	.71	1.0	.54	.53	.53	.65	.59	.53	.55	.53	.53
3	.78	.73	.92	.54	.53	.53	.54	.57	.53	.53	.53	.53
4	.78	.88	.92	.54	.53	.51	.50	.60	.53	.53	.53	.53
5	.78	.97	1.0	.55	.53	.53	.51	.60	.53	.53	.55	.54
6	.78	.97	1.0	.45	.53	.53	.53	.59	.55	.53	.53	.53
7	.78	.89	.83	.45	.53	.53	.53	.53	.60	.53	.53	.53
8	.78	.78	.74	.45	.53	.53	.53	.53	.59	.53	.53	.53
9	.76	.68	.83	.45	.53	.53	.53	.53	.61	.53	.53	.53
10	.77	.72	.83	.45	.53	.80	.53	.53	.59	.53	.52	.53
11	.73	.77	.92	.45	.53	.64	.53	.53	.62	.53	.53	.52
12	.74	.77	.83	.45	.53	.48	.62	.53	.63	.53	.53	.53
13	.75	.78	.83	.45	.53	.53	.53	1.0	.54	.53	.55	.69
14	.78	.83	.74	.45	.53	.53	.51	.55	.53	.53	.61	.53
15	.78	.79	.74	.45	.53	.53	.57	.82	.53	.53	.61	.53
16	.78	.81	.74	.45	.53	.53	.54	.53	.53	.53	.67	.53
17	.78	.83	.74	.45	.53	.53	.56	.53	.53	.53	.66	.53
18	.78	1.0	.74	.45	.52	.53	.58	.53	.53	.73	.61	.53
19	.76	.88	.74	.45	.51	.49	.53	2.0	.53	.75	.89	.53
20	.69	.87	.74	.45	.52	.53	.73	1.2	.53	.69	.56	.53
21	.68	.91	.83	.45	.53	.53	.79	1.2	.53	.69	.53	.53
22	.69	.97	.74	.45	.53	.53	.55	.57	.53	.69	.53	.53
23	.69	.92	.64	.47	.50	.53	.53	.53	.53	.69	.53	.53
24	.69	.92	.64	.45	.52	.53	.52	.55	.53	.69	.53	.54
25	.69	.92	.64	.45	.53	.53	.53	.53	.58	.72	.53	.53
26	.69	.92	.64	.48	.52	.53	.53	.58	.61	.63	.51	.53
27	.81	.92	.74	.53	.53	.53	.52	.74	.55	.74	.52	.53
28	.87	.92	.74	.53	.52	.55	.51	.59	.56	.56	.67	.53
29	1.1	1.0	.74	.53	---	.53	.61	.58	.56	.53	.76	.53
30	.67	1.0	.54	.53	---	.52	.59	.53	.53	.53	.53	.53
31	.64	---	.54	.53	---	.53	---	.53	---	.53	.53	---
TOTAL	23.56	25.75	24.26	14.86	14.74	16.71	16.82	20.83	16.60	18.34	17.70	16.07
MEAN	.76	.86	.78	.48	.53	.54	.56	.67	.55	.59	.57	.54
MAX	1.1	1.0	1.0	.55	.53	.80	.79	2.0	.63	.75	.89	.69
MIN	.64	.68	.54	.45	.50	.48	.50	.53	.53	.53	.51	.52
AC-FT	47	51	48	29	29	33	33	41	33	36	35	32
CAL YR 1976 TOTAL	1083.83			MEAN 2.96	MAX 277	MIN .54	AC-FT 2150					
WTR YR 1977 TOTAL	226.24			MEAN .62	MAX 2.0	MIN .45	AC-FT 449					

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COLLECTING SAMPLE	CODE FOR AGENCY ANALYZING SAMPLE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARDNESS (CA, MG) (MG/L)
OCT 20...	1028	9740	1400	.74	730	7.7	11.5	2	11.2	105	--	232
NOV 17...	1028	9740	1515	.92	650	7.8	10.5	3	10.9	100	8	121
DEC 21...	1028	9740	1310	.83	650	7.3	5.0	--	11.5	93	5	234
JAN 19...	1028	9740	1545	.45	700	7.6	6.0	4	10.4	86	8	214
FEB 17...	1028	9740	1348	.53	690	7.8	11.0	4	10.1	94	4	230
MAR 17...	1028	9740	1400	.54	720	7.5	13.5	14	6.8	89	7	233
APR 21...	1028	9740	1450	.64	650	7.3	19.0	29	8.2	91	9	214
MAY 05...	1028	9740	1410	.54	750	7.6	23.5	16	7.0	85	14	232
JUN 15...	1028	9740	1330	.54	750	7.4	27.5	12	8.4	108	7	228
JUL 20...	1028	9740	1655	.74	850	7.9	32.5	5	10.0	141	11	225
AUG 10...	1028	9740	1545	.54	750	7.9	31.0	7	7.9	110	7	235
SEP 15...	1028	9740	1600	.54	810	7.8	23.0	5	7.7	92	2	176

DATE	TOTAL CALCIUM (CA) (MG/L)	TOTAL MAGNESIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL POTASSIUM (K) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	TOTAL FLUORIDE (F) (MG/L)	TOTAL FILTRABLE RESIDUE (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 20...	53	26	71	2.5	--	89	.3	468	1.0	<.12	--
NOV 17...	45	2.1	72	.8	--	152	.3	411	.70	.03	<1
DEC 21...	59	22	85	3.0	--	125	--	442	.60	<.03	--
JAN 19...	51	20	74	2.0	27	182	.3	434	.50	.03	--
FEB 17...	52	24	84	3.4	45	74	.2	108	1.5	.08	<1
MAR 17...	53	25	71	1.9	54	86	.3	437	1.0	.06	--
APR 21...	48	21	60	2.1	53	71	.3	348	1.2	.07	--
MAY 05...	52	20	75	3.8	27	83	.3	453	1.8	.04	1
JUN 15...	53	23	66	3.5	22	72	.3	397	1.2	.05	--
JUL 20...	49	23	73	4.2	33	72	.3	384	1.6	.07	--
AUG 10...	50	23	62	2.9	26	73	.2	392	6.4	.02	<1
SEP 15...	34	21	60	1.8	30	84	.3	417	<.63	.01	--

ARKANSAS RIVER BASIN

07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD NEAR NORMAN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 20...	--	--	--	200	--	572	--	--	--	--	--
NOV 17...	1	16	<1	320	5	882	<.5	3	<1	3	<1
DEC 21...	--	--	--	330	--	745	--	--	--	--	--
JAN 19...	--	--	--	300	--	830	--	--	--	--	--
FEB 17...	1	24	2	350	<3	930	.5	5	--	1	6
MAR 17...	--	--	--	520	--	770	--	--	--	--	--
APR 21...	--	--	--	990	--	670	--	--	--	--	--
MAY 05...	1	10	3	760	8	630	.5	5	<1	4	8
JUN 15...	--	--	--	610	--	440	--	--	--	--	--
JUL 20...	--	--	--	430	--	410	--	--	--	--	--
AUG 10...	<1	15	5	420	10	230	<.5	9	<1	2	11
SEP 15...	--	--	--	320	--	500	--	--	--	--	--

ARKANSAS RIVER BASIN

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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) above mean sea level (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) 13 years (water years 1965-77), 78.5 ft³/s (2.223 m³/s), 56,870 acre-ft/yr (70.1 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, 4,020 ft³/s (114 m³/s) May 21, gage height, 15.45 ft (4.709 m), no peak above base of 5,000 ft³/s (142 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4.8	6.5	4.1	7.4	8.1	20	18	18	54	20	1.3
2	2.2	4.5	5.5	4.1	7.1	8.6	24	18	16	20	5.0	.19
3	1.6	4.3	5.8	4.1	6.5	9.3	22	15	15	9.7	1.7	.00
4	9.3	3.8	5.8	4.5	6.1	8.8	17	14	14	7.5	.80	.00
5	13	3.6	6.5	4.5	5.5	7.9	14	13	12	7.1	.40	.84
6	8.0	3.8	27	4.8	5.1	7.9	13	19	11	6.8	.25	1.6
7	6.1	3.8	8.7	5.1	5.1	7.8	11	16	11	6.8	.15	.81
8	9.7	3.8	6.1	4.1	5.1	7.5	10	12	10	6.5	.00	.05
9	7.2	3.8	5.5	1.8	5.1	7.3	9.0	12	9.9	6.4	.00	.00
10	4.1	4.1	5.1	1.6	5.1	7.8	7.8	11	7.8	6.4	.00	.00
11	3.0	4.5	5.1	8.7	22	31	6.7	9.7	6.9	6.4	.00	.04
12	1.8	5.8	5.1	8.7	46	16	5.9	9.3	6.8	6.4	.00	.39
13	1.6	4.8	4.8	11	14	9.8	5.9	9.6	7.4	6.1	.00	72
14	1.8	5.5	4.8	20	9.0	8.4	6.1	20	6.5	6.1	5.5	17
15	2.3	5.5	4.5	20	7.5	7.6	6.9	38	6.0	5.8	2.6	5.7
16	3.2	5.1	4.5	16	10	7.0	7.0	24	6.0	5.8	1.1	3.1
17	3.6	5.1	4.5	12	9.6	7.1	8.8	12	6.0	5.8	.29	2.0
18	2.7	5.1	4.5	12	9.4	7.7	125	10	5.7	5.8	1.5	1.3
19	3.2	5.1	4.5	11	9.2	7.1	37	101	5.5	5.7	15	.55
20	6.1	5.5	4.5	12	8.8	5.9	25	605	5.4	5.5	19	.08
21	5.1	4.5	4.3	13	8.8	5.8	623	2550	5.1	5.3	6.6	.00
22	3.8	4.1	4.1	11	8.8	5.6	68	355	5.1	5.1	3.8	.00
23	7.1	4.5	4.1	11	9.0	5.9	47	202	5.3	5.1	2.5	.00
24	8.4	4.8	4.5	11	8.4	6.2	22	95	5.7	5.1	1.8	.08
25	4.3	5.5	4.5	8.7	8.2	6.5	17	60	9.6	5.1	2.5	.51
26	3.8	5.8	4.5	8.1	8.4	8.1	17	44	42	5.0	.40	.00
27	4.1	4.5	4.3	7.1	8.8	99	16	63	16	16	.00	.00
28	4.1	3.6	4.3	5.8	8.5	90	14	43	11	12	.00	.00
29	8.7	3.8	4.3	4.8	---	39	13	27	43	6.0	20	.17
30	15	5.8	4.1	6.5	---	27	15	22	9.1	4.0	12	.00
31	6.8	---	4.1	6.5	---	22	---	19	---	6.0	3.4	---
TOTAL	164.5	139.2	176.4	263.6	272.5	503.7	1234.1	4466.6	338.8	265.3	126.29	107.51
MEAN	5.31	4.64	5.69	8.50	9.73	16.2	41.1	144	11.3	8.56	4.07	3.58
MAX	15	5.8	27	20	46	99	623	2550	43	54	20	72
MIN	1.6	3.6	4.1	1.6	5.1	5.6	5.9	9.3	5.1	4.0	.00	.00
AC-FT	326	276	350	523	541	999	2450	8860	672	526	250	213
CAL YR 1976 TOTAL	9652.58			MEAN 26.4	MAX 1400	MIN .00	AC-FT 19150					
WTR YR 1977 TOTAL	8058.50			MEAN 22.1	MAX 2550	MIN .00	AC-FT 15980					

ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, OK

LOCATION.--Lat 34°59'02", long 96°33'01", in NE 1/4 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) above mean sea level (levels by Corps of Engineers). Prior to Apr. 11, 1946, nonrecording gage at same site and datum.

REMARKS.--Records good. 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) 12 years (water years 1966-77), 264 ft³/s (7.476 m³/s), 191,300 acre-ft/yr (236 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, 4,720 ft³/s (134 m³/s) May 22, gage height, 14.18 ft (4.322 m), no peak above base of 5,000 ft³/s (142 m³/s); no flow Oct. 1-5, 10-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	5.4	2.5	5.9	17	13	116	238	223	254	31	2.3
2	.00	2.4	2.5	5.9	18	12	94	253	180	217	43	7.1
3	.00	.94	2.9	5.9	19	13	78	126	143	153	25	4.0
4	.00	2.4	3.6	7.2	15	14	62	87	112	70	18	1.9
5	.00	1.6	5.1	5.1	14	13	48	79	90	44	7.7	3.1
6	.08	2.7	50	7.0	12	11	43	84	73	30	3.8	2.0
7	.04	2.4	65	5.0	11	10	38	80	58	20	2.0	.80
8	.04	1.6	26	7.1	10	9.2	33	56	49	13	.98	.42
9	.04	1.0	21	1.2	10	8.0	27	46	43	93	.52	.77
10	.00	.82	21	2.0	10	8.0	24	39	37	93	9.6	.66
11	.00	.46	20	6.1	40	147	21	34	36	17	12	447
12	.00	.76	18	3.7	313	43	18	31	35	9.1	20	175
13	.00	.52	16	4.1	91	22	15	28	32	7.2	74	347
14	.00	.46	15	12	48	15	14	26	28	4.9	20	280
15	.00	.46	13	14	47	14	14	120	23	3.6	6.8	134
16	.00	.36	12	30	46	15	14	632	20	2.9	4.0	33
17	.00	.32	11	29	40	10	16	186	19	2.3	3.2	17
18	.00	.36	9.6	18	33	16	170	76	16	1.7	1.3	9.6
19	.00	.82	8.5	17	30	24	228	262	14	1.4	.77	5.9
20	.00	1.4	7.9	14	26	16	315	3340	13	1.1	.93	4.1
21	.07	2.7	6.3	17	23	13	2220	2970	11	.92	8.2	3.1
22	.08	3.4	6.0	19	21	11	897	4390	9.2	.87	3.9	2.2
23	.12	3.4	5.1	27	21	8.9	863	3060	7.3	.81	9.0	1.9
24	1.5	3.3	5.9	32	17	8.2	592	2690	15	.65	5.7	1.6
25	.82	2.9	5.7	30	16	7.6	373	1440	28	.52	2.8	1.2
26	.64	2.7	5.9	28	16	17	243	964	40	.40	1.3	.94
27	.46	2.7	5.8	20	15	2000	166	816	84	1.1	.57	.88
28	.36	2.5	6.0	17	14	1080	120	735	80	1.6	68	.76
29	.76	2.2	6.1	15	---	416	89	495	53	.86	23	.70
30	3.1	2.1	6.3	17	---	221	94	375	65	6.0	4.9	.58
31	16	---	4.1	16	---	157	---	280	---	11	1.9	---
TOTAL	24.11	55.08	393.8	438.2	993	4372.9	7045	24038	1636.5	1062.93	413.87	1489.51
MEAN	.78	1.84	12.7	14.1	35.5	141	235	775	54.6	34.3	13.4	49.7
MAX	16	5.4	65	32	313	2000	2220	4390	223	254	74	447
MIN	.00	.32	2.5	1.2	10	7.6	14	26	7.3	.40	.52	.42
AC-FT	48	109	781	869	1970	8670	13970	47680	3250	2110	821	2950
CAL YR 1976 TOTAL	34997.14			95.6	MAX 3600	MIN .00	AC-FT 69420					
WTR YR 1977 TOTAL	41962.90			115	MAX 4390	MIN .00	AC-FT 83230					

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, 38.0°C July 20, 27, 28 30, 1961; minimum, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 4,300 micromhos Nov. 7; minimum daily, 118 micromhos Sept. 11.

WATER TEMPERATURE: Maximum daily, 37.0°C July 24; minimum daily, 0.5°C Jan. 10, 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
25...	--	--	1625	.82	2100	7.8	--	--	--	--
NOV										
05...	--	--	1612	1.6	3740	7.9	--	--	--	--
12...	--	--	1645	.76	3010	8.1	--	--	--	--
23...	1028	9740	1400	3.5	3500	7.8	7.0	8	11.0	92
25...	--	--	1340	2.9	2480	8.0	--	--	--	--
DEC										
05...	--	--	1720	5.0	2400	8.0	--	--	--	--
15...	--	--	1712	13	1880	8.2	--	--	--	--
21...	1028	9740	1230	5.3	2000	8.1	1.0	9	12.5	89
25...	--	--	1050	5.8	1950	8.1	--	--	--	--
JAN										
05...	--	--	1645	4.8	1930	7.9	--	--	--	--
15...	--	--	1636	16	3290	8.0	--	--	--	--
18...	1028	9740	1030	17	2900	8.3	.5	5	--	--
25...	--	--	1400	33	2500	8.1	--	--	--	--
FEB										
04...	--	--	1645	14	2030	8.3	--	--	--	--
14...	--	--	1515	46	1160	8.1	--	--	--	--
15...	1028	9740	1430	47	2100	7.8	8.0	70	11.9	98
24...	--	--	1730	16	1900	8.1	--	--	--	--
MAR										
06...	--	--	1530	12	2360	8.2	--	--	--	--
14...	--	--	1755	14	2300	8.2	--	--	--	--
15...	1028	9740	1410	15	2900	8.4	19.5	10	12.1	134
25...	--	--	1750	7.7	2020	8.2	--	--	--	--
APR										
05...	--	--	1528	47	1950	7.9	--	--	--	--
12...	1028	9740	1445	17	2000	8.0	23.0	18	10.2	119
15...	--	--	1515	14	2520	8.0	--	--	--	--
25...	--	--	1735	337	818	7.7	--	--	--	--
MAY										
05...	--	--	1345	78	1890	7.8	--	--	--	--
15...	--	--	1500	154	2070	7.5	--	--	--	--
17...	1028	9740	1200	162	950	8.3	23.0	225	7.8	92
25...	--	--	1308	1380	481	7.4	--	--	--	--
JUN										
05...	--	--	1320	88	1430	7.9	--	--	--	--
15...	--	--	1700	21	2740	8.1	--	--	--	--
25...	--	--	1532	29	3770	7.9	--	--	--	--
28...	1028	9740	1445	81	3000	8.0	31.0	58	9.2	126
JUL										
05...	--	--	1516	42	783	7.7	--	--	--	--
14...	--	--	2100	4.3	1500	7.8	--	--	--	--
25...	1028	9740	1900	.40	1150	7.8	36.0	120	9.6	141
25...	--	--	2010	.40	1660	8.0	--	--	--	--
AUG										
05...	--	--	1815	6.1	2750	7.8	--	--	--	--
15...	--	--	1831	5.3	1030	7.8	--	--	--	--

07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COLLECTING SAMPLE	CODE FOR AGENCY ANALYZING SAMPLE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHUS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION
AUG 25...	1028	9740	1515	2.7	2400	8.4	30.0	--	9.9	132
25...	--	--	1721	2.4	2360	7.8	--	--	--	--
SEP 05...	--	--	1700	6.4	2540	8.0	--	--	--	--
15...	--	--	1730	67	686	7.6	--	--	--	--
25...	--	--	1600	1.2	1100	7.9	--	--	--	--
28...	1028	9740	1430	.76	1670	8.1	27.0	27	7.6	96
DATE	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	TOTAL CALCIUM (CA) (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	TOTAL MAGNESIUM (MG) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT 25...	--	370	120	--	70	--	48	--	290	63
NOV 05...	--	580	370	--	130	--	61	--	530	66
12...	--	500	290	--	110	--	54	--	420	64
23...	32	--	--	--	--	--	--	--	--	--
25...	--	480	230	--	93	--	60	--	330	60
DEC 05...	--	460	200	--	92	--	55	--	300	59
15...	--	380	140	--	76	--	46	--	230	57
21...	12	--	--	--	--	--	--	--	--	--
25...	--	350	140	--	61	--	48	--	240	60
JAN 05...	--	380	160	--	77	--	45	--	250	59
15...	--	510	330	--	100	--	62	--	460	66
18...	19	--	--	--	--	--	--	--	--	--
25...	--	420	400	--	86	--	49	--	320	62
FEB 04...	--	390	180	--	78	--	47	--	270	60
14...	--	230	97	--	52	--	24	--	140	57
15...	21	--	--	--	--	--	--	--	--	--
24...	--	390	170	--	86	--	42	--	240	57
MAR 06...	--	430	240	--	84	--	53	--	300	60
14...	--	430	240	--	92	--	48	--	300	60
15...	4	--	--	--	--	--	--	--	--	--
25...	--	440	190	--	87	--	53	--	250	55
APR 05...	--	390	180	--	86	--	42	--	240	57
12...	17	--	--	--	--	--	--	--	--	--
15...	--	500	260	--	110	--	55	--	320	58
25...	--	200	59	--	45	--	21	--	88	48
MAY 05...	--	370	170	--	84	--	38	--	230	57
15...	--	400	210	--	84	--	45	--	260	59
17...	44	--	--	--	--	--	--	--	--	--
25...	--	130	25	--	33	--	12	--	41	40
JUN 05...	--	320	140	--	71	--	34	--	150	50
15...	--	520	290	--	110	--	60	--	400	62
25...	--	590	430	--	120	--	70	--	560	67
28...	38	--	--	--	--	--	--	--	--	--
JUL 05...	--	180	55	--	40	--	19	--	88	51
14...	--	300	120	--	68	--	31	--	190	58
25...	20	--	--	--	--	--	--	--	--	--
25...	--	330	95	--	69	--	37	--	210	58
AUG 05...	--	450	300	--	86	--	58	--	380	64
15...	--	220	92	--	50	--	24	--	120	53
25...	26	--	--	--	--	--	--	--	--	--
25...	--	400	230	--	79	--	48	--	340	65
SEP 05...	--	480	340	--	93	--	59	--	330	60
15...	--	140	44	--	34	--	14	--	87	56
25...	--	270	76	--	68	--	25	--	120	48
28...	26	--	--	--	--	--	--	--	--	--

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
25...	6.5	--	4.9	305	0	250	7.7	17	540	--
NOV										
05...	9.6	--	6.0	246	0	202	5.0	27	1100	--
12...	8.2	--	6.4	251	0	206	3.2	32	820	--
23...	--	--	--	--	--	--	--	--	--	.3
25...	6.6	--	5.2	304	0	249	4.9	50	660	--
DEC										
05...	6.1	--	4.9	308	0	253	4.9	49	600	--
15...	5.1	--	4.6	286	0	235	2.9	53	420	--
21...	--	--	--	--	--	--	--	--	--	.3
25...	5.6	--	4.5	257	0	211	3.3	54	450	--
JAN										
05...	5.6	--	4.3	266	0	218	5.4	46	440	--
15...	8.9	--	5.0	210	0	172	3.4	51	960	--
18...	--	--	--	--	--	--	--	--	--	.3
25...	6.8	--	4.4	26	0	21	.3	47	660	--
FEB										
04...	6.0	--	3.4	256	0	210	2.1	44	500	--
14...	4.0	--	3.2	160	0	131	2.0	26	270	--
15...	--	--	--	--	--	--	--	--	--	.3
24...	5.3	--	4.1	271	0	222	3.4	42	450	--
MAR										
06...	6.3	--	4.5	230	0	190	2.3	48	590	--
14...	6.3	--	5.0	230	0	190	2.3	43	630	--
15...	--	--	--	--	--	--	--	--	--	.3
25...	5.2	--	4.4	300	0	250	3.0	47	460	--
APR										
05...	5.3	--	4.5	250	0	205	5.0	33	480	--
12...	--	--	--	--	--	--	--	--	--	.3
15...	6.2	--	5.4	300	0	246	4.8	36	640	--
25...	2.7	--	3.9	170	0	139	5.4	17	160	--
MAY										
05...	5.2	--	4.5	240	0	200	6.1	23	480	--
15...	5.7	--	4.4	230	0	190	12	25	510	--
17...	--	--	--	--	--	--	--	--	--	.2
25...	1.6	--	3.4	130	0	110	8.3	8.7	81	--
JUN										
05...	3.7	--	4.4	220	0	180	4.4	20	320	--
15...	7.6	--	5.6	280	0	230	3.6	29	720	--
25...	10	--	5.8	190	0	160	3.8	35	1100	--
28...	--	--	--	--	--	--	--	--	--	.4
JUL										
05...	2.9	--	3.3	150	0	123	4.8	12	160	--
14...	4.8	--	4.4	220	0	180	5.6	28	340	--
25...	--	--	--	--	--	--	--	--	--	.3
25...	5.1	--	4.5	280	0	230	4.5	25	360	--
AUG										
05...	7.8	--	5.4	190	0	160	4.8	36	770	--
15...	3.5	--	3.6	160	0	130	4.1	28	250	--
25...	--	--	--	--	--	--	--	--	--	.3
25...	7.4	--	5.1	200	0	160	5.1	31	690	--
SEP										
05...	6.6	--	5.1	160	0	130	2.6	18	720	--
15...	3.2	--	2.7	120	0	98	4.8	22	140	--
25...	3.2	--	4.1	240	0	200	4.8	25	210	--
28...	--	--	--	--	--	--	--	--	--	.3

ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
25...	--	1110	--	1.51	2.46	.33	--	--	--	--
NOV										
05...	--	2160	--	2.94	9.33	.43	--	--	--	--
12...	--	1690	--	2.30	3.47	.21	--	--	--	--
23...	--	--	--	--	--	--	1.1	.05	<1	2
25...	--	1370	--	1.86	10.7	.12	--	--	--	--
DEC										
05...	--	1270	--	1.73	17.1	.26	--	--	--	--
15...	--	1000	--	1.36	35.1	.01	--	--	--	--
21...	--	--	--	--	--	--	.80	<.03	--	--
25...	--	1020	--	1.39	16.0	.14	--	--	--	--
JAN										
05...	--	1020	--	1.39	13.2	.20	--	--	--	--
15...	--	1820	--	2.48	78.6	.36	--	--	--	--
18...	--	--	--	--	--	--	1.3	.11	--	--
25...	--	1320	--	1.80	118	.24	--	--	--	--
FEB										
04...	--	1100	--	1.50	41.6	.12	--	--	--	--
14...	--	625	--	.85	77.6	.51	--	--	--	--
15...	--	--	--	--	--	--	1.4	.13	3	2
24...	--	1030	--	1.40	44.5	.15	--	--	--	--
MAR										
06...	--	1260	--	1.71	40.8	.09	--	--	--	--
14...	--	1250	--	1.70	47.2	.17	--	--	--	--
15...	--	--	--	--	--	--	2.5	.06	--	--
25...	--	1100	--	1.50	22.9	.38	--	--	--	--
APR										
05...	--	1130	--	1.54	143	.28	--	--	--	--
12...	--	--	--	--	--	--	2.9	.08	--	--
15...	--	1500	--	2.04	56.7	.09	--	--	--	--
25...	--	471	--	.64	429	.52	--	--	--	--
MAY										
05...	--	1040	--	1.41	219	--	--	--	--	--
15...	--	1150	--	1.56	478	--	--	--	--	--
17...	--	--	--	--	--	--	2.3	.29	6	1
25...	--	279	--	.38	1040	--	--	--	--	--
JUN										
05...	--	808	--	1.10	192	--	--	--	--	--
15...	--	1590	--	2.16	90.2	--	--	--	--	--
25...	--	2210	--	3.01	173	--	--	--	--	--
28...	--	--	--	--	--	--	5.7	.07	--	--
JUL										
05...	--	424	--	.58	48.1	--	--	--	--	--
14...	--	826	--	1.12	9.59	--	--	--	--	--
25...	--	--	--	--	--	--	1.4	.09	--	--
25...	--	913	--	1.24	.99	--	--	--	--	--
AUG										
05...	--	1550	--	2.11	25.5	--	--	--	--	--
15...	--	553	--	.75	7.91	--	--	--	--	--
25...	--	--	--	--	--	--	<.65	--	3	<1
25...	--	1240	--	1.69	8.04	--	--	--	--	--
SEP										
05...	--	1370	--	1.86	23.7	--	--	--	--	--
15...	--	363	--	.49	65.7	--	--	--	--	--
25...	--	581	--	.79	1.88	--	--	--	--	--
28...	--	--	--	--	--	--	1.2	.07	--	--

ARKANSAS RIVER BASIN

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07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CHROMIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT										
25...	--	--	--	--	--	--	--	--	--	--
NOV										
05...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
23...	16	<2	490	<5	197	<.5	7	<1	1	5
25...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
21...	--	--	170	--	210	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
18...	--	--	100	--	80	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
15...	23	8	390	10	140	<.5	10	--	3	7
24...	--	--	--	--	--	--	--	--	--	--
MAR										
06...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
15...	--	--	190	--	190	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
APR										
05...	--	--	--	--	--	--	--	--	--	--
12...	--	--	440	--	130	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
MAY										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
17...	35	23	2500	28	550	.6	38	<1	4	320
25...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
28...	--	--	390	--	140	--	--	--	--	--
JUL										
05...	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--
25...	--	--	370	--	250	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
AUG										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
25...	<5	4	380	15	380	.7	12	<1	3	20
25...	--	--	--	--	--	--	--	--	--	--
SEP										
05...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--
28...	--	--	1310	--	280	--	--	--	--	--

ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	16.0	5.0	1.0	4.0	13.0	15.5	22.0	29.0	24.0	35.0	33.5
2	24.0	17.0	5.5	1.0	5.0	11.5	20.0	24.5	31.0	28.5	34.5	32.0
3	25.0	16.0	5.0	2.5	6.0	16.0	19.0	26.5	32.0	33.0	33.5	34.0
4	21.5	13.0	7.5	3.0	7.5	14.5	20.0	25.5	32.0	33.5	33.5	33.0
5	20.0	11.5	7.0	1.5	10.0	14.0	18.0	24.5	31.5	33.5	34.5	30.0
6	17.0	11.5	6.0	1.5	8.0	16.0	21.0	24.5	32.0	35.0	34.5	30.5
7	14.0	11.0	4.0	2.5	8.0	17.0	23.5	24.0	30.0	35.0	35.5	32.5
8	16.5	11.0	4.5	2.0	11.0	17.0	24.0	28.5	30.5	35.0	35.0	33.0
9	15.5	15.0	8.0	3.0	12.5	18.0	23.5	28.5	30.0	33.0	34.5	33.5
10	18.0	15.0	8.0	0.5	13.5	17.0	25.0	28.0	33.0	29.5	35.5	32.5
11	20.5	8.5	3.0	0.5	9.5	16.0	23.0	27.5	34.0	35.0	31.0	21.0
12	22.5	6.5	7.0	1.0	11.0	14.0	25.0	27.0	34.0	36.5	31.5	27.0
13	24.0	5.0	7.0	1.5	12.0	18.5	24.5	25.0	34.0	35.5	25.0	24.0
14	20.5	5.0	7.0	1.0	11.5	21.5	22.5	28.5	34.0	34.0	32.0	20.5
15	18.0	5.0	8.0	1.5	9.0	22.0	24.0	25.5	31.5	36.0	34.0	25.0
16	17.0	5.5	8.5	1.5	8.0	18.0	23.5	23.0	32.0	35.0	35.0	28.0
17	16.0	8.5	9.0	1.0	9.0	17.5	---	26.0	34.5	36.0	32.0	28.5
18	14.5	11.0	11.0	1.0	12.0	18.5	21.0	28.0	34.0	36.0	30.5	28.5
19	13.5	12.5	13.5	2.0	12.0	19.0	23.0	26.5	32.5	36.5	26.0	27.0
20	12.0	14.5	6.0	2.0	13.0	19.0	22.0	---	33.0	34.5	27.0	28.0
21	16.0	10.5	3.0	1.5	14.5	18.0	19.0	22.5	34.0	31.0	30.5	30.5
22	16.0	8.0	4.0	1.0	18.0	20.0	20.0	22.5	34.0	34.5	32.5	32.0
23	17.0	10.0	4.0	1.0	15.0	21.5	19.5	25.0	31.5	35.0	35.0	29.0
24	16.5	10.5	4.0	1.0	16.5	19.0	20.0	26.0	27.0	37.0	36.0	33.0
25	15.0	12.0	7.5	2.0	16.0	18.0	21.0	27.0	31.5	36.0	35.0	35.0
26	16.0	16.0	7.5	4.5	9.0	17.5	21.5	27.0	31.5	32.0	34.5	32.5
27	15.0	8.5	9.0	8.0	10.5	17.0	23.0	27.0	29.0	30.0	32.5	32.5
28	13.5	4.5	7.0	3.0	14.5	18.0	26.0	28.0	33.0	33.0	25.0	29.0
29	10.5	5.0	7.0	2.0	---	19.5	23.0	28.0	31.5	36.0	28.0	33.5
30	11.5	5.0	3.5	1.0	---	19.0	23.0	29.0	34.0	36.5	33.0	29.0
31	13.5	---	1.5	2.0	---	18.0	---	26.0	---	32.0	34.0	---
MONTH	17.5	10.5	6.5	2.0	11.0	17.5	22.0	26.0	32.0	34.0	32.5	30.0
YEAR	MAX	37.0	MIN	0.5	MEAN	20.0						

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2040	1840	2960	2290	1740	2100	1260	930	1130	354	2920	1330
2	2010	1770	2540	2270	1710	2000	1360	1500	1200	753	1270	1420
3	2010	2290	2500	1880	1710	2020	1730	1500	1270	1020	1950	1920
4	1980	3100	2440	1890	2030	2180	1840	1710	1340	691	5540	2400
5	2030	3740	2400	1930	1980	2780	1950	1890	1430	783	2750	2540
6	2100	4280	1930	1600	2050	2360	1910	1870	1570	906	2230	2260
7	2060	4300	1610	888	2000	2280	2000	2000	1650	1110	2180	3620
8	2020	4280	1940	919	1910	2230	2060	1940	1980	1220	2200	3560
9	2110	3720	2120	2480	1900	2560	2010	2120	1940	1370	2210	2650
10	2190	3680	1370	2480	1930	2400	2070	2200	2080	1700	2210	2230
11	2180	3380	1660	2470	1310	1550	2180	2100	2200	1410	983	118
12	2160	3010	1790	2460	1010	1680	2240	2100	2220	1310	1710	313
13	2160	2860	1680	2240	1150	2140	2270	2100	2300	1420	210	583
14	2150	2640	1790	2300	1160	2300	2430	2180	2390	1500	958	1090
15	2140	2580	1880	3290	2380	2830	2520	2070	2740	1710	1030	686
16	2130	2470	1810	3240	1480	2240	2650	948	2710	1650	1160	596
17	2100	2430	1870	3540	1750	2190	---	957	2760	1650	1290	994
18	2100	2450	1880	3440	1750	2370	3790	1400	2860	1670	1260	991
19	2030	2500	1880	3260	1610	2300	991	1490	2920	1680	1260	991
20	2020	2470	1930	2600	1580	1880	1290	490	2880	1680	1270	1120
21	2050	2530	1920	2450	1610	1880	656	400	3040	1690	1670	1080
22	2180	2580	1890	2470	1660	1880	707	414	3060	1660	3920	980
23	2040	2420	1970	3370	1740	1900	709	373	3060	1640	2360	1030
24	2130	2430	2050	3390	1900	2020	715	396	1940	1630	2440	1080
25	2100	2480	1950	2500	2150	2020	818	481	3770	1660	2360	1100
26	2130	2620	1990	2770	1990	2040	904	568	2850	1660	2450	1140
27	2160	2660	2010	2020	1900	622	1010	716	2170	1590	2440	1480
28	2260	2780	2160	1630	1890	776	1110	793	2720	1590	456	1820
29	2020	3130	2080	1990	---	1040	1180	863	1480	1660	824	1680
30	2390	3170	1910	2020	---	1240	1050	887	1420	2030	1600	1800
31	2570	---	2200	1980	---	1240	---	1010	---	3030	1340	---
MONTH	2120	2890	2000	2390	1750	1970	1630	1300	2240	1470	1890	1490
YEAR	MAX	5540	MIN	118	MEAN	1930						

07231500 CANADIAN RIVER AT CALVIN, OK

LOCATION.--Lat 34°58'32", long 96°14'24", in NE 1/4 SW 1/4 sec.22, T.6 N., R.10 E., Hughes County, Hydro-logic Unit 11090202, near left bank on downstream side of pier of bridge on 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 Service.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1391: 1941.

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 684.72 ft (208.703 m) above mean sea level. January 1905 to December 1908, nonrecording gage at site 0.8 mi (1.3 km) upstream at datum 2.00 ft (9.611 m) higher. Oct. 1, 1938, to Aug. 12, 1944, nonrecording gage at present site and datum.

REMARKS.--Records poor. Occasional slight regulation by dams in New Mexico and Texas.

COOPERATION.--Gage-height record and 33 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--38 years (water years 1906, 1939-42, 1945-77), 1,605 ft³/s (45.45 m³/s), 1,163,000 acre-ft/yr (1.43 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, 28,400 ft³/s (804 m³/s) at 1215 May 20, gage height, 7.61 ft (2.320 m), no other peaks above base of 25,000 ft³/s (708 m³/s); minimum daily, 4.0 ft³/s (0.11 m³/s) Oct. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	139	25	51	121	133	646	2000	2590	4060	24	490
2	7.9	124	35	45	119	121	474	2590	4930	3670	251	345
3	7.3	116	37	47	121	148	405	1650	3890	2620	116	161
4	9.2	88	39	56	121	154	321	2030	3960	1050	61	121
5	18	64	33	63	116	154	251	2110	4480	550	56	290
6	20	63	168	80	109	164	210	2130	3960	292	46	95
7	17	51	251	88	109	194	151	3160	2720	190	35	55
8	15	45	442	92	111	148	127	3390	1710	142	38	47
9	13	40	251	64	116	133	101	2380	1280	116	30	41
10	13	34	164	66	101	99	99	1260	803	92	29	34
11	11	32	139	63	287	1400	95	523	657	151	27	1760
12	8.2	31	114	63	893	947	95	358	597	78	69	3220
13	7.6	29	104	69	1650	667	101	281	435	67	119	5740
14	7.0	29	104	69	523	351	106	214	378	54	114	1280
15	6.8	40	88	168	315	202	104	202	339	50	88	1270
16	6.8	47	78	182	298	109	121	2030	251	50	55	490
17	6.8	47	71	198	246	151	130	3110	237	48	41	237
18	6.5	36	73	241	228	151	231	1180	223	52	32	80
19	5.9	33	74	219	210	101	1060	646	223	39	27	50
20	5.6	33	88	210	194	97	1670	21600	158	35	24	46
21	4.2	32	84	228	182	95	5080	19400	136	29	21	43
22	4.0	30	76	266	246	86	3510	18200	106	29	20	37
23	6.5	39	58	309	251	64	1900	18500	88	34	20	39
24	17	32	54	315	237	45	2050	15700	92	32	21	37
25	29	29	52	315	202	39	1360	11200	427	33	20	33
26	38	26	58	241	148	39	1320	7570	364	25	24	25
27	33	23	78	161	161	13000	756	4440	1280	21	37	20
28	27	23	76	154	145	5990	550	9100	597	21	39	21
29	25	22	66	154	---	2400	435	5670	597	21	1520	15
30	88	24	58	168	---	2830	3580	3670	345	23	859	24
31	119	---	55	139	---	1020	---	2750	---	18	947	---
TOTAL	591.8	1401	3093	4584	7560	31232	27039	169064	37853	13692	4810	16146
MEAN	19.1	46.7	99.8	148	270	1007	901	5454	1262	442	155	538
MAX	119	139	442	315	1650	13000	5080	21600	4930	4060	1520	5740
MIN	4.0	22	25	45	101	39	95	202	88	18	20	15
AC-FT	1170	2780	6130	9090	15000	61950	53630	335300	75080	27160	9540	32030

CAL YR 1976 TOTAL 167049.50 MEAN 456 MAX 15000 MIN .00 AC-FT 331300
WTR YR 1977 TOTAL 317065.80 MEAN 869 MAX 21600 MIN 4.0 AC-FT 628900

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, 3,280 micromhos Nov. 30; minimum daily, 266 micromhos Sept. 13.

WATER TEMPERATURE: Maximum daily, 28.5°C on July 9; minimum daily, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
28...	--	--	1230	23	1260	8.3	13.0	20	12.8	123
28...	1028	9740	1231	23	1260	8.3	13.0	--	12.8	123
NOV										
23...	--	--	1100	38	1290	8.3	7.5	9	11.8	100
23...	1028	9740	1101	38	1290	8.3	7.5	--	11.8	100
DEC										
21...	--	--	0945	78	1400	8.2	.0	9	13.1	90
21...	1028	9740	0946	78	1400	8.2	.0	--	13.1	90
JAN										
18...	--	--	1230	219	1430	8.6	.5	9	--	--
18...	1028	9740	1231	219	1430	8.6	.5	--	--	--
FEB										
15...	--	--	1100	309	800	8.2	7.0	75	12.2	98
15...	1028	9740	1101	309	800	8.2	7.0	--	12.2	98
MAR										
15...	--	--	1005	202	890	8.5	14.0	45	11.4	112
15...	1028	9740	1006	202	890	8.5	14.0	--	11.4	112
APR										
12...	--	--	1000	101	1300	8.2	22.0	15	9.7	110
12...	1028	9740	1001	101	1300	8.2	22.0	--	9.7	110
MAY										
18...	--	--	1030	947	580	7.5	27.0	320	7.7	97
18...	1028	9740	1031	947	580	7.5	27.0	--	7.7	97
JUN										
28...	--	--	1045	597	1270	8.0	27.0	190	8.2	104
28...	1028	9740	1315	597	1300	8.1	29.0	--	8.4	110
JUL										
25...	--	--	1500	130	1600	7.9	35.0	5	9.5	138
25...	1028	9740	1715	130	1610	8.0	36.0	--	9.5	140
AUG										
25...	--	--	1100	19	1320	8.3	28.0	100	9.0	115
25...	1028	9740	1145	19	1350	8.3	28.0	74	9.0	115
SEP										
28...	--	--	1030	22	1600	8.4	25.0	25	8.0	98
28...	1028	9740	1100	22	1700	8.1	25.0	--	8.0	98

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible][illegible]

ARKANSAS RIVER BASIN

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)	
OCT											
28...	682	.92	42.2	.02	--	.81	.83	3.7	.32	--	
28...	--	--	--	--	--	.81	--	--	--	--	
NOV											
23...	716	.99	74.5	.03	--	.87	.90	4.0	.54	--	
23...	--	--	--	--	--	1.8	--	--	--	--	
DEC											
21...	823	1.16	182	.93	--	1.4	2.3	10	.25	--	
21...	--	--	--	--	--	1.5	--	--	--	--	
JAN											
18...	793	1.63	710	.99	--	1.5	2.5	11	.83	--	
18...	--	--	--	--	--	2.2	--	--	--	--	
FEB											
15...	470	.66	403	.53	--	1.2	1.7	7.7	.30	--	
15...	--	--	--	--	--	2.7	--	--	--	--	
MAR											
15...	570	.79	316	.37	--	1.4	1.8	7.8	.22	--	
15...	--	--	--	--	--	1.9	--	--	--	--	
APR											
12...	723	1.02	204	.02	--	.89	.91	4.0	.16	--	
12...	--	--	--	--	--	1.9	--	--	--	--	
MAY											
18...	318	.45	849	.50	--	2.3	2.8	12	.44	--	
18...	--	--	--	--	--	2.8	--	--	--	--	
JUN											
28...	734	1.04	1240	.05	--	1.4	1.5	6.4	.30	--	
28...	--	--	--	--	--	2.4	--	--	--	--	
JUL											
25...	947	1.90	491	.47	--	2.3	2.8	12	.14	--	
25...	--	--	--	--	--	2.3	--	--	--	--	
AUG											
25...	739	1.03	39.0	.00	--	1.2	1.2	5.3	.13	--	
25...	--	--	--	--	--	1.4	--	--	.15	--	
SEP											
28...	980	1.40	61.2	.01	.21	--	--	--	.15	.02	
28...	--	--	--	--	--	1.7	--	--	--	--	
DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDED ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDED CHRO- MIUM (CR) (UG/L)
UCT											
28...	--	--	1230	--	--	--	--	--	--	--	--
28...	1028	9740	1231	--	--	--	--	--	--	--	--
NOV											
23...	--	--	1100	4	0	4	<10	<10	0	0	0
23...	1028	9740	1101	--	--	--	--	--	--	--	--
DEC											
21...	--	--	0945	--	--	--	--	--	--	--	--
21...	1028	9740	0946	--	--	--	--	--	--	--	--
JAN											
18...	--	--	1230	--	--	--	--	--	--	--	--
18...	1028	9740	1231	--	--	--	--	--	--	--	--
FEB											
15...	--	--	1100	4	1	3	<10	<9	1	0	0
15...	1028	9740	1101	--	--	--	--	--	--	--	--
MAR											
15...	--	--	1005	--	--	--	--	--	--	--	--
15...	1028	9740	1006	--	--	--	--	--	--	--	--
APR											
12...	--	--	1000	--	--	--	--	--	--	--	--
12...	1028	9740	1001	--	--	--	--	--	--	--	--
MAY											
18...	--	--	1030	12	--	1	10	--	6	30	--
18...	1028	9740	1031	--	--	--	--	--	--	--	--
JUN											
28...	--	--	1045	--	--	--	--	--	--	--	--
28...	1028	9740	1315	--	--	--	--	--	--	--	--
JUL											
25...	--	--	1500	--	--	--	--	--	--	--	--
25...	1028	9740	1715	--	--	--	--	--	--	--	--
AUG											
25...	--	--	1100	4	2	2	10	9	1	10	0
25...	1028	9740	1145	--	--	--	--	--	--	--	--
SEP											
28...	--	--	1030	--	--	--	--	--	--	--	--
28...	1028	9740	1100	--	--	--	--	--	--	--	--

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDE D COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDE D COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE D LEAD (PB) (UG/L)
OCT											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	300	--	--	--
NOV											
23...	0	<50	<49	1	10	9	1	470	10	100	100
23...	--	--	--	--	--	--	--	--	--	--	--
DEC											
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	210	--	--	--
JAN											
18...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	200	--	--	--
FEB											
15...	0	<50	<50	0	10	5	5	2700	40	<100	<99
15...	--	--	--	--	--	--	--	--	--	--	--
MAR											
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	530	--	--	--
APR											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	420	--	--	--
MAY											
18...	0	<50	--	0	20	--	3	15000	140	<100	--
18...	--	--	--	--	--	--	--	--	--	--	--
JUN											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	1320	--	--	--
JUL											
25...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	1870	--	--	--
AUG											
25...	10	<50	<50	0	<10	<4	6	3000	30	100	97
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	2050	--	--	--

DATE	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	SUS- PENDE D MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDE D MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDE D SELE- NIUM (SE) (UG/L)
OCT										
28...	--	--	--	--	--	--	--	--	--	--
28...	--	128	--	--	--	--	--	--	--	--
NOV										
23...	0	50	10	40	.0	.0	.0	--	1	0
23...	--	--	--	--	--	--	--	3	--	--
DEC										
21...	--	--	--	--	--	--	--	--	--	--
21...	--	86	--	--	--	--	--	--	--	--
JAN										
18...	--	--	--	--	--	--	--	--	--	--
18...	--	120	--	--	--	--	--	--	--	--
FEB										
15...	1	190	180	10	.3	.3	.0	--	1	0
15...	--	--	--	--	--	--	--	21	--	--
MAR										
15...	--	--	--	--	--	--	--	--	--	--
15...	--	100	--	--	--	--	--	--	--	--
APR										
12...	--	--	--	--	--	--	--	--	--	--
12...	--	110	--	--	--	--	--	--	--	--
MAY										
18...	49	810	800	10	.0	--	.0	--	2	0
18...	--	--	--	--	--	--	--	29	--	--
JUN										
28...	--	--	--	--	--	--	--	--	--	--
28...	--	380	--	--	--	--	--	--	--	--
JUL										
25...	--	--	--	--	--	--	--	--	--	--
25...	--	300	--	--	--	--	--	--	--	--
AUG										
25...	3	270	260	10	.2	.1	.1	--	1	1
25...	--	--	--	--	--	--	--	8	--	--
SEP										
28...	--	--	--	--	--	--	--	--	--	--
28...	--	230	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDE D ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	TOTAL PHYTO- TON (CELLS PER ML)	SUS- PENDE D SELE- NIUM (MG/L)	SUS- PENDE D SED- IMENT CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT										
28...	--	--	--	--	--	--	11000	19	1.2	82
28...	--	--	--	--	--	--	--	--	--	--
NOV										
23...	1	--	20	10	10	4.6	22000	92	9.4	96
23...	--	3	--	--	--	--	--	--	--	--
DEC										
21...	--	--	--	--	--	--	52	78	16	96
21...	--	--	--	--	--	--	--	--	--	--
JAN										
18...	--	--	--	--	--	--	3600	62	37	96
18...	--	--	--	--	--	--	--	--	--	--
FEB										
15...	1	--	10	10	0	9.4	11000	240	200	87
15...	--	3	--	--	--	--	--	--	--	--
MAR										
15...	--	--	--	--	--	--	--	87	47	90
15...	--	--	--	--	--	--	--	--	--	--
APR										
12...	--	--	--	--	--	--	--	43	12	60
12...	--	--	--	--	--	--	--	--	--	--
MAY										
18...	2	--	60	50	10	19	9700	1060	2710	70
18...	--	3	--	--	--	--	--	--	--	--
JUN										
28...	--	--	--	--	--	--	26000	522	841	71
28...	--	--	--	--	--	--	--	--	--	--
JUL										
25...	--	--	--	--	--	--	410000	142	50	56
25...	--	--	--	--	--	--	--	--	--	--
AUG										
25...	0	--	30	10	20	6.5	62000	125	6.4	90
25...	--	<2	--	--	--	--	--	--	--	--
SEP										
28...	--	--	--	--	--	--	63000	93	5.5	98
28...	--	--	--	--	--	--	--	--	--	--

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL ATRA- ZINE (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)
FEB								
15...	1100	ND	ND	ND	ND	ND	ND	.09
MAY								
18...	1030	ND	ND	ND	ND	ND	ND	ND
AUG								
25...	1100	ND	--	ND	ND	ND	ND	ND

DATE	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METH- OXY- CHLOR (UG/L)	TOTAL METHYL PARA- THION (UG/L)
FEB									
15...	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAY									
18...	ND	ND	ND	ND	ND	ND	ND	ND	ND
AUG									
25...	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	SIMA- ZINE TOTAL COUL- SUN COND. (UG/L)
FEB								
15...	ND	ND	ND	ND	ND	ND	ND	ND
MAY								
18...	ND	ND	ND	ND	ND	ND	ND	ND
AUG								
25...	ND	ND	ND	ND	--	--	--	--

ARKANSAS RIVER BASIN

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07231500 CANADIAN RIVER AT CALVIN, OK--Continued
 PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 28,76 1230	NOV 23,76 1100	DEC 21,76 0945	JAN 18,77 0000	FEB 15,77 1100
TOTAL CELLS/ML	11000	22000	52	3600	11000
DIVERSITY: DIVISION	1.6	1.2	1.6	1.6	1.4
..CLASS	1.7	1.2	1.6	1.9	1.4
..ORDER	2.1	1.4	2.3	2.4	1.7
..FAMILY	2.5	1.4	2.6	2.8	2.2
....GENUS	2.9	1.5	2.9	3.0	2.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCUCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	1	2	--	-	--	-
...COELASTRACEAE										
....COELASTRUM	--	-	--	-			--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	810	7	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
...MICRACTINIUM	--	-	--	-	--	-	*	0	--	-
...HOCYSTACEAE										
....ANKISTRUDESUS	*	0	--	-	--	-	190	5	210	2
...DICTYOSPHAERIUM	--	-	--	-	--	-	--	-	--	-
....FRANCEIA	--	-	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	1	2	*	0	--	-
...DUCYSTIS	--	-	--	-	--	-	70	2	--	-
...TETRAEDRON	--	-	--	-	--	-	--	-	--	-
...TREUBARIA	--	-	--	-	--	-	*	0	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	1400	12	--	-	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	2	4	70	2	--	-
...SCENEDESMUS	3300#	30	590	3	1	3	140	4	820	7
..TETRASPOALES										
...COCCOMYXACEAE										
....ELAKATOTHRIX	--	-	--	-	--	-	--	-	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	--	-	--	-	--	-	--	-
...CHLAMYDOMONAS	660	6	--	-	7	13	420	12	890	8
...PHACOTACEAE										
....PTEROMONAS	--	-	--	-	--	-	53	1	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISACEAE										
....CYCLOTETRA	200	2	10000#	46	7	14	440	12	140	1
...MELOSIRA	100	1	--	-	--	-	--	-	--	-
...PENNIALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	--	-	--	-	69	1
...COCONEIS	--	-	290	1	*	0	--	-	--	-
...CYMBELLACEAE										
....AMPHURA	--	-	--	-	--	-	*	0	140	1
...CYMBELLA	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	*	0	--	-	69	1
...FRAGILARIACEAE										
...ASTERIONELLA	--	-	--	-	--	-	53	1	--	-
...SYNEDRA	--	-	--	-	--	-	*	0	--	-
...NAVICULACEAE										
....CALONEIS	--	-	--	-	--	-	--	-	--	-
...MASTOGLUIA	--	-	--	-	--	-	--	-	--	-
...NAVICULA	*	0	440	2	1	2	70	2	410	4
...PINNULARIA	--	-	--	-	--	-	--	-	--	-
...NITZSCHACEAE										
...NITZSCHIA	1200	11	150	1	1	1	230	6	6200#	54
...SURIPELLACEAE										
....SURIPELLA	--	-	--	-	*	0	--	-	69	1
..CHRYSTOPHYCEAE										
...CHRYSUMONADALES										
...CHROMULINACEAE										
....CHRYSOCCUS	--	-	--	-	--	-	400	11	--	-

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

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

07231500 CANADIAN RIVER AT CALVIN, OK--Continued
 PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 28,76 1230		NOV 23,76 1100		DEC 21,76 0945		JAN 18,77 0000		FEB 15,77 1100	
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										
...CHROCOCCALES										
...CHRUCCOCCAEAE										
...AGMENELLUM	--	-	--	-	--	-	--	-	--	-
...ANACYSTIS	400	4	--	-	4	8	--	-	--	-
...HORMOGONALES										
...NOSTOCACEAE										
...ANABAENA	--	-	--	-	--	-	--	-	--	-
...ANABAENOPSIS	--	-	--	-	--	-	--	-	--	-
...APHANIZOIMENON	--	-	--	-	--	-	--	-	--	-
...CYLINDRUSPERMUM	--	-	--	-	--	-	--	-	--	-
...NOSTOC	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
...LYNGBYA	500	5	--	-	3	7	--	-	--	-
...OSCILLATORIA	--	-	--	-	21#	40	1400#	38	2200#	19
...RIVULARIACEAE										
...RAPIDIOPSIS	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
...CHROMONAS	--	-	--	-	*	0	--	-	--	-
...CRYPTOMONODACEAE										
...CRYPTOMONAS	2300#	21	--	-	--	-	--	-	--	-
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENA	100	1	150	1	*	0	--	-	210	2
...LEPUCINCLIS	--	-	--	-	--	-	--	-	--	-
...TRACHELUMONAS	--	-	10000#	46	1	3	--	-	--	-

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

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

DATE TIME	MAY 18,77 1030	JUN 28,77 1045	JUL 25,77 1500	AUG 25,77 1100	SEP 28,77 1030
TOTAL CELLS/ML	9700	26000	410000	62000	630000
DIVERSITY: DIVISION	1.1	1.0	0.5	1.2	0.7
..CLASS	1.1	1.0	0.5	1.2	0.7
...ORDER	1.3	1.3	0.8	1.9	1.6
...FAMILY	1.9	1.5	1.6	2.8	2.0
...GENUS	2.1	1.9	1.7	3.3	2.8

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										
...CHAPACIACEAE										
...SCHROEDERIA	--	-	--	-	*	0	*	0	--	-
...COELASTRACEAE										
...COELASTRUM	330	3	--	-	--	-	3100	5	--	-
...HYDRODICTYACEAE										
...PEDIASTRUM	--	-	--	-	--	-	1800	3	--	-
...MICRACTINIACEAE										
...GOLENKINIA	--	-	--	-	6100	2	*	0	*	0
...MICRACTINIUM	100	1	1600	6	--	-	--	-	--	-
...DUCYSTACEAE										
...ANKISTRUESMUS	*	0	--	-	*	0	2200	4	*	0
...DICTYUSPHAERIUM	--	-	1100	4	3100	1	890	1	3200	1
...FRANCEIA	--	-	--	-	*	0	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	*	0	*	0	19000	3
...DUCYSTIS	51	1	410	2	2400	1	--	-	--	-
...TETRAEDRUM	--	-	--	-	--	-	*	0	--	-
...TREUBARIA	--	-	--	-	--	-	780	1	--	-
...SCENEDESMACEAE										
...ACTINASTRUM	1700#	18	--	-	*	0	5100	8	--	-
...CRUCIGENIA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMUS	720	7	1200	5	8300	2	4700	8	11000	2
...TETRASPIRALES										
...CUCCOMYXACEAE										
...ELAKATUTHRIX	--	-	--	-	--	-	--	-	*	0
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CARTERIA	--	-	--	-	*	0	--	-	*	0
...CHLAMYDOMONAS	--	-	140	1	--	-	--	-	3200	1
...PHACITACEAE										
...PTEROMONAS	--	-	--	-	--	-	--	-	--	-

ARKANSAS RIVER BASIN

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07231500 CANADIAN RIVER AT CALVIN, OK--Continued

CHRYSIOPHYTA									
..BACILLARIOPHYCEAE									
..CENTRALES									
...CUSCINODISCACEAE									
....CYCLOTELLA	100	1	--	-	--	-	--	-	19000 3
....MELUSIRA	--	-	550	2	--	-	--	-	* 0
..PENNALES									
...ACHNANTHACEAE									
....ACHNANTHES	--	-	--	-	--	-	--	-	--
....CUCCONEIS	--	-	--	-	--	-	--	-	--
...CYMBELLACEAE									
....AMPHORA	*	0	--	-	--	-	--	-	--
....CYMBELLA	*	0	--	-	--	-	--	-	--
...DIATOMACEAE									
....DIATOMA	--	-	--	-	--	-	--	-	--
...FRAGILARIACEAE									
....ASTERIONELLA	--	-	--	-	--	-	--	-	--
....SYNEDRA	*	0	--	-	--	-	1100	2	--
...NAVICULACEAE									
....CALONEIS	*	0	--	-	--	-	--	-	--
....MASTOGLUIA	*	0	--	-	--	-	--	-	--
....NAVICULA	64	1	140	1	*	0	440	1	* 0
....PINNULARIA	*	0	--	-	--	-	--	-	--
...NITZSCHACEAE									
....NITZSCHIA	64	1	270	1	6400	2	*	0	4300 1
...SURIRELLACEAE									
....SURIRELLA	*	0	--	-	--	-	--	-	--
CHRYSIOPHYCEAE									
..CHRYSIMONADALES									
...CHROMULINACEAE									
....CHRYSUCCUS	--	-	--	-	--	-	--	-	--

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

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

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	MAY 18,77 1030		JUN 28,77 1045		JUL 25,77 1500		AUG 25,77 1100		SEP 28,77 1030	
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										
...CHROCOCCALES										
....CHROCOCCACEAE										
....AGMENELLUM	--	-	--	-	29000	7	--	-	96000#	15
....ANACYSTIS	280	3	960	4	--	-	16000#	26	260000#	42
...HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	190	2	17000#	67	--	-	780	1	30000	5
....ANABAENOPSIS	--	-	1900	7	--	-	2300	4	--	-
....APHANIZUMENON	330	3	--	-	86000#	21	1600	3	--	-
....CYLINDROSPERMUM	--	-	--	-	--	-	2300	4	--	-
....NOSTOC	--	-	--	-	--	-	--	-	68000	11
...USCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	49000	8
....USCILLATORIA	5600#	58	--	-	260000#	64	16000#	26	50000	8
...RIVULARIACEAE										
....RAPHIIDIOPSIS	--	-	--	-	*	0	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOCHRYSIDACEAE										
....CHROMONAS	--	-	--	-	--	-	670	1	--	-
....CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	*	0
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENAEAE										
....EUGLENA	--	-	140	1	*	0	330	1	--	-
....LEPUCINCLIS	--	-	--	-	--	-	--	-	*	0
....TRACHELUMONAS	--	-	140	1	--	-	560	1	--	-

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

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

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	7.0	0.5	0.0	0.0	8.0	14.0	19.0	23.0	27.0	25.0	26.0
2	10.0	8.5	1.0	2.0	3.5	9.0	14.0	19.0	24.0	24.0	---	26.0
3	---	11.0	2.0	1.0	4.5	9.0	14.0	20.0	25.5	26.0	26.5	---
4	---	---	5.0	1.5	2.0	6.5	13.5	23.0	26.0	26.0	26.0	---
5	17.0	4.5	7.0	0.0	3.0	6.5	8.0	20.0	27.5	27.0	25.0	24.0
6	10.5	7.0	8.0	1.0	3.0	5.5	11.0	20.5	27.0	28.0	25.0	24.0
7	13.0	6.0	0.0	1.0	3.0	7.0	14.5	22.0	---	27.0	28.0	25.0
8	10.0	6.5	0.0	2.0	4.5	9.5	16.0	---	27.0	27.5	27.0	24.5
9	12.0	7.0	2.0	0.0	4.5	11.0	16.0	24.0	24.0	28.5	27.0	23.5
10	15.0	8.5	8.5	0.0	---	12.0	---	22.0	25.5	---	27.0	24.5
11	17.0	9.0	2.0	---	9.0	13.5	16.0	20.0	25.5	26.5	---	21.5
12	---	1.5	2.0	---	9.0	7.0	16.0	19.0	---	25.5	---	21.0
13	14.5	2.0	2.0	---	7.0	8.5	18.0	20.5	25.5	26.0	27.0	21.0
14	14.0	4.0	3.0	---	9.0	11.5	17.5	21.0	26.0	25.5	25.0	20.5
15	14.0	3.5	5.0	0.5	4.5	14.5	17.5	21.0	26.5	26.5	26.5	18.5
16	11.0	5.0	3.0	1.0	4.0	12.0	19.0	23.0	25.0	26.5	25.0	21.0
17	9.0	5.0	3.0	0.0	4.0	12.0	19.0	22.0	25.5	26.5	26.5	22.5
18	9.0	3.0	5.0	0.0	7.0	12.0	18.0	22.5	26.0	26.0	24.5	---
19	11.0	8.0	---	0.0	7.0	12.5	18.0	22.5	---	---	24.0	23.0
20	6.5	12.0	4.0	0.0	---	---	20.0	20.0	26.0	26.0	23.0	19.5
21	8.5	---	1.0	0.0	7.0	10.0	18.0	19.5	27.0	25.0	24.0	20.5
22	10.0	0.0	0.5	0.5	11.0	7.0	16.5	20.0	27.0	24.0	24.0	21.5
23	15.0	6.0	3.0	1.0	12.0	10.0	16.0	22.0	25.5	24.0	---	22.5
24	13.0	3.5	8.0	0.5	10.0	10.5	16.5	22.0	25.5	26.5	26.5	23.0
25	10.5	7.0	6.0	0.0	11.0	12.0	16.0	23.0	23.0	27.0	25.5	25.0
26	10.0	10.0	---	1.5	8.0	15.0	16.0	23.5	25.0	26.0	25.5	25.5
27	10.0	6.0	4.0	2.0	11.0	11.5	17.0	23.0	26.0	26.0	25.0	25.5
28	8.0	0.5	5.0	2.5	12.0	9.0	19.0	23.0	25.5	---	---	25.0
29	10.0	0.0	3.0	0.0	---	14.0	20.5	24.0	26.0	---	24.0	23.0
30	8.0	2.0	3.0	0.0	---	14.5	21.0	---	26.5	28.0	24.0	24.0
31	6.5	---	1.0	0.0	---	12.5	---	24.0	---	26.0	26.0	---
MONTH	11.0	5.5	3.5	0.5	6.5	10.5	16.5	21.5	25.5	26.0	25.5	23.0
YEAR	MAX	28.5	MIN	0.0	MEAN	14.5						

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1530	1160	1810	1940	1220	1610	813	433	1260	1570	1800	750
2	1640	1150	1480	1760	1350	1490	865	1150	1280	720	---	617
3	---	1020	1400	1730	1320	1610	930	803	798	727	1170	---
4	---	1080	1860	1580	1460	1560	1000	1150	1240	686	1100	---
5	1410	1190	1720	1510	1380	1510	1070	1700	1310	729	1330	636
6	1300	1190	1180	1500	1280	1530	1150	1560	1200	841	1760	605
7	1570	1320	1560	1580	1260	1520	1230	1550	---	914	1860	924
8	1630	1320	1380	1340	1240	1520	1270	---	1180	991	1920	1030
9	1420	1450	994	1340	1250	1460	1300	1570	1240	1050	1840	1190
10	1430	1560	1130	1280	---	1470	---	1520	1290	---	1830	1200
11	1530	1540	1260	---	1220	820	1280	1510	1320	926	---	1180
12	---	1650	1310	---	1290	807	1310	1530	---	1110	---	300
13	1540	1720	1360	---	1320	786	1350	1660	1400	1090	752	266
14	1580	1790	1420	---	824	1070	1360	1580	1420	1120	832	320
15	1580	1770	1440	1460	838	989	1340	1580	1480	1150	1220	1100
16	1580	1390	1520	1650	955	1050	1270	1760	1470	1250	921	926
17	1430	1410	1510	1580	960	1050	1340	842	1550	1370	1070	955
18	1200	1470	1570	1460	1060	1270	1400	615	1620	1360	1100	---
19	1560	1560	---	1540	1200	1430	1280	796	---	1430	1260	1090
20	1610	1590	1340	1460	---	---	781	694	1720	1560	1330	1320
21	1720	---	1350	1390	1220	1590	373	423	1800	1560	1420	1480
22	1690	1600	1280	1330	1260	1520	526	524	1890	1660	1510	1530
23	1590	1290	1460	1240	1250	1500	620	578	1890	1660	---	1540
24	1490	1350	1420	1290	1440	1580	692	643	1840	1510	1440	1740
25	1160	1630	1490	1110	1440	1580	941	786	994	1670	1380	1730
26	1510	1530	---	1230	1410	1580	1430	902	1140	1790	1330	1860
27	1350	2060	1330	1300	1640	308	1500	974	1010	1840	1400	1830
28	1280	2330	1330	1320	1650	447	1460	1010	1320	---	---	1850
29	1530	2530	1330	1480	---	526	1480	756	1430	---	1340	1850
30	1120	3280	1490	1180	---	628	1460	---	1570	2050	534	1880
31	1340	---	1790	1320	---	755	---	1130	---	1880	1030	---
MONTH	1480	1580	1430	1440	1260	1220	1130	1090	1390	1290	1330	1170
YEAR	MAX	3280	MIN	266	MEAN	1320						

ARKANSAS RIVER BASIN

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07232009 BLUE CREEK TRIBUTARY NEAR BLOCKER, OK

LOCATION.--Lat 35°02'26", long 95°34'21", SW 1/4 NW 1/4 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 current year.

REMARKS.--No flow was observed on Oct. 19, Nov. 16, Mar. 15, June 14, July 19, Aug. 16, Sept. 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MH/CM)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL ACIDITY AS H+
DEC											
14...	1500	118	6.8	7.5	30	8.0	9.7	82	34	25	.1
JAN											
18...	1100	80	6.4	.5	110	29	14.4	100	19	9	.1
APR											
19...	1445	60	6.6	20.0	55	16	9.2	102	16	8	.1
MAY											
17...	1310	100	6.9	25.0	5	6.2	7.8	93	39	19	.0

DATE	TIME	TOTAL ACIDITY AS CaCO3 (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- JUST- ED RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CaCO3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
DEC												
14...		5.0	7.1	4.0	8.5	35	.6	.7	11	0	9	27
JAN												
18...		5.0	4.0	2.2	6.3	40	.6	1.0	12	0	10	14
APR												
19...		5.0	3.1	2.0	5.0	39	.5	.9	10	0	8	13
MAY												
17...		.0	8.7	4.3	11	37	.8	1.6	25	0	21	32

DATE	TIME	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED (SUM OF CONSTIT- UENTS) (MG/L)	DIS- SOLVED SOLIDS (TDS PER AC-F1)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE PLUS NITRATE (N) (MG/L)
DEC												
14...		9.4	.0	6.8	77	70	.10	--	--	--	--	.15
JAN												
18...		9.6	.0	5.7	55	51	.07	.31	1.4	.00	.00	.31
APR												
19...		4.6	.1	9.1	54	43	.07	.09	.40	.00	.00	.09
MAY												
17...		9.5	.1	7.7	83	88	.11	--	--	--	--	.04

DATE	TIME	TOTAL ALUM- INUM (AL) (UG/L)	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	TOTAL BERYL- LIUM (BE) (UG/L)	DIS- SOLVED BERYL- LIUM (BE) (UG/L)	TOTAL BISMUTH (BI) (UG/L)	DIS- SOLVED BISMUTH (BI) (UG/L)
DEC											
14...	1500	--	140	--	1	--	40	--	<1	--	<1
JAN											
18...	1100	600	460	--	0	20	50	0	0	0	0
APR											
19...	1445	400	70	0	0	--	--	--	--	--	--
MAY											
17...	1310	--	3	--	0	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07232009 BLUE CREEK TRIBUTARY NEAR BLOCKER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL GALLIUM (GA) (UG/L)
DEC 14...	--	30	--	1	--	3	--	<1	--	9	--
JAN 18...	20	20	<10	0	2	2	0	0	3	3	0
APR 19...	40	60	<10	1	0	0	--	--	<10	10	--
MAY 17...	--	30	--	1	--	0	--	--	--	4	--

DATE	DIS- SOLVED GALLIUM (GA) (UG/L)	TOTAL GER- MANIUM (GE) (UG/L)	DIS- SOLVED GER- MANIUM (GE) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL LITHIUM (LI) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
DEC 14...	<1	--	<1	--	110	--	57	--	0	--	6
JAN 18...	0	<1	<1	780	460	4	4	0	0	10	7
APR 19...	--	--	--	520	50	<100	3	--	--	20	20
MAY 17...	--	--	--	--	190	--	3	--	--	--	140

DATE	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	TOTAL SILVER (AG) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	TOTAL STRON- TIUM (SR) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	TOTAL TIN (SN) (UG/L)
DEC 14...	--	.2	--	<1	--	8	--	0	--	20	--
JAN 18...	--	.5	0	0	5	6	1	0	20	10	<1
APR 19...	.2	.0	0	0	<50	2	--	--	--	--	--
MAY 17...	--	.0	--	0	--	4	--	--	--	--	--

DATE	DIS- SOLVED TIN (SN) (UG/L)	TOTAL TAN- IUM (TI) (UG/L)	DIS- SOLVED TAN- IUM (TI) (UG/L)	TOTAL VANA- DIUM (V) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ZIR- CONIUM (ZR) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)	SUS- PENDE- MENT (MG/L)	SUS. SIEVE DIAM. % FINER THAN .062 MM
DEC 14...	<1	--	5	--	<1.0	--	40	--	<1	--	--
JAN 18...	<1	30	20	1.5	2.2	<7	9	<1	<1	--	--
APR 19...	--	--	--	--	--	40	40	--	--	6	47
MAY 17...	--	--	--	--	--	--	20	--	--	11	58

ARKANSAS RIVER BASIN

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07232010 BLUE CREEK NEAR BLOCKER, OK

LOCATION.--Lat 34°02'26", long 95°34'21", in SW 1/4, NW 1/4 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) above mean sea level (Oklahoma
State Highway Department bench mark).

REMARKS.--Records fair.

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.--Maximum discharge, 3,720 ft³/s (105 m³/s) at 0630 Mar. 27, gage height, 6.20 ft
(1.890 m), no other peaks above base of 500 ft³/s (14.2 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.12	.04	.03	.02	.37	4.7	.28	.09	.00	.00	.00
2	.00	.10	.04	.03	.02	.37	3.7	.23	.08	.00	.00	.00
3	.00	.09	.04	.03	.50	2.5	2.5	.20	.06	.00	.00	.00
4	.00	.11	.04	.03	.05	3.2	2.2	.18	.06	.00	.00	.00
5	.00	.12	.04	.03	.03	1.6	.89	.16	.05	.00	.00	.00
6	.00	.12	6.2	.03	.02	.86	.62	.13	.05	.00	.00	.00
7	.00	.11	1.1	.03	.02	.68	.55	.11	.05	.00	.00	.00
8	.00	.11	.41	.03	.02	.55	.38	.33	.04	.00	.00	.00
9	.00	.11	.23	.03	.29	.45	.36	1.4	.04	.00	.00	.00
10	.00	.11	.16	.04	1.0	.41	.28	.21	.03	.00	.00	.00
11	.00	.11	.55	.04	13	1.2	.26	.14	.02	.00	.00	.00
12	.00	.11	.45	.16	15	2.8	.24	.10	.01	.00	.00	.00
13	.00	.11	.33	.41	5.2	2.1	.21	.09	.00	.00	.00	.00
14	.00	.11	.23	7.8	3.0	1.4	.18	.08	.00	.00	.00	7.4
15	.00	.11	.18	6.6	1.4	.77	.21	.07	.00	.00	.00	1.4
16	.00	.09	.13	4.0	.86	.50	.26	.07	.00	.00	.00	.35
17	.00	.09	.10	1.1	.68	.45	.41	.07	.00	.00	.00	.19
18	.00	.08	.09	1.1	.50	.41	11	.06	.00	.00	.00	.14
19	.00	.03	.09	.50	.41	.33	21	.05	.00	.00	.00	.11
20	.00	.03	.08	.20	.33	.26	19	.96	.00	.00	.00	.10
21	.00	.03	.07	.10	.30	.23	21	.68	.00	.00	.00	.09
22	.00	.03	.06	.05	.28	.20	12	.28	.00	.00	.00	.09
23	.00	.04	.06	.30	.41	.18	6.2	.14	.00	.00	.00	.08
24	1.4	.04	.06	6.0	1.1	.18	3.7	.10	.00	.00	.00	.07
25	1.8	.04	.06	2.0	.86	.18	1.6	.08	.00	.00	.00	.07
26	.12	.04	.06	1.0	.60	10	.86	.07	.00	.00	.00	.06
27	.05	.04	.06	.50	.55	1300	.55	.06	.00	.00	.00	.06
28	.05	.04	.05	.20	.45	146	.41	20	.00	.00	.00	.06
29	.05	.04	.05	.10	---	29	.33	3.7	.00	.00	.00	.06
30	.14	.04	.04	.05	---	13	.30	.30	.00	.00	.03	.05
31	.24	---	.03	.30	---	6.7	---	.14	---	.00	.03	---
TOTAL	3.85	2.35	11.13	32.82	46.90	1526.88	115.90	30.47	.58	.00	.06	92.38
MEAN	.12	.078	.36	1.06	1.68	49.3	3.86	.98	.019	.000	.002	3.08
MAX	1.8	.12	6.2	7.8	15	1300	21	20	.09	.00	.03	.82
MIN	.00	.03	.03	.02	.02	.18	.18	.05	.00	.00	.00	.00
AC-FT	7.6	4.7	22	65	93	3030	230	60	1.2	.00	.1	183

WTR YR 1977 TOTAL 1863.32 MEAN 5.10 MAX 1300 MIN .00 AC-FT 3700

ARKANSAS RIVER BASIN

07232010 BLUE CREEK NEAR BLOCKER, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

REMARKS.--No flow was observed on Oct. 19, May 17, June 14, July 19, Aug. 16.

DATE	TIME	TOTAL ALUMINUM (AL) (UG/L)	DIS-SOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	TOTAL BERYLLIUM (BE) (UG/L)	DIS-SOLVED BERYLLIUM (BE) (UG/L)	TOTAL BISMUTH (BI) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	TOTAL BORON (B) (UG/L)
NOV 16...	1630	350	160	0	0	30	30	<1	<1	<1	<1	80
DEC 14...	1545	--	>280	--	0	--	20	--	<1	--	<1	--
JAN 18...	1200	980	660	--	0	30	40	0	0	<1	0	20
FEB 09...	1200	--	--	--	1	--	--	--	--	--	--	--
MAR 15...	1230	--	--	--	0	--	--	--	--	--	--	--
APR 19...	1305	1600	50	2	0	--	--	--	--	--	--	30
SEP 29...	1430	--	100	--	0	--	--	--	--	--	--	--

DATE	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CU) (UG/L)	DIS-SOLVED COBALT (CU) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL GALLIUM (GA) (UG/L)	DIS-SOLVED GALLIUM (GA) (UG/L)
NOV 16...	30	<10	0	2	1	<1	<1	2	2	<1	<1
DEC 14...	10	--	1	--	7	--	<1	--	5	--	<1
JAN 18...	20	<10	0	2	1	2	0	2	2	1	0
FEB 09...	--	--	--	--	--	--	--	--	4	--	--
MAR 15...	--	--	--	--	--	--	--	--	1	--	--
APR 19...	50	10	1	0	0	--	--	<10	10	--	--
SEP 29...	30	--	8	--	0	--	--	--	12	--	--

DATE	TOTAL GERMANIUM (GE) (UG/L)	DIS-SOLVED GERMANIUM (GE) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL LITHIUM (LI) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)
NOV 16...	<2	<2	230	60	13	5	0	0	650	60	.0
DEC 14...	--	<1	--	>280	--	5	--	10	--	7	--
JAN 18...	<1	<1	<2100	580	5	3	0	0	60	10	--
FEB 09...	--	--	--	--	--	--	--	--	--	--	--
MAR 15...	--	--	--	--	--	--	--	--	--	--	--
APR 19...	--	--	2700	90	<100	4	--	--	100	20	2.2
SEP 29...	--	--	--	420	--	12	--	--	--	320	--

ARKANSAS RIVER BASIN

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07232010 BLUE CREEK NEAR BLOCKER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED MERCURY (MG) (UG/L)	TOTAL MOLYB- DENUM (MU) (UG/L)	DIS- SOLVED MOLYB- DENUM (MU) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	TOTAL SILVER (AG) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	TOTAL STRON- TIUM (SH) (UG/L)	DIS- SOLVED STRON- TIUM (SH) (UG/L)	TOTAL TIN (SN) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)
NOV											
16...	.0	<1	<1	17	6	1	0	50	40	<2	<1
DEC											
14...	.4	--	<1	--	17	--	0	--	20	--	<1
JAN											
18...	1.0	1	0	10	5	0	0	10	10	2	<1
FEB											
09...	.0	--	--	--	--	--	--	--	--	--	--
MAR											
15...	.0	--	--	--	--	--	--	--	--	--	--
APR											
19...	.0	0	0	<50	2	--	--	--	--	--	--
SEP											
24...	.7	--	0	--	4	--	--	--	--	--	--

DATE	TOTAL TI- TANIUM (TI) (UG/L)	DIS- SOLVED TI- TANIUM (TI) (UG/L)	TOTAL VANA- DIUM (V) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ZIR- CONIUM (ZR) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)	SUS- PENDE- MENT (MG/L)	SUS- PENDE- MENT CHARGE (T/DAY)	SUS- SED- SIEVE DIAM. % FINER THAN .062 MM
NOV											
16...	20	10	5.0	<1.9	0	10	<2	<2	--	--	--
DEC											
14...	--	30	--	1.7	--	20	--	<1	--	--	--
JAN											
18...	40	50	2.8	2.4	<7	8	<1	<1	24	.07	91
FEB											
09...	--	--	--	--	--	--	--	--	12	.01	79
MAR											
15...	--	--	--	--	--	--	--	--	4	.00	90
APR											
19...	--	--	--	--	40	40	--	--	72	39	99
SEP											
24...	--	--	--	--	--	420	--	--	--	--	--

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL ACIDITY AS H+
NOV												
16...	1650	.12	240	6.8	5.5	7	8.0	8.8	70	59	40	.1
DEC												
14...	1545	.28	98	7.2	4.5	100	27	11.5	90	27	11	.0
JAN												
18...	1200	1.1	80	6.5	.5	90	37	13.6	94	20	9	.1
FEB												
09...	1200	.29	100	7.0	8.0	50	17	--	--	22	11	.0
MAR												
15...	1230	.41	69	6.9	17.5	55	19	9.6	102	17	10	.0
APR												
19...	1305	203	72	6.7	21.0	--	120	9.8	111	23	9	.1
SEP												
24...	1430	.05	150	7.6	25.0	28	6.4	5.3	65	35	15	.1

ARKANSAS RIVER BASIN

07232010 BLUE CREEK NEAR BLOCKER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TUNS PER AC-FT)	DIS- SOLVED SOLIDS (TUNS PER DAY)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (NO2) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (P) (MG/L)
NOV 16...	.1	6.8	150	142	.20	.05	.01	.04	.01	.03	.02	--
DEC 14...	.1	6.3	77	64	.10	.06	--	--	--	--	.51	--
JAN 18...	.1	5.8	54	50	.07	.16	.35	1.6	.00	.00	.35	--
FEB 09...	.0	5.2	77	55	.10	.06	.06	.27	.00	.00	.06	--
MAR 15...	.0	7.4	56	56	.08	.06	.05	.22	.00	.00	.05	--
APR 19...	.1	7.6	57	46	.08	31.2	.06	.27	.01	.03	.07	--
SEP 29...	.1	10	89	86	.12	.01	.03	.13	.00	.00	.03	.00

DATE	TOTAL ACIDITY AS CACU3 (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACU3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
NOV 16...	5.0	11	7.6	24	46	1.4	1.7	23	0	19	56	23
DEC 14...	.0	5.7	3.0	8.0	38	.7	1.8	19	0	16	19	7.9
JAN 18...	5.0	4.1	2.3	6.8	42	.7	.9	13	0	11	14	6.4
FEB 09...	.0	4.6	2.5	7.8	43	.7	.9	13	0	11	21	6.8
MAR 15...	.0	3.4	2.0	5.8	42	.6	.8	8	0	7	17	5.3
APR 19...	5.0	4.8	2.6	5.0	31	.5	1.5	17	0	14	11	4.5
SEP 29...	5.0	7.8	3.8	11	39	.8	2.2	24	0	20	28	9.5

07232029 MATHULDY CREEK NEAR CROWDER, OK

LOCATION.--Lat 35°04'17", long 95°36'47", NE 1/4 NE 1/4 sec.21, T.7 N., R.16 E., Pittsburg County, Hydro-logic 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.

REMARKS.--No flow was observed on Oct. 19, Jan. 18, May 17, June 14, July 19, Aug. 15, Sept. 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHUS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	HARDNESS (CA, MG)	NON-CARBONATE HARDNESS (MG/L)	TOTAL ACIDITY AS H+ (MG/L)
DEC 14...	1230	1.0	200	7.4	4.0	80	27	12.8	99	47	40	.0
MAR 15...	1130	1.5	175	7.0	17.0	50	26	9.8	102	53	42	.1
APR 19...	1610	22	57	6.5	21.5	--	65	9.1	104	23	6	.0

DATE	TOTAL ACIDITY AS CACO3 (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
DEC 14...	.0	10	5.3	11	33	.7	2.0	8	0	7	44	11
MAR 15...	5.0	12	5.5	12	32	.7	1.6	13	0	11	51	9.0
APR 19...	.0	5.8	2.0	3.0	22	.3	.7	20	0	16	10	2.6

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TUNES PER AC-FT)	DISSOLVED SOLIDS (TUNES PER DAY)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRATE (NO3) (MG/L)	DISSOLVED NITRITE (N) (MG/L)	DISSOLVED NITRITE (NO2) (MG/L)	DISSOLVED NITRATE PLUS NITRITE (N) (MG/L)
DEC 14...	.2	6.3	108	98	.15	.29	--	--	--	--	.71
MAR 15...	.1	6.2	119	104	.16	.48	.05	.22	.00	.00	.05
APR 19...	.1	10	50	45	.07	2.97	.19	.84	.01	.03	.20

DATE	TIME	TOTAL ALUMINUM (AL) (UG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED HARIUM (BA) (UG/L)	DISSOLVED BERYLLIUM (BE) (UG/L)	DISSOLVED BISMUTH (BI) (UG/L)	TOTAL BORON (B) (UG/L)	DISSOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)
DEC 14...	1230	--	240	--	0	20	<1	<1	--	10	--
MAR 15...	1130	--	--	--	1	--	--	--	--	--	--
APR 19...	1610	1500	100	1	0	--	--	--	40	40	<10

DATE	DISSOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED GALLIUM (GA) (UG/L)	DISSOLVED GERMANIUM (GE) (UG/L)	TOTAL IRON (FE) (UG/L)	DISSOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)
DEC 14...	3	--	6	<1	--	6	<1	<2	--	150	--
MAR 15...	--	--	--	--	--	11	--	--	--	--	--
APR 19...	1	0	0	--	<10	3	--	--	1700	70	<100

ARKANSAS RIVER BASIN

07232029 MATHULDY CREEK NEAR CROWDER, OK--Continued

DATE	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL MOLYB- DENUM (MG) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)
DEC 14...	6	0	--	40	--	.2	--	<1	--	28	0
MAR 15...	--	--	--	--	--	.0	--	--	--	--	--
APR 19...	2	--	50	10	.0	.0	0	0	<50	1	--

DATE	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)	DIS- SOLVED TI- TANIUM (TI) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
DEC 14...	40	<1	8	<1.5	--	40	<2	--	--	--
MAR 15...	--	--	--	--	--	--	--	22	.09	.92
APR 19...	--	--	--	--	20	20	--	27	1.6	86

ARKANSAS RIVER BASIN

367

07232245 BEAVER RIVER NEAR FELT, OK

LOCATION.--Lat 36°35'33", long 102°47'24", in NE 1/4 SE 1/4, sec.36, T.2 N., R.2 E., Cimarron County, Hydrologic Unit 11100101, at county road bridge 1.8 miles (2.9 km) north of Felt, and at mile 762.1 (1,226.2 km).

DRAINAGE AREA.--850 mi² (2,202 km²) of which 224 mi² (580 km²) is probably noncontributing.

PERIOD OF RECORD.--June to September 1977 (discontinued).

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. No flow was observed on June 23, July 27 and Sept. 15.

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)
AUG 18...	1028	9740	1145	370	8.1	23.0	170	8.2	98	114	399

DATE	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PU- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLU- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
AUG 18...	49	30	8.6	70	12	.7	282	16	9.1	73	5

DATE	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
AUG 18...	120	760	1100	40	1300	<.5	110	3	7	250

ARKANSAS RIVER BASIN

07232500 BEAVER RIVER NEAR GUYMON, OK
(Headwater of the North Canadian River)

LOCATION.--Lat 36°43'24", long 101°29'30", in NW 1/4 SW 1/4 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) above mean sea level (levels by Corps of Engineers).

REMARKS.--Records good, except for winter periods which are fair.

AVERAGE DISCHARGE.--40 years, 25.4 ft³/s (0.72 m³/s), 18,400 acre-ft/yr (22.7 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.--Peak discharges above base of 2,400 ft³/s (68.0 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)
May 15	1600	3,450 97.7	10.72 3.267	May 26	0945	*5,980 169	11.44 3.487

No flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.90	1.5	11	5.5	4.6	5.9	162	.00	.30	.00
2	.00	.00	1.1	1.0	7.6	5.5	4.2	5.5	19	.00	.59	.00
3	.00	.00	1.5	.70	6.6	4.6	4.8	5.1	16	.00	9.0	.00
4	.00	.00	3.3	1.0	6.0	4.9	5.2	4.5	16	.00	5.7	.00
5	.00	.00	3.0	.90	6.0	5.4	4.5	4.2	14	.00	.76	.00
6	.00	.00	1.9	.80	5.5	5.3	3.9	4.1	14	.00	.00	.00
7	.00	.00	1.5	.76	4.9	5.0	3.6	4.0	13	.00	.00	.00
8	.00	.02	1.9	.74	5.8	4.7	3.5	3.8	12	.00	.00	.00
9	.00	.24	2.5	.54	5.9	4.3	3.5	3.5	12	.00	.00	.00
10	.00	.22	2.6	.60	5.4	4.4	3.5	3.5	10	.00	13	.00
11	.00	.11	4.2	.70	5.2	4.6	3.9	3.1	10	.00	2.4	.00
12	.00	.36	4.9	1.0	5.0	4.9	4.2	2.7	8.8	7.7	.00	.00
13	.00	.63	4.4	1.5	5.7	5.3	4.3	2.8	8.0	2.1	.00	.00
14	.00	1.3	4.1	3.0	6.0	4.9	12	2.8	4.5	.00	.00	.00
15	.00	2.1	4.0	2.5	6.4	4.5	21	967	2.9	.00	.00	.00
16	.00	1.8	3.9	2.7	5.7	4.6	11	409	2.6	.00	.00	.00
17	.00	1.8	3.0	3.1	5.1	4.6	8.3	30	2.1	.00	.00	.00
18	.00	1.6	2.5	4.0	4.3	4.2	6.4	10	2.1	.00	.00	.00
19	.00	1.3	2.0	5.0	4.1	4.0	12	4.5	2.3	.00	5.8	.00
20	.00	1.2	1.5	6.6	4.2	3.9	20	8.0	17	.00	3.3	.00
21	.00	.97	.80	9.0	4.3	4.0	431	35	5.2	.00	70	.00
22	.00	1.5	.95	12	4.4	4.2	53	14	2.9	.00	27	.00
23	.00	1.8	1.2	16	3.8	4.2	24	7.6	2.0	.00	10	.00
24	.00	1.8	2.0	16	3.9	4.1	17	3.0	1.3	.00	6.7	.00
25	.00	2.2	3.0	15	3.7	4.0	13	3.6	5.5	.00	4.5	.00
26	.00	2.0	4.0	15	4.1	3.9	10	2380	7.5	27	2.4	.00
27	.00	1.3	5.4	15	4.0	4.2	8.5	659	3.0	143	.00	.00
28	.00	.50	4.4	14	4.6	5.0	7.4	42	1.1	57	.00	.00
29	.00	.65	3.5	14	---	4.7	6.2	14	.11	30	.00	.00
30	.00	.80	2.5	14	---	4.7	6.0	4.5	.00	1.6	.00	.00
31	.00	---	2.0	14	---	4.6	---	594	---	.61	.00	---
TOTAL	.00	26.20	84.45	192.84	149.2	142.7	720.5	5240.7	376.91	269.01	161.45	.00
MEAN	.000	.87	2.72	6.22	5.33	4.60	24.0	169	12.6	8.68	5.21	.000
MAX	.00	2.2	5.4	16	11	5.5	431	2380	162	143	70	.00
MIN	.00	.00	.80	.54	3.7	3.9	3.5	2.7	.00	.00	.00	.00
AC-FT	.00	52	168	382	296	283	1450	10390	748	534	320	.00

CAL YR 1976	TOTAL	4112.91	MEAN 11.2	MAX 1780	MIN .00	AC-FT 8160
WTR YR 1977	TOTAL	7363.96	MEAN 20.2	MAX 2380	MIN .00	AC-FT 14610

WATER-QUALITY RECORDS

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
DEC										
28...	--	--	1400	5.1	480	8.5	3.0	15	12.3	98
28...	1028	9740	1401	5.1	480	8.5	3.0	--	12.3	98
JAN										
26...	--	--	0800	15	545	8.4	.5	9	14.9	111
26...	1028	9740	0801	15	545	8.4	.5	--	14.9	111
FEB										
23...	--	--	1530	3.9	500	8.5	4.5	30	13.1	98
23...	1028	9740	1531	3.9	500	8.5	4.5	--	13.1	98
MAR										
23...	--	--	1445	4.2	640	8.5	16.5	20	9.0	91
23...	1028	9740	1446	4.2	640	8.5	16.5	--	9.0	91
APR										
27...	--	--	1350	8.8	569	8.4	22.5	180	11.3	127
27...	1028	9740	1351	8.8	569	8.4	22.5	--	11.3	127
MAY										
25...	--	--	1515	3.6	580	8.2	21.0	330	9.4	103
25...	1028	9740	1516	3.6	580	8.2	21.0	--	9.4	103
JUN										
22...	--	--	1400	3.0	500	8.6	25.0	40	7.8	104
22...	1028	9740	1600	3.0	520	8.6	29.0	--	6.9	98
JUL										
27...	--	--	1415	78	210	7.8	25.0	1400	7.7	101
27...	1028	9740	1416	78	210	7.8	25.0	--	7.7	101

[illegible]

ARKANSAS RIVER BASIN

07232500 BEAVER RIVER NEAR GUYMON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)
DEC									
28...	4.9	255	0	209	1.3	46	17	1.7	24
28...	--	--	--	--	--	--	--	--	--
JAN									
26...	4.7	281	0	230	1.8	51	16	1.8	27
26...	--	--	--	--	--	--	--	--	--
FEB									
23...	5.8	281	0	230	1.4	53	23	1.7	23
23...	--	--	--	--	--	--	--	--	--
MAR									
23...	5.4	248	0	200	1.3	50	32	1.8	20
23...	--	--	--	--	--	--	--	--	--
APR									
27...	5.9	280	0	230	1.8	51	16	1.6	27
27...	--	--	--	--	--	--	--	--	--
MAY									
25...	5.6	270	0	220	2.7	50	15	1.4	26
25...	--	--	--	--	--	--	--	--	--
JUN									
22...	6.8	240	0	200	1.0	48	18	1.7	25
22...	--	--	--	--	--	--	--	--	--
JUL									
27...	5.8	120	0	98	3.0	6.5	5.1	.4	11
27...	--	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CUNSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
DEC									
28...	326	317	.44	4.49	.76	.39	1.2	5.1	.01
28...	--	--	--	--	--	.50	--	--	--
JAN									
26...	326	342	.44	13.2	.91	.25	1.2	5.1	.06
26...	--	--	--	--	--	1.2	--	--	--
FEB									
23...	365	351	.50	3.84	.60	.52	1.1	5.0	.08
23...	--	--	--	--	--	1.3	--	--	--
MAR									
23...	348	333	.47	3.95	.16	.03	.19	.84	.03
23...	--	--	--	--	--	1.2	--	--	--
APR									
27...	351	350	.48	8.34	6.6	.82	1.5	6.6	.24
27...	--	--	--	--	--	2.3	--	--	--
MAY									
25...	332	341	.45	3.23	.55	.89	1.4	6.4	.25
25...	--	--	--	--	--	1.4	--	--	--
JUN									
22...	355	321	.48	2.88	.05	.70	.75	3.3	.10
22...	--	--	--	--	--	1.9	--	--	--
JUL									
27...	124	123	.17	26.1	.59	2.5	3.1	14	.89
27...	--	--	--	--	--	13	--	--	--

ARKANSAS RIVER BASIN

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07232500 BEAVER RIVER NEAR GUYMON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE CHRO- MIUM (CR) (UG/L)
DEC											
28...	--	--	1400	--	--	--	--	--	--	--	--
28...	1028	9740	1401	--	--	--	--	--	--	--	--
JAN											
26...	--	--	0800	--	--	--	--	--	--	--	--
26...	1028	9740	0801	--	--	--	--	--	--	--	--
FEB											
23...	--	--	1530	5	1	4	10	9	1	0	0
23...	1028	9740	1531	--	--	--	--	--	--	--	--
MAR											
23...	--	--	1445	--	--	--	--	--	--	--	--
23...	1028	9740	1446	--	--	--	--	--	--	--	--
APR											
27...	--	--	1350	--	--	--	--	--	--	--	--
27...	1028	9740	1351	--	--	--	--	--	--	--	--
MAY											
25...	--	--	1515	15	9	6	<10	<10	0	10	0
25...	1028	9740	1516	--	--	--	--	--	--	--	--
JUN											
22...	--	--	1400	--	--	--	--	--	--	--	--
22...	1028	9740	1600	--	--	--	--	--	--	--	--
JUL											
27...	--	--	1415	--	--	--	--	--	--	--	--
27...	1028	9740	1416	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CU) (UG/L)	SUS- PENDE COBALT (CU) (UG/L)	DIS- SOLVED COBALT (CU) (UG/L)	TOTAL CUPPER (CU) (UG/L)	SUS- PENDE CUPPER (CU) (UG/L)	DIS- SOLVED CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE LEAD (PB) (UG/L)
DEC											
28...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	440	--	--	--
JAN											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	440	--	--	--
FEB											
23...	0	<50	<50	0	<10	<8	2	1400	160	<100	<98
23...	--	--	--	--	--	--	--	--	--	--	--
MAR											
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	630	--	--	--
APR											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	1520	--	--	--
MAY											
25...	10	<50	<50	0	40	38	2	11000	10	<100	<98
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	800	--	--	--
JUL											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	850	--	--	--

ARKANSAS RIVER BASIN

07232500 BEAVER RIVER NEAR GUYMON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible][illegible]

07232500 BEAVER RIVER NEAR GUYMON, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO JULY 1977

DATE TIME	DEC 28,76 1400	JAN 26,77 0800	FEB 23,77 1530	MAY 25,77 1515	JUN 22,77 1400	JUL 27,77 1415				
TOTAL CELLS/ML	1300	410	2200	780	12000	380				
DIVERSITY: DIVISION	1.5	0.8	0.6	0.5	1.0	0.6				
..CLASS	1.5	0.8	0.6	0.5	1.0	0.6				
...ORDER	2.0	0.9	0.7	0.5	1.7	0.6				
...FAMILY	3.3	1.0	2.2	0.5	2.4	0.6				
....GENUS	3.5	1.1	2.4	0.5	3.6	0.7				
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										
....DUCYSTACEAE										
.....ANKISTRODESMUS	--	-	5	1	--	-	640	5	--	-
.....DICTYOSPHAERIUM	--	-	--	-	--	-	1200	10	--	-
.....DUCYSTIS	--	-	--	-	--	-	430	4	--	-
.....SELENASTRUM	--	-	--	-	--	-	140	1	--	-
.....TREUBARIA	--	-	--	-	--	-	1100	9	--	-
.....WESTELLA	69	5	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	1100	9	--	-
....CRUCIGENIA	--	-	--	-	--	-	860	7	--	-
....SCENEDESMUS	--	-	--	-	--	-	1700	14	--	-
....TETRASTRUM	--	-	--	-	--	-	140	1	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	5	1	60	3	86	11	210	2
...VOLVOCAEAE										
....PANDURINA	--	-	--	-	--	-	2000#	17	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	52	4	14	3	--	-	--	-	--	-
....MELOSIRA	--	-	14	3	--	-	--	-	--	-
...PENNALES										
....ACHNANTHACEAE										
.....ACHNANTHES	180	14	--	-	30	1	--	-	--	-
....CYMBELLACEAE										
.....CYMBELLA	--	-	--	-	120	5	--	-	--	-
.....EPITHEMIA	9	1	--	-	--	-	--	-	--	-
....DIATOMACEAE										
.....DIATOMA	130	10	--	-	*	0	--	-	--	-
....FRAGILARIACEAE										
.....SYNEORA	26	2	--	-	--	-	610	5	--	-
....GOMPHONEMACEAE										
.....GOMPHONEMA	26	2	--	-	60	3	--	-	--	-
....MERIDIUMACEAE										
.....MERIDIUM	9	1	--	-	--	-	--	-	--	-
....NAVICULACEAE										
.....CALONEIS	--	-	--	-	60	3	--	-	--	-
.....NAVICULA	170	14	32	8	270	12	250	2	41	11
....PINNULARIA	--	-	--	-	*	0	--	-	--	-
.....STAURONEIS	17	1	--	-	--	-	--	-	--	-
....NITZSCHACEAE										
.....DENTICULA	--	-	--	-	60	3	--	-	--	-
.....NITZSCHIA	52	4	5	1	1100#	49	--	-	--	-
....SURIPELLACEAE										
.....SURIPELLA	52	4	--	-	210	10	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCOCCALES										
....CHROCOCCACEAE										
.....AGMENELLUM	280#	22	--	-	--	-	--	-	--	-
.....ANACYSTIS	17	1	--	-	--	-	--	-	--	-
....MORMONELLALES										
....NOSTOCACEAE										
.....ANABAENA	--	-	--	-	--	-	1200	10	--	-
....OSCILLATORIACEAE										
.....OSCILLATORIA	86	7	340#	82	--	-	--	-	330#	86
....RIVULACEAE										
.....RAPIDIUMSIS	--	-	--	-	--	-	690#	89	--	-

ARKANSAS RIVER BASIN

07232500 BEAVER RIVER NEAR GUYMON, OK--Continued

EUGLENOPHYTA (EUGLENIDS)

..CRYPTOPHYCEAE												
...CRYPTOMONIDAE												
...CRYPTOMONIDACEAE												
....CRYPTOMONAS	9	1	--	-	--	-	--	-	--	-	--	-
..EUGLENOPHYCEAE												
...EUGLENALES												
....EUGLENACEAE												
.....EUGLENA	--	-	--	-	--	-	--	-	71	1	--	-
.....TRACHELOMONAS	78	6	--	-	--	-	--	-	390	3	--	-

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

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

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

ARKANSAS RIVER BASIN

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07232500 BEAVER RIVER NEAR GUYMON, OK--Continued

SPECIFIC CONDUCTANCE (MICROMMHS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE=DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	432	---	552	554	541	543	579	---	447	
2		---	444	---	504	537	544	546	579	---	460	
3		---	526	---	506	533	544	546	579	---	---	
4		---	535	---	507	536	542	508	579	---	---	
5		---	705	---	503	540	541	512	579	---	---	
6		530	715	---	506	543	513	524	579	---	---	
7		527	711	---	501	538	510	510	574	---	---	
8		523	566	---	508	535	511	513	---	---	---	
9		518	564	---	553	553	507	509	---	---	---	
10		520	565	---	550	561	508	510	---	---	---	
11		521	564	---	552	552	513	502	---	---	---	
12		545	571	---	552	561	508	506	---	---	---	
13		556	565	---	547	550	552	504	---	---	---	
14		508	574	---	550	550	549	510	---	---	---	
15		504	567	---	549	552	546	502	---	---	---	
16		513	568	---	540	546	546	500	---	---	---	
17		510	629	---	540	548	545	504	---	---	---	
18		513	623	---	542	542	545	550	---	---	263	
19		525	635	567	538	535	546	548	---	---	280	
20		527	602	569	540	533	510	548	---	---	257	
21		507	598	569	541	544	511	550	---	---	263	
22		501	---	567	538	541	511	550	---	---	239	
23		503	---	570	555	541	510	549	---	---	269	
24		510	---	568	554	550	511	549	---	---	---	
25		507	---	569	558	544	511	281	---	---	---	
26		---	---	551	556	540	510	279	---	---	---	
27		---	---	551	555	529	546	279	---	---	---	
28		---	---	553	561	540	546	284	---	---	---	
29		---	---	550	---	540	543	284	---	455	---	
30		---	---	549	---	540	548	279	---	455	---	
31		---	---	551	---	540	---	284	---	454	---	
MONTH		---	---	---	538	543	529	470	---	---	---	

ARKANSAS RIVER BASIN

07232630 BEAVER RIVER NEAR HOOKER, OK

LOCATION.--Lat 36°41'22", long 101°12'19", at the northwest corner of NW 1/4 sec.35, T.3 N., R.2 E., Texas County, Hydrologic Unit 11100102, at bridge on State Highway 94, 12 miles (19.3 km) south of Hooker, and at mile 628.6 (1,011.4 km).

DRAINAGE AREA.--3,017 mi² (7,814 km²) of which 1,488 mi² (3,854 km²) is probably noncontributing.

PERIOD OF RECORD.--Water years 1972-73, 1975 to current year.

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

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPE- RATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
MAY 25...	--	--	1755	640	8.0	19.0	--	8.3	87	51
JUN 23...	1028	9740	1230	810	8.4	26.5	10	8.6	116	11
JUL 28...	1028	9740	1120	360	7.8	25.0	130	8.9	107	276
AUG 18...	--	--	1515	780	8.4	24.0	--	8.7	113	4
18...	1028	9740	1516	780	8.4	24.0	1	8.7	113	3
SEP 15...	1028	9740	1150	740	8.3	18.0	5	11.0	114	<3

DATE	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
MAY 25...	4.0	320	91	--	79	--	50	--	56	27
JUN 23...	--	296	--	67	--	32	--	--	--	--
JUL 28...	--	114	--	--	--	22	--	14	--	--
AUG 18...	.8	300	96	--	76	--	27	--	36	20
18...	--	312	--	76	--	27	--	45	--	--
SEP 15...	--	203	--	39	--	25	--	37	--	--

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
MAY 25...	1.4	--	7.1	280	0	230	4.5	140	38	--
JUN 23...	--	6.7	--	--	--	--	--	196	11	.8
JUL 28...	--	14	--	--	--	--	--	22	23	.4
AUG 18...	.9	--	6.9	250	0	210	1.6	160	23	--
18...	--	8.1	--	--	--	--	--	161	22	1.0
SEP 15...	--	5.0	--	--	--	--	--	180	21	.8

ARKANSAS RIVER BASIN

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07232630 BEAVER RIVER NEAR HOOKER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SOLIDS (MFSI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED AMMONIA ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRU- MIUM (CR) (UG/L)
MAY 25...	546	--	.74	1.6	.68	--	.63	--	--	--
JUN 23...	--	554	--	--	--	1.1	.04	--	--	--
JUL 28...	--	306	--	--	--	13	4.2	--	--	--
AUG 18...	499	--	.68	.19	.21	--	.12	--	--	--
18...	--	533	--	--	--	.89	.09	10	<1	10
SEP 15...	--	507	--	--	--	<.63	.10	--	--	--

DATE	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
MAY 25...	--	--	--	--	--	--	--	--	--
JUN 23...	--	<200	--	20	--	--	--	--	--
JUL 28...	--	1200	--	1900	--	--	--	--	--
AUG 18...	--	--	--	--	--	--	--	--	--
18...	4	<100	20	30	<.5	6	<1	<2	4
SEP 15...	--	330	--	10	--	--	--	--	--

ARKANSAS RIVER BASIN

07234000 BEAVER RIVER AT BEAVER, OK
(Headwater of the North Canadian River)

LOCATION.--Lat 36°49'20", long 100°31'05", in SW 1/4 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) above mean sea level (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 (9.91 m) higher.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--40 years, 105 ft³/s (2.974 m³/s); 76,070 acre-ft/yr (93.8 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, 2,280 ft³/s (64.6 m³/s) Aug. 19, gage height, 8.49 ft (2.588 m) no other peak above base of 4,000 ft³/s (113 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	166	7.5	11	6.7
2	.00	.00	.00	.00	.00	.00	.00	1.0	885	7.0	56	3.9
3	.00	.00	.00	.00	.00	.00	.00	2.3	263	7.0	45	2.3
4	.00	.00	.00	.00	.00	.00	.00	1.7	103	6.5	46	14
5	.00	.00	.00	.00	.00	.00	.00	.64	75	6.5	15	17
6	.00	.00	.00	.00	.00	.00	.00	.10	53	6.0	14	15
7	.00	.00	.00	.00	.00	.00	.00	.00	42	6.0	13	14
8	.00	.00	.00	.00	.00	.00	.00	.00	36	6.0	12	9.6
9	.00	.00	.00	.00	.00	.00	.00	.00	31	6.0	12	7.0
10	.00	.00	.00	.00	.00	.00	.00	.00	27	6.0	12	5.6
11	.00	.00	.00	.00	.00	.00	.00	.00	24	5.5	11	7.6
12	.00	.00	.00	.00	.00	.00	.00	.00	21	5.5	11	6.8
13	.00	.00	.00	.00	.00	.00	.00	.00	19	5.5	11	7.8
14	.00	.00	.00	.00	.00	.00	.00	.00	17	5.5	11	6.3
15	.00	.00	.00	.00	.00	.00	.00	.00	15	5.5	10	5.7
16	.00	.00	.00	.00	.00	.00	.00	.00	14	5.0	10	6.3
17	.00	.00	.00	.00	.00	.00	.00	.00	13	5.0	10	5.2
18	.00	.00	.00	.00	.00	.00	.00	.00	12	5.0	10	4.1
19	.00	.00	.00	.00	.00	.00	.00	.06	12	5.0	326	3.2
20	.00	.00	.00	.00	.00	.00	.00	5.2	16	5.0	20	2.3
21	.00	.00	.00	.00	.00	.00	.00	12	12	5.0	15	1.5
22	.00	.00	.00	.00	.00	.00	.00	14	10	5.0	12	1.3
23	.00	.00	.00	.00	.00	.00	.00	13	13	5.0	10	1.7
24	.00	.00	.00	.00	.00	.00	.00	12	11	5.0	9.0	1.1
25	.00	.00	.00	.00	.00	.00	.00	13	10	5.0	8.0	.99
26	.00	.00	.00	.00	.00	.00	.00	16	9.0	9.0	7.0	.99
27	.00	.00	.00	.00	.00	.00	.00	77	8.5	6.0	7.0	.99
28	.00	.00	.00	.00	.00	.00	.00	1000	8.0	16	7.0	1.0
29	.00	.00	.00	.00	---	.00	.00	542	8.0	24	9.0	1.0
30	.00	.00	.00	.00	---	.00	.05	179	7.5	19	13	.84
31	.00	---	.00	.00	---	.00	---	100	---	15	15	---
TOTAL	.00	.00	.00	.00	.00	.00	.05	1989.00	1941.0	231.0	778.0	161.81
MEAN	.000	.000	.000	.000	.000	.000	.002	64.2	64.7	7.45	25.1	5.39
MAX	.00	.00	.00	.00	.00	.00	.05	1000	885	24	326	17
MIN	.00	.00	.00	.00	.00	.00	.00	.00	7.5	5.0	7.0	.84
AC-FT	.00	.00	.00	.00	.00	.00	.10	3950	3850	458	1540	321

CAL YR 1976 TOTAL 5138.71 MEAN 14.0 MAX 319 MIN .00 AC-FT 10190
WTR YR 1977 TOTAL 5100.86 MEAN 14.0 MAX 1000 MIN .00 AC-FT 10120

ARKANSAS RIVER BASIN

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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, 5,960 micromhos June 20, 1976; minimum daily, 286 micromhos July 31, 1971.

WATER TEMPERATURE: Maximum daily, 37.0°C June 26, 27, 1977; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 5,090 micromhos July 12; minimum daily, 357 micromhos Aug. 19.

WATER TEMPERATURE: Maximum daily 37.0°C June 26, 27; minimum daily, 1.5°C Dec. 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
MAY										
20...	--	--	1130	4.3	799	7.5	--	--	--	--
25...	--	--	1210	12	1000	8.3	21.5	180	10.3	113
25...	1028	9740	1211	12	1000	8.3	21.5	--	10.3	113
28...	--	--	1330	1110	471	7.6	--	--	--	--
30...	--	--	1100	183	773	7.5	--	--	--	--
JUN										
05...	--	--	1930	65	936	7.7	--	--	--	--
15...	--	--	1430	15	3400	8.0	--	--	--	--
22...	--	--	0830	10	4500	8.3	17.5	7	8.5	96
23...	1028	9740	1430	13	4230	8.3	27.0	--	7.8	110
25...	--	--	1500	10	4380	7.9	--	--	--	--
JUL										
03...	--	--	2230	7.0	3980	7.7	--	--	--	--
16...	--	--	1530	5.0	3730	7.7	--	--	--	--
26...	--	--	1500	9.0	3520	7.5	--	--	--	--
27...	--	--	0920	6.0	4600	8.1	19.5	50	9.8	117
28...	1028	9740	1315	21	410	7.8	25.5	--	8.6	102
AUG										
05...	--	--	2030	15	768	7.7	--	--	--	--
15...	--	--	1830	10	3860	7.9	--	--	--	--
17...	--	--	1430	18	440	7.9	21.5	900	7.7	94
18...	1028	9740	1815	18	670	8.5	24.0	--	8.0	102
25...	--	--	1930	22	1640	7.7	--	--	--	--
SEP										
05...	--	--	1900	17	615	7.6	--	--	--	--
14...	--	--	1030	6.3	2000	8.2	17.0	30	8.4	94
15...	1028	9740	1410	5.8	2000	8.3	22.0	--	8.2	91
15...	--	--	1800	5.6	2100	7.9	--	--	--	--
25...	--	--	1700	.96	4980	7.9	--	--	--	--

ARKANSAS RIVER BASIN

07234000 BEAVER RIVER AT BEAVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	FECAL COLI- FORM (COL./ 100 ML)	FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG/L)	NUN- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
MAY										
20...	--	--	--	220	59	58	19	76	42	2.2
25...	--	--	370	220	64	55	20	120	53	3.5
25...	39	--	--	--	--	--	--	--	--	--
28...	--	--	--	140	17	41	9.2	41	37	1.5
30...	--	--	--	190	62	51	14	81	47	2.6
JUN										
05...	--	--	--	630	460	140	69	730	71	13
15...	--	--	--	580	360	140	55	500	65	9.1
22...	--	150	720	660	470	150	68	780	72	13
23...	20	--	--	--	--	--	--	--	--	--
25...	--	--	--	220	81	62	16	98	48	2.9
JUL										
03...	--	--	--	1100	940	280	100	420	45	5.5
16...	--	--	--	1100	920	270	100	390	44	5.2
26...	--	--	--	820	660	190	83	430	53	6.6
27...	--	>1200	86100	1300	1100	300	140	630	51	7.5
28...	109	--	--	--	--	--	--	--	--	--
AUG										
05...	--	--	--	190	55	53	13	92	50	2.9
15...	--	--	--	1200	1100	270	130	410	42	5.1
17...	--	>1200	1600	340	230	110	15	42	21	1.0
18...	48	--	--	--	--	--	--	--	--	--
25...	--	--	--	340	180	82	33	210	56	5.0
SEP										
05...	--	--	--	180	49	49	14	55	39	1.8
14...	--	160	160	380	220	93	36	260	59	5.8
15...	20	--	--	--	--	--	--	--	--	--
15...	--	--	--	420	230	97	42	280	59	6.0
25...	--	--	--	1200	1000	230	140	680	56	6.7

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SULFIDS (RESI- DUE AT 180 C) (MG/L)
MAY										
20...	8.0	200	0	160	10	100	82	--	--	473
25...	7.9	190	0	160	1.5	130	150	1.2	13	540
25...	--	--	--	--	--	--	--	--	--	--
28...	6.8	150	0	120	6.0	37	52	--	--	283
30...	8.4	150	0	120	7.6	75	130	--	--	450
JUN										
05...	11	210	0	170	6.7	400	1200	--	--	2650
15...	10	260	0	210	4.2	310	820	--	--	2050
22...	11	230	0	190	1.8	380	1200	1.6	26	2750
23...	--	--	--	--	--	--	--	--	--	--
25...	8.9	170	0	140	3.4	82	150	--	--	557
JUL										
03...	7.7	200	0	160	6.4	780	790	--	--	2750
16...	8.0	200	0	160	6.4	790	720	--	--	2560
26...	9.6	190	0	160	9.6	580	780	--	--	2280
27...	8.3	270	0	220	3.4	820	1100	.8	25	3320
28...	--	--	--	--	--	--	--	--	--	--
AUG										
05...	11	160	0	130	5.1	50	130	--	--	451
15...	8.2	150	0	120	3.0	840	720	--	--	2590
17...	8.0	130	0	110	2.6	48	84	.6	11	292
18...	--	--	--	--	--	--	--	--	--	--
25...	9.6	200	0	160	6.4	190	310	--	--	950
SEP										
05...	8.4	160	0	130	6.4	64	81	--	--	345
14...	8.4	200	0	160	2.0	210	420	1.1	17	1190
15...	--	--	--	--	--	--	--	--	--	--
15...	9.5	230	0	190	4.6	210	440	--	--	1220
25...	9.8	160	0	130	3.2	770	1200	--	--	3250

07234000 BEAVER RIVER AT BEAVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRITE PLUS NITRATE (MG/L)	TOTAL AMMONIA NITRO- GEN (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (MG/L)	TOTAL NITRO- GEN (MG/L)	TOTAL NITRO- GEN (MG/L)	TOTAL NITRO- GEN (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)
MAY											
20...	--	.64	5.49	--	--	--	--	--	--	--	--
25...	591	.80	19.1	.01	--	2.2	2.2	9.8	.21	--	--
25...	--	--	--	--	--	2.1	2.1	9.5	--	--	--
28...	--	.38	848	--	--	--	--	--	--	--	--
30...	--	.61	222	--	--	--	--	--	--	--	--
JUN											
05...	--	3.60	465	--	--	--	--	--	--	--	--
15...	--	2.79	83.0	--	--	--	--	--	--	--	--
22...	2750	3.74	74.2	.18	--	.90	1.1	4.8	.04	--	--
23...	--	--	--	--	--	1.4	--	--	--	--	--
25...	--	.76	15.0	--	--	--	--	--	--	--	--
JUL											
03...	--	3.74	52.0	--	--	--	--	--	--	--	--
16...	--	3.48	34.6	--	--	--	--	--	--	--	--
26...	--	3.10	55.4	--	--	--	--	--	--	--	--
27...	3160	4.52	53.8	.01	--	1.2	1.2	5.4	.07	--	--
28...	--	--	--	--	--	6.4	--	--	--	--	--
AUG											
05...	--	.61	18.3	--	--	--	--	--	--	--	--
15...	--	3.52	69.9	--	--	--	--	--	--	--	--
17...	384	.40	14.2	.44	--	3.9	4.3	19	.87	--	--
18...	--	--	--	--	--	3.4	--	--	--	--	--
25...	--	1.29	56.4	--	--	--	--	--	--	--	--
SEP											
05...	--	.47	15.8	--	--	--	--	--	--	--	--
14...	1140	1.62	20.2	.01	.02	--	--	--	.19	.09	--
15...	--	--	--	--	--	<.63	--	--	--	--	--
15...	--	1.66	18.4	--	--	--	--	--	--	--	--
25...	--	4.42	8.42	--	--	--	--	--	--	--	--

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)
MAY											
25...	--	--	1210	4	0	4	<10	<10	0	10	10
25...	1028	9740	1211	--	--	--	--	--	--	--	--
JUN											
22...	--	--	0830	--	--	--	--	--	--	--	--
23...	1028	9740	1430	--	--	--	--	--	--	--	--
JUL											
27...	--	--	0920	--	--	--	--	--	--	--	--
28...	1028	9740	1315	--	--	--	--	--	--	--	--
AUG											
17...	--	--	1430	20	18	2	<10	0	74	40	40
18...	1028	9740	1815	--	--	--	--	--	--	--	--
SEP											
14...	--	--	1030	--	--	--	--	--	--	--	--
15...	1028	9740	1410	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDE D COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDE D COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDE D LEAD (PB) (UG/L)
MAY											
25...	0	<50	<50	0	40	36	4	5400	20	<100	<98
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
22...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	200	--	--	--
JUL											
27...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	2240	--	--	--
AUG											
17...	0	<50	<45	5	60	32	28	31000	660	100	71
18...	--	--	--	--	--	--	--	--	--	--	--
SEP											
14...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	1550	--	--	--

ARKANSAS RIVER BASIN

07234000 BEAVER RIVER AT BEAVER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED LEAD (PP)	TOTAL MAN- GANESE (MN)	SUS- PENDE MAN- GANESE (MN)	DIS- SOLVED MAN- GANESE (MN)	TOTAL MERCURY (HG)	SUS- PENDE MERCURY (HG)	DIS- SOLVED MERCURY (HG)	TOTAL NICKEL (NI)	TOTAL SELE- NIUM (SE)	SUS- PENDE SELE- NIUM (SE)
MAY										
25...	2	180	180	5	.1	.1	.0	--	2	0
25...	--	--	--	--	--	--	--	20	--	--
JUN										
22...	--	--	--	--	--	--	--	--	--	--
23...	--	40	--	--	--	--	--	--	--	--
JUL										
27...	--	--	--	--	--	--	--	--	--	--
28...	--	1040	--	--	--	--	--	--	--	--
AUG										
17...	29	840	220	620	.2	.2	.0	--	1	1
18...	--	--	--	--	--	--	--	160	--	--
SEP										
14...	--	--	--	--	--	--	--	--	--	--
15...	--	100	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED SELE- NIUM (SE)	TOTAL SILVER (AG)	TOTAL ZINC (ZN)	SUS- PENDE ZINC (ZN)	DIS- SOLVED ZINC (ZN)	TOTAL ORGANIC CARBON (C)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT CHARGE (T/DAY)	SUS- SED- SIEVE DIAM, % FINER THAN .062 MM
MAY										
25...	2	--	50	30	20	20	75000	249	8.1	99
25...	--	4	--	--	--	--	--	--	--	--
JUN										
22...	--	--	--	--	--	--	56000	70	1.9	96
23...	--	--	--	--	--	--	--	--	--	--
JUL										
27...	--	--	--	--	--	--	13000	148	2.4	95
28...	--	--	--	--	--	--	--	--	--	--
AUG										
17...	0	--	250	110	140	31	22000	1490	72	93
18...	--	<2	--	--	--	--	--	--	--	--
SEP										
14...	--	--	--	--	--	--	--	101	1.7	92
15...	--	--	--	--	--	--	--	--	--	--

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO AUGUST 1977

DATE TIME	MAY 25,77 1210	JUN 22,77 0830	JUL 27,77 0920	AUG 17,77 1430
TOTAL CELLS/ML	75000	56000	13000	22000
DIVERSITY: DIVISION	1.0	1.5	0.7	1.2
..CLASS	1.0	1.5	0.7	1.2
...ORDER	1.2	2.1	0.7	1.3
...FAMILY	2.5	2.9	1.0	2.4
....GENUS	3.2	3.5	1.0	2.4

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCEAE								
...CHARACIACEAE								
...SCHROEDERIA	--	-	--	-	--	-	270	1
...COELASTHACEAE								
....COELASTRUM	--	-	1600	3	--	-	--	-
...HYDRODICTYACEAE								
...PEDIASTRUM	--	-	1500	3	--	-	2200	10
...MICRACINACEAE								
...GOLENKINIA	2500	3	300	1	--	-	140	1
...MICRACINIUM	19000	25	--	-	--	-	--	-
...DUCYSTACEAE								
...ANKISTRUDESUS	1800	2	1300	2	--	-	540	2
...CLOSTERIOPSIS	*	0	--	-	--	-	--	-
...DICTYOSPHAERIUM	2500	3	2300	4	--	-	--	-
...FRANCEIA	*	0	--	-	--	-	--	-
...DUCYSTIS	--	-	410	1	--	-	--	-
...SELENASTRUM	--	-	*	0	--	-	--	-
...TREUBARIA	610	1	--	-	--	-	--	-

ARKANSAS RIVER BASIN

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07234000 BEAVER RIVER AT BEAVER, OK--Continued

...SCENEDESMACEAE						
....ACTINASTRUM	16000#	21	14000#	24	--	--
....CRUCIGENIA	--	-	810	1	--	--
....SCENEDESMUS	11000	15	3700	7	2100#	16
....TETRASTRUM	3700	5	410	1	--	--
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	510	1	--	--
...VOLVOCAEAE						
....GONIUM	--	-	510	1	--	--
....PANDURINA	--	-	*	0	--	--
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCEAE						
....CYCLOTELLA	8600	11	300	1	--	140
....MELOSIRA	--	-	1600	3	--	--
..PENNALES						
...CYMBELLACEAE						
....CYMBELLA	--	-	*	0	--	--
...DIATOMACEAE						
....DIATOMA	*	0	--	-	--	140
...FRAGILARIACEAE						
....SYNEDRA	*	0	--	-	480	4
...NAVICULACEAE						
....DIPLONEIS	--	-	*	0	--	--
....NAVICULA	920	1	--	-	10000#	79
....PINNULARIA	--	-	--	-	--	140
...NITZSCHACEAE						
....NITZSCHIA	1500	2	9600#	17	96	1
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCALES						
...CHROCOCCACEAE						
....AGMENELLUM	--	-	4100	7	--	--
....ANACYSTIS	2500	3	1500	3	--	--
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	--	4900#
....ANABAENOPSIS	--	-	6500	12	--	--
....APHANIZOMENON	--	-	410	1	--	--
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	4500	8	--	9300#
...RIVULARIACEAE						
....RAPHIIDIOPSIS	2500	3	--	-	--	--
EUGLENOPHYTA (EUGLENOIDS)						
..CRYPTOPHYCEAE						
...CRYPTOMONIDALES						
....CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	*	0	96	1
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENAEAE						
....EUGLENA	610	1	--	-	--	140
....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

07234000 BEAVER RIVER AT BEAVER, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	26.0	30.0	31.0	29.0
2								29.5	25.0	30.0	27.5	18.0
3								28.0	26.0	24.0	29.5	28.0
4								---	29.0	---	27.0	28.0
5								---	31.0	---	27.5	28.0
6								---	25.0	---	30.0	27.0
7								---	28.0	---	26.0	27.0
8								---	29.0	---	30.0	28.0
9								---	28.0	---	28.5	28.0
10								---	31.0	---	30.0	27.0
11								---	31.0	35.0	25.0	26.0
12								---	29.0	29.5	34.5	27.0
13								---	24.0	---	36.0	26.0
14								---	25.0	---	26.0	21.0
15								---	28.0	27.5	28.0	26.0
16								---	30.0	33.0	27.5	24.0
17								---	24.0	31.0	24.0	24.0
18								---	30.0	---	26.0	22.0
19								---	31.0	---	24.0	25.0
20								21.0	30.0	---	33.0	28.0
21								23.0	29.0	---	35.0	22.0
22								28.0	26.0	---	32.0	27.0
23								29.0	26.0	---	30.0	26.0
24								27.0	22.0	---	28.0	29.0
25								24.5	30.0	---	28.0	29.0
26								22.5	37.0	29.0	30.0	27.0
27								29.0	37.0	29.0	25.0	28.0
28								24.0	27.0	30.0	---	20.0
29								23.0	32.0	29.0	24.0	23.0
30								24.0	30.0	25.0	25.0	26.0
31								29.0	---	31.0	30.0	---
MEAN								26.0	28.5	29.5	28.5	26.0
WTR YR 1977	MEAN	27.5		MAX	37.0		MIN	18.0				

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	891	4530	1750	966
2								1580	481	4700	1020	1460
3								3250	550	3980	889	2740
4								---	800	---	562	783
5								---	936	---	768	615
6								---	1350	---	1510	606
7								---	1930	---	1500	696
8								---	2210	---	2510	830
9								---	2450	---	2510	1080
10								---	2580	---	2830	1410
11								---	2740	4970	3000	1350
12								---	2950	5090	3760	1720
13								---	2950	---	3970	1720
14								---	3200	---	3870	1930
15								---	3400	466	3660	2100
16								---	3780	3730	1240	2240
17								---	3890	3850	601	2530
18								---	4180	---	699	2800
19								---	4250	---	357	3050
20								799	4210	---	847	3550
21								848	4440	---	714	4260
22								1070	4260	---	794	4860
23								1010	4120	---	1180	4860
24								1010	4430	---	1350	4860
25								1010	4380	---	1640	4980
26								918	4380	3520	2000	5040
27								1030	4610	3260	2520	5040
28								471	4740	517	2620	5010
29								523	4600	830	2910	5030
30								773	4620	832	3360	5040
31								1100	---	1320	1660	---
MONTH								---	3140	---	1900	2770

ARKANSAS RIVER BASIN

385

07234100 CLEAR CREEK NEAR ELMWOOD, OK

LOCATION.--Lat 36°38'42", long 100°30'07", in SW 1/4 SW 1/4 sec.8, T.2 N., R.24 E., Beaver County, Hydro-logic 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.--12 years, 8.00 ft³/s (0.227 m³/s), 5,800 acre-ft/yr (7.15 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.--Maximum discharge, 746 ft³/s (21.1 m³/s) June 23 at 2000, gage height, 5.87 ft (1.789 m), no other peak above base of 500 ft³/s (14.2 m³/s); minimum daily, 0.94 ft³/s (0.027 m³/s) Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	4.3	3.1	3.6	2.1	3.6	2.2	56	6.0	2.9	1.8	1.3
2	1.1	4.3	3.4	3.6	2.3	3.7	2.1	49	3.2	2.6	9.2	1.2
3	1.2	4.3	3.3	3.7	2.3	3.7	2.2	4.8	2.9	2.3	13	1.3
4	1.3	4.2	3.5	3.6	2.4	3.4	2.1	2.6	2.7	2.0	2.5	1.3
5	1.4	4.3	3.6	3.6	2.4	2.9	2.2	2.3	2.5	1.9	2.0	1.4
6	1.3	4.0	3.4	3.6	2.5	2.7	2.0	2.2	2.4	2.0	1.9	1.6
7	1.4	3.4	3.4	3.7	2.4	2.7	2.1	2.4	2.4	2.9	1.6	1.5
8	1.5	3.9	3.4	3.6	2.4	2.8	2.4	2.1	2.4	2.1	1.5	1.5
9	1.4	3.4	3.5	3.4	2.4	3.0	2.6	2.1	2.3	2.0	1.6	1.4
10	1.4	3.7	3.4	3.6	2.4	3.3	2.6	2.4	2.2	1.8	2.0	1.5
11	1.3	3.6	3.2	3.6	2.4	3.6	2.6	2.3	2.8	1.8	2.0	3.8
12	1.2	3.4	3.5	3.6	2.4	3.2	2.6	2.3	4.9	1.8	2.2	1.4
13	1.3	3.1	3.4	4.1	2.5	2.8	2.6	2.4	2.8	1.6	2.0	1.5
14	1.4	2.9	3.6	4.1	2.5	2.6	2.6	2.4	2.7	1.5	1.9	1.7
15	1.5	2.9	3.6	4.2	2.4	2.6	2.8	2.5	2.5	1.6	1.9	1.6
16	1.6	2.9	3.6	4.2	2.6	2.3	2.6	2.6	2.3	1.5	1.7	1.5
17	1.4	2.6	3.9	4.2	2.6	2.2	2.6	2.6	2.2	1.5	3.5	1.5
18	1.4	2.5	3.5	4.1	2.6	2.2	2.6	2.5	2.2	1.4	2.3	1.3
19	2.0	2.4	3.7	3.9	2.6	2.2	2.6	2.8	2.1	1.3	32	1.3
20	4.7	2.5	3.4	3.1	2.5	2.2	2.8	3.0	2.1	1.3	2.3	1.4
21	4.7	2.4	3.4	2.8	2.6	2.2	2.5	3.1	1.9	1.4	1.2	1.2
22	4.4	2.6	3.6	2.7	2.6	2.1	2.5	3.0	1.8	1.7	1.2	1.3
23	4.4	2.6	3.5	2.8	3.5	2.1	2.6	3.2	96	1.7	1.1	1.6
24	5.0	2.7	3.8	2.6	3.6	2.1	2.5	3.4	49	1.5	1.2	1.4
25	5.6	2.8	3.7	2.4	3.6	2.0	2.6	3.6	18	1.4	1.2	1.2
26	4.9	2.7	3.4	2.4	3.6	1.9	2.6	4.0	24	4.4	.99	1.2
27	4.6	2.8	3.5	2.3	3.6	2.0	2.6	3.4	8.1	2.2	.94	1.5
28	4.7	2.8	3.5	2.1	3.6	2.0	2.5	3.1	4.7	2.1	1.2	1.7
29	4.6	2.8	3.6	2.1	---	1.9	2.5	3.1	3.6	2.0	1.5	1.5
30	4.3	3.1	3.5	2.1	---	2.2	2.5	3.1	3.1	1.9	1.4	1.2
31	4.3	---	3.4	2.1	---	2.1	---	14	---	1.8	1.6	---
TOTAL	82.4	46.4	104.4	101.5	75.0	80.3	74.3	198.0	265.8	59.9	102.43	44.8
MEAN	2.67	3.23	3.51	3.27	2.70	2.59	2.48	6.39	8.86	1.93	3.30	1.49
MAX	5.1	4.3	3.4	4.2	3.6	3.7	2.8	56	96	4.4	32	3.8
MIN	1.1	2.4	3.1	2.1	2.1	1.9	2.0	2.1	1.6	1.3	.94	1.2
AC-FI	164	142	216	201	150	159	147	343	527	119	203	89

CAL YR 1976 TOTAL 1094.28 MEAN 3.00 MAX 120 MIN .02 AC-FI 2180
WTR YR 1977 TOTAL 1241.33 MEAN 3.54 MAX 96 MIN .94 AC-FI 2560

ARKANSAS RIVER BASIN

07236500 FORT SUPPLY LAKE NEAR FORT SUPPLY, OK

LOCATION.--Lat 36°33'14", long 99°34'16", in NE 1/4 SE 1/4 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 mean sea level.

REMARKS.--Reservoir is formed by an earth dam. 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, 22,540 acre-ft (27.8 hm³) May 22, elevation, 2,008.02 ft (612.044 m); minimum, 9,070 acre-ft (11.2 hm³) Dec. 10, elevation, 2,001.10 ft (609.935 m).

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

2,001	8,930	2,005	15,830
2,002	10,430	2,007	20,100
2,003	12,080	2,009	25,020

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10100	9590	9170	9200	9560	10320	10650	11960	14710	14400	13780	14590
2	10090	9540	9160	9200	9600	10290	10650	12080	14810	14380	13810	14580
3	10090	9540	9160	9220	9650	10310	10650	12340	14890	14350	13850	14590
4	9960	9530	9160	9230	9660	10310	10650	12430	14870	14310	13830	14520
5	9980	9510	9160	9230	9720	10340	10650	12540	14750	14230	13800	14480
6	9980	9470	9160	9240	9690	10380	10670	12640	14540	14170	13780	14400
7	9930	9470	9160	9240	9750	10430	10720	12640	14310	14210	13740	14330
8	9930	9450	9160	9260	9770	10460	10720	12640	14170	14330	13660	14270
9	9900	9450	9140	9290	9800	10460	10700	12790	14080	14350	13590	14140
10	9900	9440	9130	9290	9810	10450	10670	12990	14120	14360	13520	14170
11	9890	9390	9170	9290	9890	10450	10650	13180	14120	14290	13550	14360
12	9830	9390	9170	9290	9920	10460	10640	13370	14210	14290	13570	14360
13	9830	9410	9170	9290	9950	10510	10780	13550	14270	14250	13650	14460
14	9830	9360	9170	9300	9980	10510	10860	13630	14350	14150	13660	14500
15	9720	9360	9170	9300	10030	10490	10860	13660	14420	14140	13660	14560
16	9710	9320	9170	9320	10040	10490	10880	13890	14480	14100	13650	14560
17	9710	9320	9190	9320	10060	10480	10990	13970	14500	14080	13680	14460
18	9650	9320	9230	9320	10060	10480	11040	14170	14500	14020	13740	14310
19	9620	9300	9140	9320	10070	10480	11170	14210	14520	13950	13650	14210
20	9590	9270	9190	9330	10100	10460	11260	14940	14560	13850	13980	14230
21	9590	9260	9220	9350	10150	10460	11320	19510	14590	13830	14330	14120
22	9570	9240	9190	9390	10170	10480	11400	21560	14580	13830	14560	14140
23	9540	9240	9190	9390	10170	10490	11440	16320	14630	13810	14610	14150
24	9510	9260	9170	9440	10170	10620	11440	15590	14650	13760	14360	14100
25	9510	9230	9200	9450	10170	10650	11470	14540	14710	13660	14790	14040
26	9480	9200	9220	9480	10230	10590	11520	14690	14710	13650	14850	14040
27	9510	9170	9220	9480	10260	10620	11560	14650	14670	13630	14750	14040
28	9540	9190	9220	9500	10270	10620	11500	14590	14540	13780	14830	14040
29	9570	9170	9260	9510	---	10620	11640	14480	14540	13870	14830	14060
30	9570	9160	9200	9510	---	10620	11760	14290	14360	13870	14870	14100
31	9570	---	9200	9530	---	10720	---	14560	---	13780	14730	---
MAX	10100	9590	9260	9530	10270	10720	11760	21580	14890	14400	14670	14590
MIN	9480	9160	9130	9200	9560	10290	10640	11960	14080	13630	13520	14040
†	2001.44	2001.16	2001.19	2001.41	2001.90	2002.18	2002.81	2004.36	2004.25	2003.94	2004.44	2004.11
‡	-550	-410	+40	+330	+740	+450	+1,040	+2,820	-220	-580	+950	-630

CAL YR 1976 MAX 15100 MIN 9130‡ -2,150
WTR YR 1977 MAX 21580 MIN 9130‡ +3,980

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

387

07237000 WOLF CREEK NEAR FORT SUPPLY, OK

LOCATION.--Lat 36°34'00", long 99°33'05", in SE 1/4 SE 1/4 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) above mean sea level (levels by Corps of Engineers). See WSP 1921 for history of changes prior to Sept. 30, 1962.

REMARKS.--Records good. 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) 35 years (water years 1943-1977), 58.3 ft³/s (1.651 m³/s), 42,240 acre-ft/yr (52.1 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 ft²/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, 2,830 ft³/s (80.1 m³/s) May 22, gage height, 10.44 ft (3.182 m); minimum daily, 0.56 ft³/s (0.016 m³/s) Dec. 22-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	1.1	.70	.86	.86	1.0	1.0	1.2	243	16	2.3	255
2	.78	1.0	.70	.86	.86	1.0	.99	1.5	244	14	2.3	179
3	.78	1.0	.70	.86	.90	1.0	1.0	1.3	240	6.9	2.3	100
4	.75	1.0	.70	.86	.90	1.0	1.1	1.3	239	6.2	2.2	96
5	.70	1.0	.64	.80	.90	1.0	1.0	1.2	238	5.5	2.1	93
6	.70	1.0	.63	.85	.90	1.0	.99	1.1	239	5.5	2.0	92
7	.74	.96	.70	.86	.86	1.0	.98	.98	240	5.8	1.9	91
8	.78	.98	.70	.96	.86	.99	.94	.93	208	5.9	1.8	88
9	.78	.96	.70	.98	.86	.97	.96	1.1	122	5.5	1.7	53
10	.70	1.0	.66	1.0	.86	1.0	.94	1.3	48	6.1	1.6	4.4
11	.78	1.0	.63	1.1	.90	1.0	.95	1.1	8.1	6.9	1.7	3.7
12	.78	.95	.63	1.1	.94	1.1	.96	1.0	7.2	6.8	1.7	3.6
13	.78	.93	.70	1.0	.94	1.1	1.1	.94	7.1	5.9	1.7	3.7
14	.78	.97	.70	1.0	.94	1.1	1.2	.93	6.5	5.4	1.7	3.6
15	.74	1.0	.70	1.0	.94	1.1	1.1	.93	6.1	2.7	1.7	22
16	.70	1.0	.63	.94	.94	1.1	1.0	1.0	5.6	2.4	1.7	48
17	.63	.98	.63	.94	.94	1.1	1.2	1.1	4.5	2.4	1.7	47
18	.63	.93	.63	1.0	1.1	1.1	1.2	1.9	4.6	2.4	1.7	47
19	.63	.93	.63	.97	1.4	1.1	1.1	14	4.7	2.4	1.7	35
20	.63	.93	.63	.93	1.0	1.1	1.5	50	5.4	2.3	1.7	10
21	.63	.93	.58	.93	1.0	1.1	1.3	55	6.0	2.2	1.7	9.7
22	.63	.76	.56	.93	1.0	1.0	1.3	1230	4.9	2.4	1.7	6.0
23	.63	.70	.56	.93	1.0	1.0	1.2	2660	5.5	2.3	1.8	1.9
24	.63	.70	.56	.93	1.0	1.1	1.3	2020	30	2.2	28	1.9
25	.63	.78	.56	.93	1.0	1.1	1.2	846	66	6.4	28	1.9
26	.75	.78	.56	.87	1.0	1.1	1.2	269	65	2.6	27	1.9
27	1.1	.73	.56	.86	1.0	1.1	1.2	259	63	15	27	1.9
28	1.0	.70	.56	.90	1.0	1.1	1.1	252	61	2.6	30	1.9
29	1.1	.64	.56	.90	---	.99	1.2	252	59	2.5	139	1.8
30	1.2	.63	.89	.90	---	.99	1.1	247	50	2.4	255	1.8
31	1.1	---	.93	.86	---	1.0	---	248	---	2.4	257	---
TOTAL	23.97	26.97	20.22	28.81	36.70	32.44	33.31	8422.81	2531.2	160.0	833.4	1305.7
MEAN	.77	.90	.65	.93	1.31	1.05	1.11	272	84.4	5.16	26.9	43.5
MAX	1.2	1.1	.93	1.1	1.1	1.1	1.5	2660	244	16	257	255
MIN	.63	.63	.56	.80	.86	.97	.94	.93	4.5	2.2	1.6	1.8
AC-FT	48	53	40	57	73	64	66	16710	5020	317	1650	2590

CAL YR 1976 TOTAL 3371.41 MEAN 9.21 MAX 194 MIN .00 AC-FT 6690
WTR YR 1977 TOTAL 13455.53 MEAN 36.9 MAX 2660 MIN .56 AC-FT 26690

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK

LOCATION.--Lat 36°26'18", long 99°16'40", in SE 1/4 SE 1/4 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).

DRAINAGE AREA.--11,589 mi² (30,016 km²), of which 4,812 mi² (12,463 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1903 to September 1905 (gage heights only), October 1905 to June 1906, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Canadian River (North Fork) near Woodward 1903-6. Gage-height records collected in this vicinity since 1919 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1731: 1951(M).

GAGE.-Water-stage recorder. Datum of gage is 1,830.43 ft (557.915 m) above mean sea level. Prior to July 1906, nonrecording gage at railway bridge 200 ft (61.0 m) upstream at different datum. Oct. 1, 1938, to Oct. 26, 1943, nonrecording gage and Oct. 27, 1943, to July 12, 1951, water-stage recorder, at site 7.8 mi (12.6 km) upstream at datum 37.01 ft (11.281 m) higher than present datum.

REMARKS.--Records good. Some regulation since May 1942 by Fort Supply Lake on Wolf Creek 33 mi (53 km) upstream (station 07236500).

AVERAGE DISCHARGE.--39 years (water years 1939-77), 197 ft³/s (5.579 m³/s), 142,700 acre-ft/yr (176 hm³/yr).

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 OUTSIDE PERIOD OF RECORD.--Flood of Oct. 12, 1923, reached a stage of 11.0 ft (3.35 m), site and datum then in use; from reports of U.S. Weather Bureau.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,130 ft³/s (60.3 m³/s) May 24, 25, gage height, 9.30 ft (2.835 m), no peak above base of 3,500 ft³/s (99.1 m³/s); minimum daily, 1.9 ft³/s (0.054 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	5.9	5.7	3.0	3.8	3.9	3.8	5.8	950	51	7.8	248
2	2.2	5.2	5.6	3.5	3.6	4.4	3.6	12	780	37	7.6	242
3	2.0	5.0	5.4	4.0	3.7	4.1	3.7	10	540	31	8.0	215
4	1.9	4.9	5.2	4.5	3.6	3.8	3.7	7.3	562	26	6.6	149
5	2.1	4.9	5.0	4.7	3.5	3.7	3.7	5.6	1240	23	6.0	133
6	2.6	5.7	4.7	4.5	3.3	3.8	4.0	5.2	864	21	5.5	116
7	2.7	5.0	4.0	4.0	3.1	3.8	4.1	4.6	590	20	5.5	106
8	2.7	5.2	4.5	3.5	3.2	3.9	4.2	4.1	574	70	5.1	99
9	2.6	5.5	5.0	3.0	3.3	3.9	4.4	4.1	425	31	4.4	94
10	2.6	5.1	4.9	2.2	3.2	4.0	4.9	6.2	501	24	3.9	84
11	2.5	5.2	4.6	2.8	6.5	3.9	4.9	12	197	21	15	68
12	2.2	5.3	4.3	3.1	9.5	3.7	5.3	46	132	19	12	62
13	2.2	5.4	4.3	3.5	5.6	3.7	5.9	46	112	18	11	67
14	2.3	5.9	4.4	4.0	4.9	3.8	6.5	19	100	17	9.4	56
15	2.2	6.0	4.1	3.8	4.8	3.6	6.4	13	82	16	8.2	50
16	2.0	6.0	4.2	3.0	4.6	3.8	5.6	9.9	74	15	6.9	52
17	2.3	6.2	4.1	3.3	4.5	4.0	8.6	23	66	14	7.1	63
18	2.7	6.1	4.0	3.1	4.3	3.9	7.2	15	57	12	7.3	62
19	2.6	6.0	3.9	3.3	4.2	3.8	6.7	11	52	11	10	60
20	3.2	5.7	3.5	5.0	4.2	3.8	24	65	44	10	9.2	55
21	3.6	5.4	3.0	8.0	4.2	3.7	8.5	454	40	9.8	7.6	45
22	3.5	5.3	3.7	13	4.3	3.9	7.7	249	35	9.6	464	42
23	3.5	5.3	3.5	11	4.2	4.0	6.5	829	36	10	970	39
24	3.4	5.4	4.1	6.7	3.9	4.2	5.2	2010	62	9.4	404	34
25	3.6	5.5	3.8	6.3	3.9	4.4	4.4	1800	177	8.6	306	31
26	4.0	5.5	4.6	4.2	4.8	4.6	4.2	864	109	8.8	205	30
27	5.5	5.3	3.9	3.7	4.4	7.8	3.8	342	79	9.5	155	28
28	5.8	5.0	3.7	3.2	4.2	8.5	3.5	250	69	9.6	192	27
29	7.8	5.4	3.5	3.0	---	4.5	4.9	230	61	14	152	26
30	12	6.6	3.0	4.5	---	3.8	15	220	55	12	170	25
31	6.7	---	2.5	4.7	---	3.5	---	333	---	8.8	292	---
TOTAL	107.4	164.4	130.1	140.1	121.5	130.2	184.9	7927.8	8505	597.1	3479.5	2408
MEAN	3.46	5.50	4.20	4.52	4.34	4.20	6.16	256	284	19.3	112	80.3
MAX	12	6.0	5.7	13	9.5	8.5	24	2010	1240	70	970	248
MIN	1.9	4.9	2.5	2.2	3.1	3.5	3.5	4.1	35	8.6	3.9	25
AC-FT	213	327	258	278	241	258	367	15720	16870	1180	6900	4780

CAL YR 1976 TOTAL 10909.51 MEAN 29.8 MAX 356 MIN .00 AC-FT 21640
 WTR YR 1977 TOTAL 23696.50 MEAN 65.5 MAX 2010 MIN 1.9 AC-FT 47400

ARKANSAS RIVER BASIN

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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.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,640 micromhos Dec. 31; minimum daily, 348 micromhos Aug. 22.

WATER TEMPERATURE: Maximum daily, 35.0°C July 20, Aug. 2, 4, 8, 15, 16; minimum daily, 1.5°C Dec. 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHDS)	PH (UNITS)	TEMPE- RATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
27...	--	--	1400	5.7	2960	8.8	7.0	3	12.1	104
27...	1028	9740	1401	5.7	2960	8.8	7.0	--	12.1	104
NOV										
22...	--	--	1400	5.4	2800	8.9	7.0	7	12.0	101
22...	1028	9740	1401	5.4	2800	8.9	7.0	--	12.0	101
DEC										
27...	--	--	1400	4.0	2600	8.7	10.0	5	11.9	110
27...	1028	9740	1401	4.0	2600	8.7	10.0	--	11.9	110
JAN										
27...	--	--	0830	4.0	2900	8.7	7.0	3	17.6	150
27...	1028	9740	0831	4.0	2900	8.7	7.0	--	17.6	150
FEB										
22...	--	--	1400	4.6	2990	8.7	12.0	6	16.1	148
22...	1028	9740	1401	4.6	2990	8.7	12.0	--	16.1	148
MAR										
22...	--	--	1435	4.3	2500	9.4	18.0	4	17.8	202
22...	1028	9740	1436	4.3	2500	9.4	18.0	--	17.8	202
APR										
26...	--	--	1145	4.6	2850	8.3	18.0	9	12.7	144
26...	1028	9740	1146	4.6	2850	8.3	18.0	--	12.7	144
MAY										
24...	--	--	1145	2060	1450	8.2	21.0	60	6.9	82
24...	1028	9740	1146	2060	1450	8.2	21.0	--	6.9	82
JUN										
21...	--	--	0900	40	2100	8.2	22.0	25	7.3	89
24...	1028	9740	0730	69	1500	7.8	20.5	--	6.5	76
JUL										
26...	--	--	0800	8.0	2900	7.8	22.0	8	7.2	88
28...	1028	9740	1900	8.6	2600	8.8	30.5	--	10.6	151
AUG										
15...	--	--	1745	7.8	2850	8.9	34.0	4	10.8	161
19...	1028	9740	1015	8.6	2550	8.0	20.0	--	7.9	92
SEP										
13...	--	--	1330	66	1350	8.3	21.5	80	6.7	81
16...	1028	9740	0745	50	1600	8.4	18.5	--	8.0	92

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible][illegible]

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED SULFIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SULFIDS (TONS PER AC-FT)	DIS- SOLVED SULFIDS (TONS PER DAY)	TOTAL NITRATE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)
OCT										
27...	2040	4.23	47.9	1.6	--	2.0	3.6	16	1.6	--
27...	--	--	--	--	--	2.0	--	--	--	--
NOV										
22...	1880	2.79	29.9	1.5	--	3.1	4.6	20	1.6	--
22...	--	--	--	--	--	4.5	--	--	--	--
DEC										
27...	1960	2.77	22.0	1.5	--	4.6	6.1	27	1.4	--
27...	--	--	--	--	--	1.5	--	--	--	--
JAN										
27...	1680	2.42	19.2	1.1	--	3.4	4.5	20	1.8	--
27...	--	--	--	--	--	1.7	--	--	--	--
FEB										
22...	1910	2.69	24.6	1.2	--	2.6	3.8	17	1.8	--
22...	--	--	--	--	--	3.2	--	--	--	--
MAR										
22...	1850	2.60	22.2	.49	--	1.0	1.5	6.6	.68	--
22...	--	--	--	--	--	2.6	--	--	--	--
APR										
26...	1770	2.53	23.1	.57	--	4.1	4.7	21	1.6	--
26...	--	--	--	--	--	4.8	--	--	--	--
MAY										
24...	720	1.01	4150	.02	--	1.1	1.1	5.0	.13	--
24...	--	--	--	--	--	1.4	--	--	--	--
JUN										
21...	1290	1.82	145	.14	--	1.4	1.5	6.8	.22	--
24...	--	--	--	--	--	2.5	--	--	--	--
JUL										
26...	1840	2.62	41.7	.10	--	1.1	1.2	5.3	.33	--
28...	--	--	--	--	--	2.3	--	--	--	--
AUG										
15...	1770	2.53	39.2	.13	--	1.9	2.0	9.0	.57	--
19...	--	--	--	--	--	2.2	--	--	--	--
SEP										
13...	848	1.17	154	.25	.14	--	--	--	.30	.14
16...	--	--	--	--	--	<.63	--	--	--	--

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDED ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDED CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDED CHRO- MIUM (CR) (UG/L)
OCT											
27...	--	--	1400	--	--	--	--	--	--	--	--
27...	1028	9740	1401	--	--	--	--	--	--	--	--
NOV											
22...	--	--	1400	2	0	2	<10	<10	0	0	0
22...	1028	9740	1401	--	--	--	--	--	--	--	--
DEC											
27...	--	--	1400	--	--	--	--	--	--	--	--
27...	1028	9740	1401	--	--	--	--	--	--	--	--
JAN											
27...	--	--	0830	--	--	--	--	--	--	--	--
27...	1028	9740	0831	--	--	--	--	--	--	--	--
FEB											
22...	--	--	1400	3	1	2	10	9	1	0	0
22...	1028	9740	1401	--	--	--	--	--	--	--	--
MAR											
22...	--	--	1435	--	--	--	--	--	--	--	--
22...	1028	9740	1436	--	--	--	--	--	--	--	--
APR											
26...	--	--	1145	--	--	--	--	--	--	--	--
26...	1028	9740	1146	--	--	--	--	--	--	--	--
MAY											
24...	--	--	1145	4	0	4	<10	<9	1	20	20
24...	1028	9740	1146	--	--	--	--	--	--	--	--
JUN											
21...	--	--	0900	--	--	--	--	--	--	--	--
24...	1028	9740	0730	--	--	--	--	--	--	--	--
JUL											
26...	--	--	0800	--	--	--	--	--	--	--	--
28...	1028	9740	1900	--	--	--	--	--	--	--	--
AUG											
15...	--	--	1745	6	1	5	<10	<6	4	10	10
19...	1028	9740	1015	--	--	--	--	--	--	--	--
SEP											
13...	--	--	1330	--	--	--	--	--	--	--	--
16...	1028	9740	0745	--	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDED COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDED COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDED LEAD (PB) (UG/L)
OCT											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	<100	--	--	--
NOV											
22...	10	<50	<50	0	10	9	1	200	20	100	98
22...	--	--	--	--	--	--	--	--	--	--	--
DEC											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	320	--	--	--
JAN											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	200	--	--	--
FEB											
22...	0	<50	<49	1	<10	<6	4	370	50	<100	<99
22...	--	--	--	--	--	--	--	--	--	--	--
MAR											
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	300	--	--	--
APR											
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	400	--	--	--
MAY											
24...	0	<50	<50	0	20	20	0	2000	20	<100	<98
24...	--	--	--	--	--	--	--	--	--	--	--
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	990	--	--	--
JUL											
26...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	100	--	--	--
AUG											
15...	0	<50	<49	1	30	29	1	140	40	<100	<98
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
13...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	2380	--	--	--

DATE	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MANG- NESE (MN) (UG/L)	SUS- PENDED MANG- NESE (MN) (UG/L)	DIS- SOLVED MANG- NESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDED MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	SUS- PENDED SELE- NIUM (SE) (UG/L)
OCT										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	25	--	--	--	--	--	--	--	--
NOV										
22...	2	100	20	80	.2	.2	.0	--	1	0
22...	--	--	--	--	--	--	--	13	--	--
DEC										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	161	--	--	--	--	--	--	--	--
JAN										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	210	--	--	--	--	--	--	--	--
FEB										
22...	1	240	10	230	.2	--	.0	--	1	0
22...	--	--	--	--	--	--	--	17	--	--
MAR										
22...	--	--	--	--	--	--	--	--	--	--
22...	--	160	--	--	--	--	--	--	--	--
APR										
26...	--	--	--	--	--	--	--	--	--	--
26...	--	280	--	--	--	--	--	--	--	--
MAY										
24...	2	90	90	0	.3	.3	.0	--	1	1
24...	--	--	--	--	--	--	--	--	--	--
JUN										
21...	--	--	--	--	--	--	--	--	--	--
24...	--	150	--	--	--	--	--	--	--	--
JUL										
26...	--	--	--	--	--	--	--	--	--	--
28...	--	50	--	--	--	--	--	--	--	--
AUG										
15...	2	50	10	40	.1	.1	.0	--	0	0
19...	--	--	--	--	--	--	--	10	--	--
SEP										
13...	--	--	--	--	--	--	--	--	--	--
16...	--	150	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL ATRAZINE (UG/L)	TOTAL CHLORDANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DIAZINON (UG/L)
NOV 22...	1400	ND	ND	ND	ND	ND	ND	ND
FEB 22...	1400	ND	ND	ND	ND	ND	ND	ND
MAY 24...	1145	ND	ND	ND	ND	ND	ND	ND
SEP 13...	1330	ND	ND	ND	ND	ND	ND	ND

[illegible]

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	SIMA- ZINE TOTAL COUL- SON CONC. (UG/L)
NOV 22...	ND	ND	ND	ND	ND	ND	ND	ND
FEB 22...	ND	ND	ND	ND	ND	ND	ND	ND
MAY 24...	ND	ND	ND	ND	ND	ND	ND	ND
SEP 13...	ND	ND	1	ND	ND	ND	ND	ND

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 27,76 1400	NOV 22,76 1400	DEC 27,76 1400	JAN 27,77 0830	FEB 22,77 1400
TOTAL CELLS/ML	120000	24000	23000	15000	120000
DIVERSITY: DIVISION	1.1	1.6	1.5	1.5	0.4
...CLASS	1.1	1.8	1.7	1.6	0.4
...ORDER	1.4	2.3	2.0	1.9	0.5
...FAMILY	1.8	3.2	2.3	2.0	0.8
...GENUS	2.6	3.6	2.6	2.1	0.9

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	--	-	--	-	--	-	--	-	--	-
...COELASTRACEAE										
...COELASTRUM	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE										
...PEDIASTRUM	1800	2	*	0	--	-	--	-	--	-
...MICRACTINIACEAE										
...GOLENKINIA	--	-	--	-	--	-	--	-	--	-
...MICRACTINIUM	13000	11	3500	15	600	3	--	-	100000#	87
...DUCYSTACEAE										
...ANKISTRIODESMUS	790	1	*	0	--	-	*	0	*	0
...CLOSTERIOPSIS	--	-	--	-	--	-	--	-	--	-
...DICTYOSPHAERIUM	3200	3	360	1	--	-	--	-	--	-
...FRANCEIA	--	-	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	--	-	360	1	--	-	--	-	--	-
...DUCYSTIS	2400	2	360	1	--	-	--	-	--	-
...TREUBARIA	--	-	--	-	--	-	--	-	--	-
...WESTELLA	--	-	1100	4	--	-	--	-	--	-
...SCENEDESMACEAE										
...ACTINASTRUM	2100	2	1400	6	4200#	19	480	3	5300	5
...CRUCIGENIA	--	-	--	-	270	1	*	0	--	-
...SCENEDESMUS	8400	7	3900#	16	1300	6	240	2	2500	2
...TETRADESMUS	--	-	--	-	--	-	480	3	--	-
...TETRASTRUM	--	-	--	-	--	-	*	0	--	-
...TETRASPORALES										
...PALMELLACEAE										
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CARTERIA	--	-	2000	8	--	-	--	-	--	-
...CHLAMYDOMONAS	--	-	--	-	2300	10	7600#	50	630	1
...PHACUTACEAE										
...COCCOMONAS	--	-	180	1	--	-	--	-	--	-
...PHACUTIS	*	0	--	-	--	-	--	-	--	-
...ZYGNEMATALES										
...DESMIDIACEAE										
...CLOSTERIUM	--	-	*	0	--	-	--	-	--	-
...COSMARIUM	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...PENNIALES										
...NAVICULACEAE										
...ENTOMONEIS	--	-	*	0	*	0	--	-	--	-

ARKANSAS RIVER BASIN

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07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

..CENTRALES							
...COSCINODISCACEAE							
...CYCLOTELLA	30000# 26	1200 5	130 1	-- -	-- -	* 0	
...MELOSIRA	46000# 39	-- -	-- -	-- -	-- -	-- -	
...STEPHANODISCUS	-- -	-- -	-- -	-- -	-- -	-- -	
...RHIZOSOLENIACEAE							
...RHIZOSOLENIA	-- -	-- -	-- -	-- -	-- -	-- -	
..PENNALES							
...ACHNANTHACEAE							
...ACHNANTHES	-- -	* 0	-- -	-- -	-- -	-- -	
...COCCONEIS	-- -	-- -	-- -	-- -	-- -	-- -	
...CYMBELLACEAE							
...AMPHORA	* 0	-- -	* 0	-- -	-- -	-- -	
...FRAGILARIACEAE							
...FRAGILARIA	* 0	-- -	-- -	-- -	-- -	-- -	
...SYNEDRA	-- -	* 0	* 0	-- -	-- -	-- -	
...GOMPHONEMATACEAE							
...GOMPHONEMA	-- -	180 1	* 0	-- -	-- -	-- -	
...NAVICULACEAE							
...NAVICULA	-- -	980 4	730 3	120 1	630 1		
...NITZSCHIACEAE							
...NITZSCHIA	3200 3	980 4	3800# 17	3300# 22	1900 2		
...CHRYSOPHYCEAE							
...CHRYSOMONADALES							
...OCHROMONADACEAE							
...DINOBRYON	-- -	-- -	-- -	-- -	-- -	-- -	

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

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

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 27,76 1400		NOV 22,76 1400		DEC 27,76 1400		JAN 27,77 0830		FEB 22,77 1400	
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										
...CHROCCOCCALES										
...CHROCCOCCAEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	--	-
....ANACYSTIS	5800	5	--	-	--	-	--	-	--	-
...HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	*	0	--	-	--	-	--	-	--	-
....ANABAENOPSIS	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
....LYNGBYA	*	0	--	-	--	-	--	-	--	-
....OSCILLATORIA	--	-	2000	8	*	0	2200	14	1700	1
...RIVULARIACEAE										
...RAPHIDIOPSIS	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
...CRYPTOMONODACEAE										
....CRYPTOMONAS	*	0	4200#	18	8800#	39	120	1	2100	2
..EUGLENACEAE										
....EUGLENA	*	0	270	1	330	1	610	4	*	0
....PHACUS	--	-	440	2	200	1	*	0	*	0
....TRACHELOMONAS	--	-	--	-	--	-	--	-	--	-

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

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

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD. OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	MAY 24,77 1145	JUN 21,77 0900	JUL 26,77 0800	AUG 15,77 1745	SEP 13,77 1330	
TOTAL CELLS/ML	39000	13000	19000	71000	40000	
DIVERSITY: DIVISION	1.1	1.3	1.8	0.8	1.5	
..CLASS	1.1	1.3	1.8	0.8	1.5	
..ORDER	1.1	1.7	2.3	1.6	2.3	
...FAMILY	1.7	2.5	2.8	1.8	2.6	
....GENUS	1.7	3.2	2.8	2.0	2.9	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....CHARACIACEAE						
....SCHROEDERIA	720	2	--	--	2100	3
....COELASTRACEAE						
....COELASTRUM	21000#	54	1300	10	--	--
...HYDRODICTYACEAE						
....PEDIASTRUM	1200	3	--	--	--	--
...MICRACTINIACEAE						
....GOLENKINIA	--	--	--	--	370	1
....MICRACTINIUM	--	--	--	430	2	--
...OOCYSTACEAE						
....ANKISTRUDESUS	* 0	550	4	110	1	430
....CLUSTERIOPSIS	* 0	--	--	--	--	--
....DICTYOSPHAERIUM	--	--	--	860	4	1500
....FRANCEIA	--	--	--	--	--	210
....KIRCHNERIELLA	* 0	--	--	--	* 0	--
....OOCYSTIS	420	1	140	1	--	--
....TREUBARIA	--	--	1700	13	--	--
....WESTELLA	--	--	--	--	--	--
...SCENEDESMACEAE						
....ACTINASTRUM	--	--	830	6	--	3200
....CRUCIGENIA	--	--	--	--	--	--
...SCENEDESMUS	610	2	2100#	17	4100#	21
...TETRADESMUS	--	--	--	--	1100	2
...TETRASTRUM	* 0	--	--	--	--	--
...TETRASPIRALES						860
...PALMELLACEAE						
....SPHAEROCYSTIS	--	--	--	640	3	--
...VOLVUCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	--	--	110	1	940
....CHLAMYDOMONAS	--	--	--	530	3	--
...PHACOTACEAE						860
....COCCOMONAS	--	--	--	--	--	--
....PHACOTUS	--	--	--	--	--	--
...ZYGNEMATALES						
...DESMIDIACEAE						
...CLOSTERIUM	--	--	--	110	1	--
...COSMARIUM	--	--	--	--	* 0	--
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...PENNALES						
....NAVICULACEAE						
....ENTOMONEIS	--	--	--	--	--	--
...CENTRALES						
...COSCINODISCAEAE						
....CYCLOTELLA	* 0	--	--	960	5	6400#
....MELOSIRA	* 0	--	--	--	--	430
....STEPHANODISCUS	--	* 0	--	--	370	1
...RHIZOSOLENIAEAE						
....RHIZOSOLENIA	--	--	760	6	--	--
...PENNALES						
....ACHNANTHACEAE						
....ACHNANTHES	--	--	--	--	--	--
....COCCONEIS	--	--	--	--	* 0	--
....CYMBELLACEAE						
....AMPHORA	--	--	--	--	* 0	--
...FRAGILARIACEAE						
....FRAGILARIA	--	--	--	--	--	--
....SYNEDRA	--	--	--	210	1	--
...GOMPHONEMATAEAE						
....GOMPHONEMA	--	--	--	--	--	--
...NAVICULACEAE						
....NAVICULA	--	--	* 0	430	2	7700#
...NITZSCHIAEAE						19
....NITZSCHIA	* 0	340	3	5300#	28	1300
...CHRYSOPHYCEAE						3400

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

..CHRYSUMUNADALES
 ...OCHROMUNADACEAE
DINOBRION

* 0 -- - -- - -- -

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

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

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	MAY 24,77 1145		JUN 21,77 0900		JUL 26,77 0800		AUG 15,77 1745		SEP 13,77 1330	
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										
..CHROCOCCACEAE										
...CHROCOCCACEAE										
....AGMENELLUM	--	-	--	-	--	-	1500	2	--	-
....ANACYSTIS	14000#	35	1100	9	4600#	24	42000#	59	1700	4
...HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	860	7	--	-	--	-	--	-
....ANABAENOPSIS	--	-	3100#	24	--	-	--	-	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIA	--	-	--	-	--	-	17000#	24	12000#	31
...RIVULARIACEAE										
...RAPHIIDIOPSIS	300	1	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	*	0	--	-
....PHACUS	--	-	--	-	--	-	--	-	210	1
....TRACHELIDONAS	380	1	--	-	860	4	--	-	--	-

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

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	17.5	6.0	---	9.0	12.5	19.0	31.5	27.0	25.0	34.0	30.0
2	---	17.0	3.0	---	---	---	26.0	28.0	29.0	25.0	35.0	26.0
3	28.0	15.0	3.0	---	4.5	5.0	22.5	27.0	27.0	28.0	34.5	30.0
4	18.0	16.0	6.5	---	3.0	14.0	17.0	30.5	27.0	23.0	35.0	28.0
5	24.0	16.0	10.0	---	13.0	15.5	21.0	25.0	29.0	23.0	25.0	29.0
6	20.0	---	---	---	13.0	17.5	26.0	20.0	27.0	24.0	25.0	29.0
7	15.0	15.0	5.5	---	10.0	20.5	27.0	28.5	27.0	25.0	---	30.0
8	8.0	15.5	6.5	---	14.0	19.0	---	33.0	28.0	28.0	35.0	25.0
9	25.0	---	5.0	---	14.5	21.5	---	29.0	28.0	26.0	34.0	23.0
10	26.0	15.0	---	---	5.0	13.0	25.5	---	25.0	28.0	---	---
11	24.0	8.0	7.0	---	10.0	---	22.0	28.0	25.0	---	23.0	---
12	---	5.5	9.0	---	15.0	14.0	20.5	26.0	30.0	34.0	---	28.5
13	26.0	---	8.0	---	17.0	20.0	---	21.0	---	26.0	28.0	25.0
14	---	9.5	10.0	---	13.5	22.0	22.0	---	30.0	32.0	31.0	25.5
15	---	10.0	---	---	13.5	20.5	---	28.0	31.0	---	35.0	26.0
16	19.0	12.0	10.0	---	16.0	16.0	20.0	27.5	31.0	---	35.0	22.0
17	15.5	13.0	3.0	---	6.0	---	20.5	27.0	---	26.0	28.0	22.0
18	13.0	5.0	---	---	7.0	---	23.0	---	25.0	25.0	26.0	---
19	15.0	12.0	10.0	---	10.0	17.0	28.0	21.5	31.0	32.5	---	26.0
20	16.0	13.5	---	---	18.0	20.0	20.0	21.0	---	35.0	---	27.0
21	16.0	11.0	4.0	---	19.0	18.5	---	17.0	31.0	---	---	28.0
22	---	11.0	---	---	14.5	21.0	---	25.0	29.5	26.0	29.0	29.0
23	---	12.0	2.0	---	---	21.5	11.5	24.0	31.0	32.0	30.0	23.0
24	15.5	13.0	10.0	---	5.5	22.5	27.0	24.5	24.0	---	---	23.0
25	17.0	15.0	---	---	8.0	13.0	28.0	24.0	24.0	25.0	30.0	---
26	---	10.0	10.0	10.0	13.5	20.0	29.0	23.0	31.0	25.0	27.0	28.0
27	---	---	11.0	3.0	15.0	---	30.0	24.0	---	24.0	25.0	27.0
28	13.0	3.0	9.0	3.0	15.5	---	29.0	25.0	31.0	23.0	---	25.0
29	---	3.0	8.5	---	---	20.0	18.5	27.0	31.0	25.0	24.0	25.0
30	15.5	6.5	2.0	6.5	---	20.5	20.0	30.0	---	30.0	28.0	23.0
31	---	---	1.5	8.0	---	21.5	---	25.0	---	---	28.5	---
DNTH	---	11.5	---	---	11.5	18.0	23.0	26.0	28.5	27.0	---	26.5

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	2840	3020	---	2960	2910	2940	2470	663	1550	2650	1240
2	---	2960	3080	---	---	---	2850	1760	681	1820	2610	1210
3	2700	3020	3050	---	2940	2990	2930	2210	750	2030	2580	1250
4	2820	2990	3030	---	2850	3110	2920	2490	839	2170	2860	1380
5	2850	3000	3070	---	2880	2960	2910	2700	648	2300	2960	1300
6	2750	---	---	---	2930	2780	2860	2720	690	2330	3000	1290
7	2800	3050	2760	---	2940	2870	2840	2780	756	2360	---	1370
8	2900	3030	2990	---	2930	2850	---	2850	846	1230	2960	1440
9	2860	---	3050	---	2980	2870	---	2900	931	2110	3180	1310
10	2860	3120	---	---	3020	3010	2900	---	963	2280	---	---
11	2860	3030	3060	---	3020	---	2990	2050	1130	---	1110	---
12	---	3060	2960	---	2070	3080	3050	903	1490	2400	---	1360
13	2850	---	2900	---	2550	3030	---	565	---	2400	2790	1350
14	---	2960	3000	---	2830	2920	2960	---	1880	2480	2640	1520
15	---	2970	---	---	2910	2850	---	1160	1950	---	2720	1580
16	2940	3000	2990	---	2960	2840	2770	1380	1990	---	2830	1580
17	2970	3020	3040	---	2970	---	2190	1230	---	2640	2360	1520
18	3000	3040	---	---	2970	---	2470	---	2110	2810	2590	---
19	3030	3040	3130	---	2980	2940	2510	1630	2160	2890	---	1510
20	3010	3030	---	---	2980	2880	1770	1620	---	2910	---	1410
21	2980	3030	2860	---	3000	2850	---	777	2150	---	---	1610
22	---	3020	---	---	3020	2900	---	791	2120	2910	348	1630
23	---	3010	3350	---	---	2800	2530	1340	2100	2640	364	1620
24	3090	3020	2990	---	3070	2820	2700	1210	1640	---	---	1800
25	3040	3030	---	---	3010	2870	2790	1000	910	2990	895	---
26	---	3060	2960	2800	2920	2860	2820	871	1250	2940	1060	1940
27	---	---	3070	2980	2730	---	2840	1010	---	2750	1220	1940
28	2980	2860	3040	2900	2830	---	2930	1100	1530	2660	---	1930
29	---	2720	2960	---	---	2680	2980	1150	1600	1510	1340	1910
30	2390	2800	3030	2710	---	2880	1430	1130	---	1900	1290	1900
31	---	---	3640	2770	---	2880	---	909	---	---	1150	---
MONTH	---	2990	---	---	2890	2900	2700	1600	1350	2360	---	1530

ARKANSAS RIVER BASIN

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07238000 NORTH CANADIAN RIVER NEAR SEILING, OK

LOCATION.--Lat 36°11'06", long 98°55'15", in NW 1/4 sec.28, T.20 N., R.16 W., Major County, Hydrologic Unit 11100301, 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) above mean sea level (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. Some regulation by Fort Supply Lake on Wolf Creek 70.6 mi (113.6 km) upstream. (station 07236500).

AVERAGE DISCHARGE.--31 years, 218 ft³/s (6.174 m³/s), 157,900 acre-ft/yr (195 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, 3,160 ft³/s (89.5 m³/s) May 21, gage height, 10.55 ft (3.216 m), no peak above base of 3,500 ft³/s (99.1 m³/s); minimum daily, 0.08 ft³/s (0.002 m³/s) Oct.3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	2.8	8.4	9.0	36	27	21	31	1420	100	19	332
2	.14	2.8	7.8	8.0	27	26	20	44	1650	80	16	299
3	.08	3.0	9.6	9.0	27	25	20	72	1280	64	15	283
4	.10	3.2	10	10	26	24	19	86	941	50	13	267
5	.09	3.4	10	11	25	22	18	67	1040	46	13	225
6	.11	3.6	10	10	24	21	18	68	1790	40	12	189
7	.31	3.6	11	11	23	21	17	45	1290	35	11	157
8	.69	3.7	9.4	13	23	21	17	31	930	30	12	142
9	.77	4.1	11	11	23	21	16	26	798	90	11	129
10	.68	4.5	12	6.0	23	21	16	23	640	70	10	122
11	.41	5.7	10	7.0	26	21	16	22	487	60	9.0	119
12	.15	5.6	11	8.0	36	20	16	26	300	50	35	99
13	.12	5.4	13	8.9	39	19	17	32	220	40	31	89
14	.13	5.7	14	11	34	18	18	55	170	30	28	92
15	.11	6.1	14	13	31	18	22	127	140	27	25	83
16	.11	6.1	14	10	28	17	22	68	120	30	20	79
17	.18	6.2	14	11	27	17	28	241	100	29	22	72
18	.20	6.4	14	10	26	17	30	93	80	30	22	80
19	.20	6.6	14	12	24	17	36	88	60	27	25	80
20	.81	6.8	13	15	24	17	40	287	54	24	27	78
21	.98	6.6	15	20	24	16	69	2870	58	24	27	74
22	1.1	6.4	15	25	24	16	71	2340	54	24	24	68
23	1.3	6.6	18	35	24	16	50	929	50	23	186	64
24	1.4	6.9	16	45	22	17	40	1150	58	20	892	61
25	1.7	7.3	17	52	22	16	32	2230	80	17	509	57
26	2.0	7.8	15	43	24	17	28	2580	180	16	349	53
27	2.6	6.8	17	31	26	18	24	1590	250	14	271	50
28	2.6	5.7	17	25	26	21	21	782	190	12	215	48
29	4.0	6.6	16	21	---	25	25	588	160	11	248	47
30	4.2	7.4	16	25	---	28	25	488	130	25	224	45
31	3.3	---	10	30	---	23	---	724	---	22	210	---
TOTAL	30.79	163.4	402.2	555.9	744	623	812	17803	14720	1160	3571.0	3583
MEAN	.99	5.45	13.0	17.9	26.8	20.1	27.1	574	491	37.4	115	119
MAX	4.2	7.8	18	52	39	28	71	2870	1790	100	892	332
MIN	.08	2.8	7.8	6.0	22	16	16	22	50	11	9.0	45
AC-FT	61	324	798	1100	1490	1240	1610	35310	29200	2300	7080	7110

CAL YR 1976 TOTAL 18852.60 MEAN 51.5 MAX 1510 MIN .00 AC-FT 37390
WTR YR 1977 TOTAL 44173.29 MEAN 121 MAX 2870 MIN .08 AC-FT 87820

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.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
UCT											
12...	1028	9740	1330	2000	8.0	25.0	4	11.8	149	25	863
NOV											
09...	1028	9740	1430	1580	8.4	16.0	2	11.6	125	20	788
DEC											
14...	1028	9740	1330	2600	7.8	6.0	1	12.6	108	9	815
JAN											
26...	1028	9740	1000	1900	8.0	.5	2	10.2	72	16	813
FEB											
08...	1028	9740	1725	2250	8.5	7.5	3	14.8	130	15	730
MAR											
09...	1028	9740	1200	1800	8.5	14.5	5	14.0	146	16	851
APR											
13...	1028	9740	1300	1730	8.5	20.0	1	11.7	134	12	766
MAY											
03...	1028	9740	1515	1550	8.5	26.5	5	10.1	131	23	695
JUN											
08...	1028	9740	0945	810	8.0	25.0	245	7.2	89	39	260
JUL											
12...	1028	9740	1945	2100	7.8	32.0	22	7.5	107	34	497
AUG											
09...	1028	9740	1100	2100	8.3	23.5	1	9.3	115	21	676
SEP											
07...	1028	9740	1120	1300	8.8	25.0	--	8.6	108	--	--

[illegible]

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

07238500 CANTON LAKE NEAR CANTON, OK

LOCATION.--Lat 36°05'03", long 98°36'05", in SE 1/4 NE 1/4 sec.32, T.19 N., R.13 W., Blaine County, Hydrologic 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 mean sea level.

REMARKS.--Reservoir is formed by an earth dam. 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, 101,400 acre-ft (125 hm³) Sept. 18, elevation, 1,613.28 ft (491.728 m); minimum, 49,660 acre-ft (61.2 hm³) Dec. 24, elevation, 1,604.64 ft (489.094 m).

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

1,604	46,650	1,610	79,160
1,606	56,400	1,612	92,320
1,608	67,210	1,614	106,800

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79720	52280	50910	49850	50090	51200	50670	51540	77660	96580	94890	96870
2	77600	52280	50910	49850	50190	51350	50670	51640	78970	96510	94400	97360
3	75630	52280	50910	49850	50230	51350	50670	51640	80730	96580	94330	97650
4	73810	52180	50910	49850	50230	51350	50620	51740	82140	96510	94190	98150
5	71960	52130	50910	49850	50280	51350	50430	52280	83300	96370	93980	99010
6	70140	52230	50810	49850	50430	51250	50330	52330	84730	96300	93700	99230
7	68870	51980	50810	49850	50230	51200	50280	52520	85450	96300	93490	99400
8	66980	51740	50670	49850	50230	51960	50280	52570	87440	96650	93420	99500
9	65460	51740	50860	49900	50230	51200	50090	52620	88780	96650	93350	99800
10	63740	51880	50960	49900	50230	51250	50040	52520	89720	96580	93560	99900
11	61660	51790	50620	49850	50960	51350	50040	52520	90540	96440	93350	100100
12	60220	51640	50330	49850	50860	50720	49990	52470	91220	96440	93280	100400
13	58630	51590	50140	49850	50960	50910	50190	52330	91630	96160	93280	100700
14	56960	51590	50330	49900	50960	50960	50140	52230	92110	96090	93220	100700
15	55630	51640	50330	49850	50860	51010	50190	52130	92320	96020	93280	100500
16	54220	51400	50280	49850	50960	50910	50720	52970	92520	95800	93350	101000
17	52870	51400	50280	49750	51200	51010	50760	53270	92590	95520	93280	101000
18	52470	51400	50090	49850	51200	50860	50810	53470	92800	95360	93630	101200
19	52330	51400	50430	49850	51200	50860	50760	53910	93010	95170	93560	101200
20	52180	51400	50190	49850	51200	50760	51060	55530	93010	95030	93560	100800
21	51980	51400	49950	49850	50960	50720	51010	56810	93010	95030	93490	101100
22	51690	51400	50140	49850	51200	50380	51100	58420	93350	95100	93490	101000
23	51640	50910	49750	49850	51060	50520	51150	60910	93700	94960	93560	101100
24	51640	50910	50140	49900	51100	50380	51150	62480	93980	94820	94400	100900
25	51640	50910	50040	49850	51250	50430	51150	64240	94330	94750	94750	100900
26	51640	50910	49990	49950	51350	50720	51100	66530	94540	94610	94960	100800
27	51690	50910	50040	50040	51350	50860	50810	69680	94820	94470	95310	100800
28	51690	50910	49950	50040	51350	50910	51100	71960	95100	95170	95870	100800
29	52080	50910	49950	50040	---	50860	51200	73450	96300	94960	96090	100800
30	52080	50910	49950	50040	---	50810	51200	74240	96510	94820	96300	100700
31	52280	---	49900	50090	---	50670	---	76300	---	94960	96510	---
MAX	79720	52280	50960	50090	51350	51960	51200	76300	96510	96650	96510	101200
MIN	51640	50910	49750	49750	20230	50380	49990	51540	77660	94470	93220	96870
†	1,605.18	1,604.90	1,604.69	1,604.73	1,604.99	1,604.85	1,604.96	1,609.54	1,612.60	1,612.38	1,612.60	1,613.19
‡	-29,600	-1,370	-1,010	+190	+1,260	-680	+530	+25,100	+20,210	-1,550	+1,550	+4,170

CAL YR 1976 MAX 102800 MIN 49750† -43,800

WTR YR 1977 MAX 101200 MIN 20230‡ +18,800

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

ARKANSAS RIVER BASIN

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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 1976 TO SEPTEMBER 1977

DATE	TIME	RESER- VOIR STORAGE (AC-FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT								
15...	1600	55630	1760	7.5	16.5	15	--	--
NOV								
09...	1300	51740	1640	8.4	12.0	9	10.7	105
DEC								
03...	1500	50910	1780	7.9	4.5	7	--	--
JAN								
25...	1700	49650	1020	7.6	--	4	--	--
FEB								
06...	1515	50230	1820	8.4	3.0	8	10.8	84
MAR								
09...	1400	51200	1700	8.3	11.5	90	11.6	113
APR								
13...	1130	50190	1890	8.4	16.5	7	9.2	98
MAY								
03...	1310	51640	1600	8.3	19.0	25	7.3	83
JUN								
08...	1315	67440	1600	8.5	24.0	9	4.2	115
JUL								
12...	2040	96440	1450	7.8	27.0	20	6.3	83
AUG								
10...	1245	93560	1430	8.3	24.5	20	7.1	89
SEP								
08...	1130	99500	1470	7.3	23.0	6	5.8	71

DATE	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (MG/L)
OCT									
15...	540	400	120	58	170	40	3.2	8.6	172
NOV									
09...	510	390	110	57	180	43	3.5	9.2	132
DEC									
03...	510	370	110	58	170	41	3.3	8.4	175
JAN									
25...	280	200	62	30	96	42	2.5	5.0	94
FEB									
06...	550	390	120	61	180	41	3.3	8.5	194
MAR									
09...	540	380	120	58	180	42	3.4	8.3	188
APR									
13...	590	440	140	59	190	41	3.4	9.1	190
MAY									
03...	570	400	130	59	180	40	3.3	8.6	200
JUN									
08...	440	300	100	46	150	42	3.1	8.5	170
JUL									
12...	440	290	100	46	150	42	3.1	8.5	180
AUG									
10...	440	310	99	48	160	43	3.3	9.5	170
SEP									
08...	430	290	96	45	130	39	2.7	8.6	170

ARKANSAS RIVER BASIN

07238500 CANTON LAKE NEAR CANTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CA CO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)
OCT								
15...	0	141	8.7	420	230	1140	1.55	.04
NOV								
09...	8	122	.9	400	230	1110	1.51	.16
DEC								
03...	0	144	3.5	410	250	1170	1.59	.04
JAN								
25...	0	77	3.8	200	140	629	.86	.08
FEB								
08...	0	159	1.2	400	250	1220	1.66	.02
MAR								
09...	0	154	1.5	420	250	1190	1.62	.03
APR								
13...	0	160	1.2	460	250	1240	1.69	.23
MAY								
03...	0	164	1.6	440	250	1260	1.71	4.6
JUN								
08...	0	140	.9	330	200	982	1.34	.10
JUL								
12...	0	148	4.6	310	200	951	1.29	--
AUG								
10...	0	140	1.4	340	210	969	1.32	--
SEP								
08...	0	140	14	330	200	948	1.29	--

07239000 NORTH CANADIAN RIVER AT CANTON, OK

LOCATION.--Lat 36°04'45", long 98°35'25", in NE 1/4 SW 1/4 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 WSP 1311. Gage-height records collected in this vicinity since 1914 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,562.50 ft (476.250 m) above mean sea level (Corps of Engineers bench mark). 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) 29 years water years (1949-77), 170 ft³/s (4.814 m³/s), 123,200 acre-ft/yr (152 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 Bureau.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,110 ft³/s (31.4 m³/s) Oct. 1, gage height, 9.75 ft (2.972 m); stage falling, peak occurred Sept. 28, 1976; maximum peak discharge, 70 ft³/s (1.982 m³/s) May 20, gage height, 2.26 ft (0.689 m); minimum daily, 1.4 ft³/s (0.040 m³/s) Jan. 21-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1070	16	6.6	3.4	2.1	3.1	4.8	7.9	14	11	2.9	6.0
2	1010	16	6.7	3.4	1.6	3.3	4.7	7.5	11	11	2.9	5.7
3	994	16	6.3	3.4	1.6	3.0	5.1	7.4	10	12	2.9	5.5
4	978	16	6.2	3.4	1.7	3.2	5.0	8.2	11	11	2.9	5.8
5	930	16	6.2	3.4	1.7	3.3	4.6	8.6	12	13	2.9	7.3
6	895	16	5.3	3.4	1.7	3.4	4.6	8.2	13	10	3.1	7.2
7	885	14	2.9	1.9	1.7	3.6	4.4	7.1	12	10	2.9	6.7
8	871	12	2.9	1.9	1.7	3.9	4.5	6.8	12	10	2.9	6.8
9	861	8.5	2.9	1.8	2.0	4.0	4.8	6.8	11	11	2.9	6.9
10	853	8.3	6.2	1.9	2.0	4.3	5.1	7.1	9.9	11	2.9	6.7
11	843	8.7	4.0	1.9	1.9	3.7	5.3	7.2	9.8	11	3.2	6.7
12	830	9.0	3.3	1.9	1.9	3.2	5.3	7.3	10	11	3.2	6.7
13	822	9.0	3.2	1.9	1.9	3.4	5.2	7.2	10	8.3	3.4	6.6
14	814	8.7	3.4	1.9	1.9	4.0	5.3	7.0	10	7.2	3.2	6.7
15	770	6.7	3.4	1.9	2.0	3.4	5.4	5.9	10	7.2	3.2	6.7
16	666	5.9	3.4	1.9	2.0	4.0	5.9	7.1	12	7.2	4.3	8.0
17	655	5.9	3.4	1.9	2.0	4.3	7.7	8.0	11	6.9	4.1	7.8
18	265	6.4	3.4	1.9	1.9	3.9	6.3	6.3	11	6.9	4.3	7.8
19	23	6.4	3.4	1.9	2.0	4.0	6.0	6.3	11	7.1	5.4	7.3
20	22	6.4	3.4	1.9	2.1	3.7	5.5	20	11	6.7	5.1	7.4
21	21	6.0	3.4	1.4	2.2	3.4	4.7	23	11	6.7	5.2	7.5
22	21	5.9	3.4	1.4	2.3	3.3	5.3	10	11	6.7	5.2	6.9
23	19	6.0	3.4	1.4	2.0	3.6	5.5	8.0	11	7.2	5.5	6.7
24	18	6.5	3.4	1.4	2.1	4.2	5.6	7.0	11	6.9	5.6	6.7
25	18	6.9	3.4	1.4	2.4	4.2	6.0	7.0	11	7.2	5.9	6.7
26	17	7.1	3.4	1.5	3.3	4.5	5.5	7.5	11	7.5	5.9	6.4
27	18	7.2	3.4	2.1	3.1	4.9	5.5	15	11	6.4	6.1	6.5
28	18	7.3	3.4	2.1	3.1	4.6	6.6	10	11	5.5	6.2	6.7
29	19	6.9	3.4	2.0	---	4.3	7.5	8.0	11	3.2	6.2	6.5
30	19	6.7	3.4	2.0	---	4.1	7.5	7.0	11	2.6	6.3	6.7
31	16	---	3.4	2.0	---	4.4	---	18	---	2.7	6.2	---
TOTAL	15261	278.4	123.9	65.6	57.9	118.2	165.4	278.4	331.7	252.1	132.9	203.6
MEAN	492	9.28	4.00	2.12	2.07	3.81	5.51	8.98	11.1	8.13	4.29	6.79
MAX	1070	16	6.7	3.4	3.3	4.9	7.7	23	14	13	6.3	8.0
MIN	16	5.9	2.9	1.4	1.6	3.0	4.4	5.9	9.8	2.6	2.9	5.5
AC-FT	30270	552	246	130	115	234	328	552	658	500	264	404
CAL YR 1976	TOTAL	30067.4	MEAN	82.2	MAX	1160	MIN	2.4	AC-FT	59640		
WTR YR 1977	TOTAL	17269.1	MEAN	47.3	MAX	1070	MIN	1.4	AC-FT	34250		

ARKANSAS RIVER BASIN

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)
OCT 12...	1028	9740	1145	1600	8.3	17.0	25	11.2	123	26	445
NOV 09...	1028	9740	1220	1700	8.3	12.0	9	12.5	122	21	794
DEC 14...	1028	9740	1225	1700	7.5	5.0	4	12.4	102	12	475
JAN 26...	1028	9740	0730	1300	--	3.5	5	9.0	72	13	437
FEB 08...	1028	9740	1345	1800	8.2	7.0	4	14.0	121	13	468
MAR 09...	1028	9740	1430	1500	8.5	15.5	6	15.2	--	22	541
APR 13...	1028	9740	1200	1500	8.1	16.5	6	8.9	95	18	502
MAY 03...	1028	9740	1345	1750	8.1	19.0	16	9.8	111	18	545
JUN 08...	1028	9740	1145	1550	8.0	23.0	25	8.3	101	22	504
JUL 12...	1028	9740	2100	1450	7.6	26.0	43	6.4	82	19	454
AUG 10...	1028	9740	1330	1500	8.1	22.0	9	10.3	124	21	482
SEP 08...	1028	9740	1200	1400	8.4	24.0	5	6.9	86	17	426
DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 12...	--	--	--	200	--	25	--	--	--	--	--
NOV 09...	3	14	7	250	27	316	<.5	17	<2	<2	17
DEC 14...	--	--	--	310	--	625	--	--	--	--	--
JAN 26...	--	--	--	360	--	641	--	--	--	--	--
FEB 08...	4	49	17	700	16	620	<.5	10	<1	5	<1
MAR 09...	--	--	--	860	--	590	--	--	--	--	--
APR 13...	--	--	--	350	--	500	--	--	--	--	--
MAY 03...	2	37	12	480	17	180	.6	17	<1	2	16
JUN 08...	--	--	--	400	--	170	--	--	--	--	--
JUL 12...	--	--	--	460	--	80	--	--	--	--	--
AUG 10...	<1	<10	5	450	10	450	<.5	5	<1	2	5
SEP 08...	--	--	--	1600	--	170	--	--	--	--	--

ARKANSAS RIVER BASIN

07239000 NORTH CANADIAN RIVER AT CANTON, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 12...	110	62	165	9.4	--	214	.5	1198	1.5	.13	--
NOV 09...	49	27	175	8.6	--	228	.7	1172	1.3	.13	4
DEC 14...	102	45	175	5.9	--	231	.7	1108	2.2	.11	--
JAN 26...	112	44	179	5.5	205	225	.8	1018	2.3	.25	--
FEB 08...	114	46	184	5.4	202	229	.9	1004	2.0	.19	6
MAR 09...	123	51	188	6.5	278	239	.8	1116	2.2	.29	--
APR 13...	121	57	182	8.5	267	240	.7	1124	3.1	.23	--
MAY 03...	125	63	191	11	339	241	.8	1165	2.2	.13	6
JUN 08...	110	53	164	11	306	215	.7	1039	1.6	.22	--
JUL 12...	99	42	152	10	425	202	.6	963	1.0	.35	--
AUG 10...	106	41	155	7.7	240	221	.8	987	14	.22	4
SEP 08...	102	41	130	8.3	20	214	.7	980	.65	.16	--

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 Bureau. 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) above mean sea level (U.S. Weather Bureau bench mark). October 1902 to April 1908, nonrecording gage at site about 50 ft (15.2 m) downstream at different datum.

REMARKS.--Records good except January, August, and September which are poor. Some regulation by Fort Supply Lake (see station 07236500) for period May 1942 to April 1948 and by Canton Lake (see 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) 29 years (water years 1949-77), 199 ft³/s (5.636 m³/s), 144, 200 acre-ft/yr (178 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 Bureau.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,400 ft³/s (153 m³/s) May 21, gage height, 12.19 ft (3.716 m); minimum daily, 0.55 ft³/s (0.016 m³/s) Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	737	76	29	13	15	17	13	18	553	215	11	5.0
2	811	65	28	13	15	17	13	16	416	125	12	5.0
3	832	58	24	13	14	17	13	28	233	94	10	4.5
4	787	53	23	13	14	15	12	24	139	72	8.1	4.5
5	812	48	21	12	14	16	12	31	106	58	8.0	4.0
6	817	46	21	12	14	16	11	61	95	49	7.0	4.0
7	778	43	20	12	14	15	11	46	80	42	7.0	4.0
8	717	41	20	12	14	14	10	30	75	37	7.0	3.0
9	706	40	18	10	14	13	9.8	28	67	35	6.0	3.0
10	684	39	19	8.0	14	13	9.4	25	59	39	5.2	2.0
11	686	37	18	7.0	17	14	8.6	21	52	42	6.0	2.0
12	678	36	19	6.3	24	14	8.8	18	50	31	6.3	2.0
13	675	34	16	15	23	27	9.6	15	46	25	6.3	2.0
14	670	33	16	30	25	25	10	13	42	21	7.0	2.0
15	671	32	17	45	23	18	11	12	39	19	7.0	2.0
16	664	31	16	25	22	15	11	10	36	17	7.0	1.0
17	633	30	16	20	20	14	14	40	32	14	7.0	1.0
18	534	30	17	17	18	14	14	80	28	13	7.5	1.0
19	531	29	17	15	17	13	14	76	24	11	8.0	.60
20	348	19	16	13	15	13	19	136	22	10	8.5	.55
21	153	18	17	35	15	12	19	4490	19	9.1	8.5	.60
22	121	21	17	46	14	12	19	3750	17	8.4	8.0	.60
23	107	21	17	36	13	12	21	1840	21	7.5	8.0	.60
24	101	22	15	30	13	12	23	594	42	7.0	9.0	.60
25	89	22	14	25	13	12	21	352	53	6.3	8.0	.60
26	80	22	15	22	15	12	16	230	46	8.5	8.0	.60
27	78	20	15	18	15	15	16	540	56	12	8.0	.60
28	73	20	14	17	15	16	14	385	35	14	7.0	.60
29	79	25	14	16	---	15	12	225	97	14	7.0	.60
30	86	31	14	16	---	15	22	155	675	15	6.0	.60
31	86	---	13	15	---	14	---	388	---	12	6.0	---
TOTAL	14824	1042	558	587.3	459	467	419.2	13677	3255	1082.8	235.4	59.15
MEAN	478	34.7	18.0	18.9	16.4	15.1	14.0	441	109	34.9	7.59	1.97
MAX	832	76	29	46	25	27	23	4490	675	215	12	5.0
MIN	73	18	13	6.3	13	12	8.6	10	17	6.3	5.2	.55
AC-FT	29410	2070	1110	1160	910	926	831	27130	6460	2150	467	117
CAL YR 1976	TOTAL	44041.11	MEAN	120	MAX	1560	MIN	.00	AC-FT	87360		
WTR YR 1977	TOTAL	36670.85	MEAN	100	MAX	4490	MIN	.55	AC-FT	72740		

ARKANSAS RIVER BASIN

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07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)
OCT 06...	1028	9740	1800	1600	8.0	16.0	75	9.6	101	29	502
NOV 03...	1028	9740	1230	2000	8.2	13.5	2	8.4	82	15	494
DEC 08...	1028	9740	1520	1700	8.3	4.0	2	12.7	101	11	555
JAN 05...	1028	9740	1430	--	8.6	.5	1	14.2	100	15	610
FEB 02...	1028	9740	1115	1700	8.0	4.0	1	13.1	103	19	476
MAR 03...	1028	9740	1556	1650	8.4	13.0	2	12.2	122	20	589
APR 06...	1028	9740	1500	1900	8.3	23.0	2	11.2	133	26	574
MAY 04...	1028	9740	1300	1530	8.3	24.0	8	10.0	123	35	489
JUN 03...	1028	9740	1200	720	8.0	26.5	175	7.1	91	53	186
JUL 06...	1028	9740	1615	1100	8.4	33.0	22	8.3	118	20	370
AUG 03...	1028	9740	1430	1500	8.7	33.5	2	12.2	179	19	393
SEP 08...	1028	9740	1230	1720	8.8	29.0	4	13.0	173	28	226

DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG)	TOTAL SODIUM (NA) (MG/L)	TOTAL PU- RAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT 06...	113	58	180	11	--	237	.8	1219	1.6	.21	--
NOV 03...	100	51	174	7.3	--	228	.6	1215	1.0	.16	3
DEC 08...	106	54	194	6.6	--	341	.9	1235	.90	.14	--
JAN 05...	126	68	200	6.1	375	240	.6	1283	.90	.16	--
FEB 02...	115	56	170	6.3	319	191	.7	1050	1.5	.19	4
MAR 03...	126	61	206	6.3	451	394	.8	1106	1.7	.37	--
APR 06...	129	69	214	6.5	396	242	.7	1272	2.0	.32	--
MAY 04...	48	58	180	12	342	203	.7	1040	3.0	.35	10
JUN 03...	58	2.3	--	9.3	111	--	--	509	3.2	.65	--
JUL 06...	86	33	112	9.0	190	119	.5	700	1.1	.27	--
AUG 03...	71	45	160	8.9	294	193	.6	911	1.9	.14	7
SEP 08...	22	41	160	5.8	329	204	.6	990	<.65	.14	--

ARKANSAS RIVER BASIN

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHROM- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
UCT 06...	--	--	--	700	--	187	--	--	--	--	--
NOV 03...	3	20	6	100	22	11	<.5	10	3	3	8
DEC 08...	--	--	--	130	--	53	--	--	--	--	--
JAN 05...	--	--	--	120	--	112	--	--	--	--	--
FEB 02...	4	30	<1	100	25	80	<.5	12	<1	13	3
MAR 03...	--	--	--	180	--	80	--	--	--	--	--
APR 06...	--	--	--	200	--	80	--	--	--	--	--
MAY 04...	2	28	8	550	10	180	<.5	13	<1	7	7
JUN 03...	--	--	--	1920	--	630	--	--	--	--	--
JUL 06...	--	--	--	700	--	150	--	--	--	--	--
AUG 03...	<1	10	4	100	12	50	<.5	12	<1	2	10
SEP 08...	--	--	--	90	--	250	--	--	--	--	--

ARKANSAS RIVER BASIN

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07240000 LAKE HEFNER CANAL NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°33'11", long 98°57'11", in SW 1/4 SW 1/4 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) above mean sea level. 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 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.2	.50	.35	.40	.70	.00	.00	2.2	450	6.1	4.4
2	.00	2.1	.40	.46	.43	.70	.00	.00	1.6	223	5.8	4.3
3	.00	2.0	.30	.50	.38	1.0	.00	.00	1.0	11	5.5	4.2
4	.00	1.8	.20	.62	.35	.30	.00	.00	.78	11	5.5	4.1
5	.00	1.8	.10	.37	.41	.70	.00	.00	.38	11	5.3	4.5
6	683	2.9	.00	.47	.45	.70	.00	.00	.27	11	5.2	3.5
7	753	2.6	.00	.48	.26	.70	.00	.00	.34	9.8	4.8	3.7
8	672	2.7	.00	.37	.42	.30	.00	.00	.50	8.8	4.6	3.7
9	650	1.9	.00	.11	.36	.27	.00	.00	.50	8.6	4.5	3.0
10	639	1.1	.00	.05	.33	.52	.00	.00	.56	8.4	4.2	3.1
11	356	1.3	.00	.03	.70	.54	.00	.00	.11	8.2	4.9	3.0
12	5.2	1.0	.00	.70	2.1	.42	.00	.00	.00	7.8	4.3	2.9
13	2.4	1.4	.00	.66	1.0	.42	.00	.00	.00	7.6	3.6	4.0
14	356	2.4	.00	.61	.30	.37	.00	.00	.00	7.7	3.3	3.5
15	717	2.3	.10	.51	.30	.12	.00	.00	.00	7.6	3.1	3.7
16	628	2.0	.20	.27	.30	.04	.00	.00	.00	7.5	3.7	3.6
17	628	1.4	.31	.39	.70	.05	.00	.00	.00	7.2	3.1	3.4
18	498	.88	.34	.29	.70	.11	.00	.00	.00	6.3	2.6	3.1
19	462	.34	.30	.45	.30	.05	.00	1.7	.00	5.4	4.2	3.0
20	489	.19	.17	.52	.30	.01	.00	14	.00	5.9	3.3	3.1
21	394	.16	.43	.51	.30	.00	.00	1150	.00	6.0	3.3	2.8
22	127	.20	.50	.47	.70	.00	.00	1350	.00	5.8	3.3	2.6
23	4.1	.22	.46	.56	.14	.00	.00	1430	.00	6.2	3.1	2.6
24	3.4	.29	.54	.14	.00	.00	.00	1150	.00	6.0	3.4	2.4
25	3.1	.43	.38	.52	.70	.00	.00	792	.00	6.0	3.3	2.4
26	3.9	.58	.56	.53	.70	.00	.00	422	.00	6.4	3.0	2.2
27	3.0	.02	.59	.56	1.3	.00	.00	1020	.00	7.2	3.0	1.9
28	2.4	.04	.47	.41	.70	.00	.00	949	.00	6.7	3.4	1.9
29	5.6	.55	.57	.42	---	.00	.00	6.1	.00	6.9	4.4	1.9
30	3.0	.60	.38	.43	---	.00	.00	3.7	.00	6.7	5.0	2.0
31	2.7	---	.03	.44	---	.00	---	2.9	---	6.6	4.7	---
TOTAL	8086.80	37.18	7.90	15.58	15.17	8.02	.00	8291.40	8.24	894.3	127.5	94.5
MEAN	261	1.24	.25	.44	.54	.26	.00	267	.27	28.8	4.11	3.15
MAX	753	2.9	.54	.70	2.1	1.0	.00	1430	2.2	450	6.1	4.5
MIN	.00	.02	.00	.03	.14	.00	.00	.00	.00	5.4	2.6	1.9
AC-FT	16040	74	16	27	30	16	.00	16450	16	1770	253	187
CAL YR 1976	TOTAL	21404.07	MEAN	58.5	MAX	961	MIN	.00	AC-FT	42450		
WTR YR 1977	TOTAL	17564.59	MEAN	48.2	MAX	1430	MIN	.00	AC-FT	34880		

ARKANSAS RIVER BASIN

07240500 LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°29'11", long 97°39'58", on north line of SW 1/4 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 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.

GAGE.--Nonrecording gage. Datum of gage is at mean sea level (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. 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, 16,700 acre-ft (20.6 hm³) May 29, 30, elevation, 1,242.00 ft (378.562 m); minimum, 4,880 acre-ft (6.02 hm³) Oct. 1, elevation, 1,233.90 ft (376.093).

MONTHEND ELEVATION AND CONTENTS, AT 0800 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	1,233.90	4,880	--
Oct. 31.....	1,238.90	11,970	+7,090
Nov. 30.....	1,239.15	12,350	+380
Dec. 31.....	1,239.15	12,350	0
CAL YR 76.....	--	--	+4,440
Jan. 31.....	1,238.80	11,820	-530
Feb. 28.....	1,238.35	11,140	-680
Mar. 31.....	1,237.20	9,420	-1,720
Apr. 30.....	1,235.60	7,130	-2,290
May 31.....	1,241.85	16,470	+9,340
June 30.....	1,240.75	14,790	-1,680
July 31.....	1,240.15	13,870	-920
Aug. 31.....	1,239.10	12,270	-1,600
Sept. 30.....	1,237.95	10,530	-1,740
WTR YR 77.....	--	--	+5,650

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	307	4.8	3.0	1.6	2.4	1.3	2.2	1.2	400	42	2.3	2.0
2	3.6	4.1	3.0	1.6	2.5	1.1	2.2	1.1	547	7.9	2.3	1.8
3	3.0	4.0	3.0	1.6	2.5	1.2	2.2	1.2	468	4.6	2.1	1.8
4	3.0	3.6	3.4	1.5	2.5	1.2	82	1.9	359	4.0	2.1	1.7
5	2.8	3.4	3.2	1.6	2.5	1.2	16	1.4	56	3.6	1.9	1.7
6	2.7	3.4	4.1	1.5	2.6	1.2	2.0	1.4	142	3.6	1.8	1.7
7	2.3	3.4	3.4	1.5	2.1	1.1	1.8	1.3	136	3.7	1.7	1.7
8	2.4	2.9	3.0	1.4	2.0	1.1	1.7	1.2	133	3.5	1.7	64
9	2.6	2.8	3.0	1.4	2.0	1.1	1.7	1.2	119	3.4	1.7	2.9
10	2.3	3.3	3.4	1.5	1.9	1.1	1.4	1.2	86	3.5	2.2	2.5
11	2.3	5.8	3.2	1.6	2.4	1.1	1.2	1.3	87	3.2	2.1	2.4
12	2.3	6.7	3.0	2.2	2.4	1.6	1.1	1.3	86	3.2	1.7	2.3
13	2.4	6.2	2.9	2.3	1.9	1.3	1.1	2.3	122	3.0	1.7	3.3
14	2.5	5.0	2.8	2.3	1.7	1.1	1.1	1.6	4.1	2.8	1.6	2.1
15	2.5	28	2.8	2.7	1.4	1.1	1.1	1.6	3.9	2.8	1.7	2.1
16	2.5	58	2.8	2.6	1.3	1.2	1.1	1.4	3.6	2.8	1.6	2.2
17	2.5	42	2.9	2.5	1.3	81	1.2	6.5	3.7	2.8	1.6	2.1
18	2.5	33	2.9	2.5	1.2	80	1.0	27	3.1	2.8	1.6	2.2
19	2.6	26	3.1	2.5	1.2	16	1.0	62	3.2	2.8	2.1	2.2
20	2.6	3.4	4.7	2.5	1.3	23	1.9	31	8.4	3.0	1.7	2.2
21	2.8	3.0	3.1	2.5	1.0	20	2.3	53	23	2.8	1.7	2.0
22	2.6	2.8	3.0	2.5	1.1	16	1.4	4.2	18	2.8	1.9	1.9
23	2.6	2.8	3.0	2.5	1.1	9.5	1.7	2.7	18	2.8	1.7	1.9
24	2.6	3.0	3.0	2.5	1.1	2.2	1.4	2.5	17	2.7	1.8	1.9
25	2.6	2.8	3.1	2.3	1.0	5.2	1.3	2.1	17	2.5	1.6	1.8
26	2.6	3.8	3.0	2.3	1.6	2.4	1.3	3.5	16	2.5	1.6	1.8
27	2.6	5.2	2.8	2.3	1.3	2.2	1.3	266	40	4.9	1.6	1.8
28	2.6	3.4	3.2	2.4	1.2	2.4	1.2	1090	67	3.2	1.6	1.7
29	2.7	3.0	2.8	2.5	---	2.2	1.2	893	69	3.0	1.6	1.7
30	4.4	3.0	2.0	2.5	---	2.2	1.5	346	64	2.6	16	1.6
31	5.1	---	2.0	2.5	---	2.2	---	358	---	2.0	37	---
TOTAL	389.6	282.6	94.6	65.7	48.5	285.5	139.6	3170.1	3120.0	140.8	105.3	123.0
MEAN	12.6	9.42	3.05	2.12	1.73	9.21	4.65	102	104	4.54	3.40	4.10
MAX	307	58	4.7	2.7	2.6	81	82	1090	547	42	37	64
MIN	2.3	2.8	2.0	1.4	1.0	1.1	1.0	1.1	3.1	2.0	1.6	1.6
AC=FT	773	561	188	130	96	566	277	6290	6190	279	209	244
CAL YR 1976	TOTAL	5445.39	MEAN	14.9	MAX	333	MIN	.94	AC=FT	10800		
WTR YR 1977	TOTAL	7965.30	MEAN	21.8	MAX	1090	MIN	1.0	AC=FT	15800		

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK

LOCATION.--Lat 35°30'01", long 97°11'37", in SW 1/4 NW 1/4 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).

DRAINAGE AREA.--13,501 mi² (34,968 km²), of which 4,899 mi² (12,688 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,055.60 ft (321.774 m) above mean sea level.

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.

AVERAGE DISCHARGE.--9 years, 283 ft³/s (8.015 m³/s), 205,000 acre-ft/yr (253 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,920 ft³/s (196 m³/s) Nov. 5, 1974, gage height, 17.93 ft (5.465 m); minimum, 23 ft³/s (0.65 m³/s) Aug. 8, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,550 ft³/s (101 m³/s) May 21, gage height, 13.54 ft (4.127 m), no peaks above base of 4,000 ft³/s (113 m³/s); minimum daily, 47 ft³/s (1.33 m³/s) Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	97	69	63	69	88	75	77	495	266	118	85
2	130	81	66	63	73	81	76	77	481	1220	97	96
3	218	74	66	63	74	99	73	73	613	267	73	64
4	103	69	68	64	73	95	66	71	551	151	67	56
5	83	68	63	71	68	74	64	118	500	119	63	53
6	97	68	66	73	66	74	114	98	245	109	62	63
7	85	64	109	68	63	66	101	149	237	104	55	81
8	74	60	88	66	63	58	77	82	236	94	48	66
9	74	61	76	47	64	58	70	64	230	94	47	59
10	68	66	69	58	68	66	61	61	225	88	51	103
11	61	68	68	70	73	175	56	60	191	76	73	64
12	60	76	66	70	322	210	59	58	177	73	126	54
13	60	85	64	70	270	92	64	56	169	73	78	78
14	60	68	66	62	100	74	71	62	201	76	66	358
15	61	64	68	60	94	66	68	92	163	73	52	121
16	60	64	68	60	88	74	70	62	111	92	49	88
17	58	120	68	65	87	73	77	64	106	83	51	76
18	55	158	68	75	71	71	117	125	94	68	53	69
19	60	144	66	120	73	179	138	100	85	60	57	61
20	66	126	60	146	78	141	101	1320	85	63	214	58
21	64	103	63	142	75	102	340	2740	81	71	148	60
22	61	76	71	128	74	100	310	1570	76	71	87	57
23	63	71	71	90	77	102	172	388	98	68	76	58
24	60	71	69	80	76	100	132	259	102	71	73	60
25	58	69	66	80	76	89	94	199	102	68	67	57
26	58	68	60	80	76	80	87	167	236	56	65	54
27	63	58	55	76	97	96	83	839	159	60	60	56
28	64	58	60	73	97	242	76	1470	127	700	58	61
29	71	55	66	69	---	196	74	1080	272	193	65	62
30	296	66	66	69	---	104	75	1040	280	133	104	61
31	211	---	61	69	---	81	---	572	---	112	77	---
TOTAL	2668	2376	2110	2390	2585	3206	3041	13193	6728	4852	2380	2339
MEAN	86.1	79.2	68.1	77.1	92.3	103	101	426	224	157	76.8	78.0
MAX	296	158	109	146	322	242	340	2740	613	1220	214	358
MIN	55	55	55	47	63	58	56	56	76	56	47	53
AC-FT	5290	4710	4190	4740	5130	6360	6030	26170	13340	9620	4720	4640
CAL YR 1976	TOTAL	46022	MEAN	126	MAX	915	MIN	55	AC-FT	91280		
WTR YR 1977	TOTAL	47868	MEAN	131	MAX	2740	MIN	47	AC-FT	94950		

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, 3,400 micromhos Oct. 2, 1968, Oct. 31, 1969; 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, 3,240 micromhos July 17; minimum daily, 364 micromhos May 28.

WATER TEMPERATURE: Maximum daily, 31.0°C Aug. 10, 13; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LW LEVEL) (MG/L)	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)
OCT												
01...	--	--	0830	68	2060	8.0	--	--	--	--	--	--
05...	--	--	1153	76	2000	7.8	16.5	--	8.4	89	46	--
13...	--	--	1300	55	1900	--	19.5	--	8.1	89	--	7.8
19...	--	--	0900	61	1830	7.9	--	--	--	--	--	--
20...	1028	9740	1300	64	2300	8.1	11.0	6	12.7	115	--	--
22...	--	--	1145	60	1750	7.8	13.0	--	--	--	73	35
31...	--	--	0730	222	580	7.7	--	--	--	--	--	--
NOV												
01...	--	--	0900	97	792	8.2	--	--	--	--	--	--
04...	--	--	1440	61	1750	7.6	11.5	--	8.7	82	65	8.3
13...	--	--	0830	90	2000	7.8	--	--	--	--	--	--
16...	--	--	1100	64	1750	7.5	4.0	--	12.8	98	59	7.1
16...	1028	9740	1101	64	1750	7.5	4.0	5	12.8	98	--	--
24...	--	--	0900	73	1760	8.2	--	--	--	--	--	--
DEC												
07...	--	--	1030	116	2100	7.7	15.0	--	12.3	90	50	10
09...	--	--	0830	80	1520	8.0	--	--	--	--	--	--
18...	--	--	0800	69	1860	8.0	--	--	--	--	--	--
28...	1028	9740	1200	58	1700	8.0	4.5	4	15.6	125	--	--
28...	--	--	1430	56	1700	8.0	6.0	--	13.3	111	62	8.5
31...	--	--	1030	63	2200	8.0	--	--	--	--	--	--
JAN												
01...	--	--	0830	61	2170	8.3	--	--	--	--	--	--
14...	1028	9740	1520	156	1550	7.6	.5	0	11.4	83	--	--
17...	--	--	--	65	1440	7.9	--	--	--	--	--	--
21...	--	--	0945	140	1500	7.8	.5	--	14.8	106	66	13
26...	--	--	0930	76	1810	7.9	--	--	--	--	--	--
27...	--	--	1100	74	2250	7.5	4.5	--	11.0	88	64	--
27...	1028	9740	1101	74	2250	7.5	4.5	--	11.0	88	--	--
FEB												
06...	--	--	0900	68	1950	8.2	--	--	--	--	--	--
10...	--	--	1100	66	1750	8.0	11.0	--	12.5	113	34	16
10...	1028	9740	1101	66	1750	8.0	11.0	0	12.5	113	--	--
16...	--	--	0900	88	1480	8.0	--	--	--	--	--	--
24...	--	--	1130	76	1650	7.7	10.0	--	9.9	91	35	12
24...	1028	9740	1200	76	1650	7.7	10.0	3	9.9	91	--	--
26...	--	--	0830	73	1720	7.7	--	--	--	--	--	--
MAR												
09...	--	--	0900	68	1760	7.3	--	--	--	--	--	--
10...	--	--	1345	390	1750	8.1	15.0	--	10.9	114	70	--
10...	1028	9740	1346	390	1750	8.1	15.0	2	10.9	114	--	--
19...	--	--	0830	194	2080	6.9	--	--	--	--	--	--
22...	--	--	1010	94	1600	7.9	10.0	--	10.6	96	72	7.8
29...	--	--	0830	224	862	7.0	--	--	--	--	--	--
APR												
01...	--	--	0830	76	1730	6.9	--	--	--	--	--	--
06...	--	--	1000	130	2100	7.9	13.0	--	9.0	87	66	18
06...	1028	9740	1001	130	2100	7.9	13.0	16	9.0	87	--	--
22...	--	--	0900	317	582	7.2	--	--	--	--	--	--
22...	--	--	1017	291	560	7.7	16.0	--	3.3	34	100	20
29...	--	--	0800	68	2290	6.9	--	--	--	--	--	--

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)
MAY												
02...	--	--	0800	64	2450	6.9	--	--	--	--	--	--
10...			--	55	2250	7.9	25.5	--	10.2	129	49	14
10...	1028	9740	--	55	2250	7.9	25.5	16	10.2	129	--	--
20...	--	--	0900	1560	1520	7.2	--	--	--	--	--	--
26...	--	--	1100	162	1330	7.8	25.0	--	7.8	93	64	17
28...	--	--	0800	1940	364	7.3	--	--	--	--	--	--
JUN												
01...	--	--	1130	509	775	7.5	25.0	--	8.0	99	55	12
01...	1028	9740	1131	509	775	7.5	25.0	130	8.0	99	--	--
04...	--	--	0730	553	772	8.1	--	--	--	--	--	--
14...	--	--	1130	173	1550	8.3	29.0	--	9.0	118	60	14
14...	1028	9740	1131	173	1550	8.3	29.0	60	9.0	118	--	--
23...	--	--	0830	96	1940	7.8	--	--	--	--	--	--
29...	--	--	0730	132	1370	7.6	--	--	--	--	--	--
JUL												
02...	--	--	0700	1760	473	7.2	--	--	--	--	--	--
06...	--	--	0840	107	1200	8.2	26.5	--	9.0	114	74	16
06...	1028	9740	0841	107	1200	8.2	26.5	13	9.0	114	--	--
17...	--	--	1130	83	3240	7.1	--	--	--	--	--	--
27...	--	--	0730	60	1860	7.8	--	--	--	--	--	--
28...	--	--	1100	997	462	7.4	22.0	--	2.2	26	65	5.8
AUG												
04...	--	--	0830	67	2460	7.3	--	--	--	--	--	--
11...	--	--	1015	47	1950	7.8	24.5	--	9.4	115	55	15
11...	1028	9740	1016	47	1950	7.8	24.5	14	9.4	115	--	--
15...	--	--	0730	50	1600	7.1	--	--	--	--	--	--
19...	--	--	0950	48	2180	7.6	21.0	--	4.8	55	55	12
21...	--	--	0730	158	822	7.1	--	--	--	--	--	--
SEP												
07...	--	--	0800	87	1840	8.1	--	--	--	--	--	--
09...	1028	9740	1330	52	1540	8.1	29.0	10	11.2	149	--	--
09...	--	--	1345	52	1540	8.1	29.0	--	11.2	149	93	--
15...	--	--	0800	122	655	7.7	--	--	--	--	--	--
17...	--	--	0800	78	1500	7.9	--	--	--	--	--	--
27...	--	--	1230	52	1500	8.1	27.0	--	8.8	113	54	--

[illegible]

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	BICARBONATE (HCO ₃) (MG/L)	CARBONATE (CO ₃) (MG/L)	ALKALINITY AS CaCO ₃ (MG/L)	CARBON DIOXIDE (CO ₂) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	TOTAL FLUORIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)
OCT											
01...	226	0	185	3.6	210	390	--	1210	--	1.65	222
05...	--	--	--	--	--	--	--	1130	--	1.54	232
13...	--	--	--	--	--	--	--	--	--	--	--
19...	186	0	153	3.7	220	340	--	1090	--	1.48	180
20...	--	--	--	--	--	--	.8	--	--	--	--
22...	--	--	--	--	--	--	--	1060	--	1.44	172
31...	116	0	95	3.7	62	72	--	328	--	.45	197
NOV											
01...	122	0	100	1.2	85	120	--	448	--	.61	117
04...	--	--	--	--	--	--	--	1100	--	1.50	181
13...	235	0	193	6.0	180	370	--	1180	--	1.60	287
16...	--	--	--	--	--	--	--	1120	--	.15	194
16...	--	--	--	--	--	--	--	--	--	--	--
24...	215	0	176	2.2	170	310	--	1020	--	1.39	201
DEC											
07...	--	--	--	--	--	--	--	1130	--	1.54	354
09...	198	0	162	3.2	150	280	--	912	--	1.24	197
18...	<214	0	176	3.4	190	330	--	1110	--	1.51	207
28...	--	--	--	--	--	--	.8	--	--	--	--
28...	--	--	--	--	--	--	--	1090	--	1.48	165
31...	224	0	184	3.6	190	410	--	1260	--	1.71	214
JAN											
01...	226	0	185	1.8	190	420	--	1250	--	1.70	206
14...	--	--	--	--	--	--	.7	--	1080	--	--
17...	166	0	136	3.3	170	240	--	830	--	1.13	146
21...	--	--	--	--	--	--	--	880	--	1.20	333
26...	207	0	170	4.2	210	300	--	1050	--	1.43	215
27...	--	--	--	--	--	--	--	1120	--	1.52	224
27...	--	--	--	--	--	--	--	--	--	--	--
FEB											
06...	214	0	180	2.2	220	360	--	1180	--	1.60	217
10...	--	--	--	--	--	--	--	1140	--	1.55	203
10...	--	--	--	--	--	--	--	--	--	--	--
16...	185	0	150	3.0	170	250	--	884	--	1.20	210
24...	--	--	--	--	--	--	--	1100	--	1.50	226
24...	--	--	--	--	--	--	1.1	--	--	--	--
26...	210	0	170	6.7	180	290	--	1010	--	1.37	199
MAR											
09...	210	0	170	17	170	320	--	1050	--	1.43	193
10...	--	--	--	--	--	--	--	1140	--	1.55	1200
10...	--	--	--	--	--	--	--	--	--	--	--
19...	210	0	170	42	200	400	--	1220	--	1.66	639
22...	--	--	--	--	--	--	--	1100	--	1.50	279
29...	140	0	110	22	83	130	--	501	--	.68	303
APR											
01...	220	0	180	44	150	310	--	1020	--	1.39	209
06...	--	--	--	--	--	--	--	1180	--	1.60	414
06...	--	--	--	--	--	--	.6	--	--	--	--
22...	140	0	115	14	52	73	--	340	--	.46	291
22...	--	--	--	--	--	--	--	315	--	.43	247
29...	230	0	189	46	190	460	--	1330	--	1.81	244
MAY											
02...	200	0	160	40	190	620	--	1440	--	1.96	249
10...	--	--	--	--	--	--	--	1180	--	1.60	175
10...	--	--	--	--	--	--	.7	--	--	--	--
20...	180	0	150	18	170	280	--	896	--	1.22	3770
26...	--	--	--	--	--	--	--	813	--	1.11	356
28...	140	0	110	11	29	32	--	223	--	.30	1170
JUN											
01...	--	--	--	--	--	--	--	483	--	.66	664
01...	--	--	--	--	--	--	.5	--	--	--	--
04...	160	0	130	2.0	120	91	--	458	--	.62	684
14...	--	--	--	--	--	--	--	912	--	1.24	426
14...	--	--	--	--	--	--	.5	--	--	--	--
23...	260	0	210	6.6	150	390	--	1150	--	1.56	298
29...	200	0	160	8.0	140	240	--	812	--	1.10	289
JUL											
02...	140	0	110	14	33	61	--	276	--	.38	1310
06...	--	--	--	--	--	--	--	906	--	1.23	262
06...	--	--	--	--	--	--	.6	--	--	--	--
17...	220	0	180	28	180	850	--	1960	--	2.67	439
27...	200	0	160	5.1	140	380	--	1080	--	1.47	175
28...	--	--	--	--	--	--	--	260	--	.35	700
AUG											
04...	200	0	160	16	130	620	--	1400	--	1.90	253
11...	--	--	--	--	--	--	--	1120	--	1.52	142
11...	--	--	--	--	--	--	.8	--	--	--	--
15...	190	0	160	24	130	310	--	911	--	1.24	123
19...	--	--	--	--	--	--	--	1240	--	1.69	161
21...	110	0	90	14	45	160	--	453	--	.62	193

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SUS- PENDED SOLIDS (MG/L)	VOLA- TILE FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (NO2) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED AMMONIA ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL ORTHO PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
JUN											
01...	434	104	1.4	6.2	.19	.62	1.6	1.5	--	.78	--
01...	--	--	--	--	--	--	--	--	4.0	--	--
04...	--	--	--	--	--	--	--	--	--	--	--
14...	154	151	2.6	11	.74	2.4	3.3	1.0	--	2.3	--
14...	--	--	--	--	--	--	--	--	3.1	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
JUL											
02...	--	--	--	--	--	--	--	--	--	--	--
06...	99	144	9.6	43	.37	1.2	10	1.1	--	2.1	--
06...	--	--	--	--	--	--	--	--	2.0	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
28...	950	55	.69	3.1	.09	.30	.78	2.1	--	1.6	--
AUG											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	19	131	2.7	12	1.2	3.9	3.9	3.0	4.1	5.3	--
11...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
19...	27	137	2.3	10	1.1	3.6	3.4	9.7	--	7.2	--
21...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	2.4	--	--
09...	41	129	1.7	7.5	1.0	3.3	2.7	5.9	--	6.6	--
15...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
27...	14	963	1.3	5.8	1.1	3.6	2.4	4.1	--	7.0	6.6

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
OCT									
20...	1300	--	--	--	--	--	--	--	200
22...	1145	--	--	--	--	--	--	--	--
NOV									
16...	1100	--	--	2	--	0	--	8	--
16...	1101	<1	1	--	23	--	11	--	210
DEC									
28...	1200	--	--	--	--	--	--	--	230
28...	1430	--	--	--	--	--	--	--	--
JAN									
14...	1520	--	--	--	--	--	--	--	300
21...	0945	--	--	--	--	--	--	--	--
FEB									
10...	1100	--	--	1	--	0	--	3	--
10...	1101	3	6	--	59	--	22	--	530
24...	1130	--	--	1	--	0	--	3	--
24...	1200	5	3	--	52	--	7	--	220
MAR									
10...	1346	--	--	--	--	--	--	--	460
APR									
06...	1000	--	--	--	--	--	--	--	--
06...	1001	--	--	--	--	--	--	--	720
MAY									
10...	1155	--	--	1	--	0	--	3	--
10...	1156	<1	3	--	14	--	11	--	470
26...	1100	--	--	--	--	--	--	--	--
JUN									
01...	1130	--	--	--	--	--	--	--	--
01...	1131	--	--	--	--	--	--	--	3600
14...	1130	--	--	--	--	--	--	--	--
14...	1131	--	--	--	--	--	--	--	1040
JUL									
06...	0840	--	--	--	--	--	--	--	--
06...	0841	--	--	--	--	--	--	--	500
AUG									
11...	1015	--	--	1	--	0	--	1	--
11...	1016	5	<1	--	10	--	3	--	220
SEP									
09...	1330	--	--	--	--	--	--	--	700
09...	1345	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	PHENOLS (UG/L)	TOTAL PHYTO- PLANK- TON (CELLS PER ML)	CHLORO- PHYLL A (UG/L)	CHLORO- PHYLL B (UG/L)	BIOMASS CHLORO- PHYLL RATIO PLANK- TON (UNITS)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
OCT									
20...	--	--	--	--	--	--	--	--	--
22...	--	--	--	30000	5.97	.044	--	--	--
NOV									
16...	--	40	2	1800	.000	.000	--	--	--
16...	40	--	--	--	--	--	--	--	--
DEC									
28...	--	--	--	--	--	--	--	--	--
28...	--	--	--	11000	19.5	.000	--	--	--
JAN									
14...	--	--	--	--	--	--	--	--	--
21...	--	--	--	13000	--	--	--	--	--
FEB									
10...	--	20	3	4600	--	--	--	--	--
10...	29	--	--	--	--	--	--	--	--
24...	--	20	2	13000	13.2	4.58	--	--	--
24...	31	--	--	--	--	--	--	--	--
MAR									
10...	--	--	--	--	--	--	--	--	--
APR									
06...	--	--	--	32000	17.6	2.38	--	--	--
06...	--	--	--	--	--	--	--	--	--
MAY									
10...	--	--	2	42000	--	--	--	--	--
10...	29	--	--	--	--	--	--	--	--
26...	--	--	--	37000	--	--	146	130	50.6
JUN									
01...	--	--	--	4200	--	--	--	.000	.000
01...	--	--	--	--	--	--	--	--	--
14...	--	--	--	150000	--	--	4773	13.2	3.30
14...	--	--	--	--	--	--	--	--	--
JUL									
06...	--	--	--	200000	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--
AUG									
11...	--	20	6	140000	--	--	192	83.3	30.7
11...	48	--	--	--	--	--	--	--	--
SEP									
09...	--	--	--	--	--	--	--	--	--
09...	--	--	--	120000	--	--	151	39.7	.000

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

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										
...ACTIOESMIUM	--	-	--	-	--	-	--	-	--	-
...SCHROEDERIA	--	-	--	-	--	-	--	-	--	-
...COELASTRACEAE					*	0	--	-	--	-
...COELASTRUM	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE					--	-	--	-	--	-
...PEDIASTRUM	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE					--	-	--	-	--	-
...GOLENKINIA	--	-	--	-	--	-	--	-	--	-
...MICRACTINIUM	--	-	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
...ANKISTRUDESMS	550	2	--	-	--	-	290	2	320	7
...CHODATELLA	--	-	--	-	--	-	--	-	--	-
...CLOSTERIOPSIS			--	-	--	-	--	-	--	-
...DICTYOSPHAERIUM	2200	7	--	-	--	-	--	-	320	7
...FRANCEIA	--	-	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	440	1	--	-	630	6	--	-	200	4
...OOCYSTIS	440	1	39	2	--	-	--	-	29	1
...POLYDRIOPSIS	--	-	--	-	--	-	--	-	--	-
...QUADRIGULA	--	-	--	-	--	-	--	-	--	-
...SELENASTRUM	--	-	26	1	--	-	*	0	--	-
...TETRAEDRUM	--	-	--	-	--	-	--	-	--	-
...TREURARIA	--	-	--	-	--	-	--	-	--	-
...WESTELLA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
...ACTINASTRUM	--	-	--	-	--	-	--	-	--	-
...CRUCIGENIA	440	1	--	-	--	-	--	-	--	-
...SCENEDESMUS	980	3	--	-	--	-	120	1	200	4
...TETRASTRUM	870	3	--	-	--	-	120	1	--	-
..TETRASPORALES										
...PALMELLACEAE										
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
...CHLAMYDOMONAS	440	1	--	-	--	-	140	1	460	10
...VOLVOCAEAE										
...PANDORINA	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
...CISMARIUM	--	-	--	-	--	-	--	-	--	-
...SPINDYLUSIUM	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
..PENNALES										
...NAVICULACEAE										
...ENTOMONEIS	--	-	--	-	--	-	*	0	--	-
..CENTRALES										
...COSCINODISCEACEAE										
...CYCLOTELLA	650	2	26	1	4500#	42	890	7	1100#	25
...MELUSIRA	440	1	360#	20	--	-	--	-	--	-
...STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-
...RHIZOSOLENACEAE										
...RHIZOSOLENIA	--	-	39	2	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
...CUCONEIS	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE										
...EPITHEMIA	--	-	13	1	--	-	--	-	--	-
...FRAGILARIACEAE										
...SYNEDRA	--	-	--	-	--	-	*	0	--	-
...GOMPHONEMATACEAE										
...GOMPHONEMA	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
...NAVICULA	440	1	--	-	420	4	290	2	29	1
...NITZSCHACEAE										
...NITZSCHIA	3700	12	1100#	60	--	-	490	4	140	3
...SURIPELLACEAE										
...SURIPELLA	--	-	--	-	--	-	--	-	29	1

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	OCT 22,76 1145		NOV 16,76 1100		DEC 28,76 1430		JAN 21,77 0945		FEB 10,77 1100	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
..CHRYSTOPHYCEAE										
...CHRYSDOMONADALES										
...CHROMULINACEAE										
...CHRYSDOCOCCUS	--	-	--	-	--	-	--	-	--	-
...OCHROMONADACEAE										
...DINOBRYON	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCOCEAE										
...CHROCOCCACEAE										
...AGMENELLUM										
...ANACYSTIS	4600#	15	160	9	420	4	--	-	430	9
...COCCOCHLORIS	--	-	--	-	--	-	--	-	--	-
...MORPHONALES										
...NOSTOCACEAE										
...ANABAENA	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
...LYNGBYA	--	-	--	-	260	2	--	-	--	-
...OSCILLATORIA	14000#	45	--	-	3700#	35	10000#	81	290	6
...SPIRULINA	--	-	--	-	--	-	*	0	--	-
...RIVULARIACEAE										
...RAPHIIDIOPSIS	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
...CRYPTOCHRYSIDACEAE										
...CHROMONAS	--	-	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE										
...CRYPTOMONAS	*	0	--	-	--	-	--	-	--	-
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
...EUGLENA	220	1	--	-	680	6	*	0	980#	22
...PHACUS	--	-	--	-	--	-	*	0	--	-
...TRACHELUMONAS	--	-	53	3	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...PERIDINIALES										
...PERIDINIAEAE										
....PERIDINIUM	--	-	13	1	--	-	--	-	--	-

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	FEB 24,77 1130	MAR 10,77 1345	APR 6,77 1000	MAY 10,77 1155	MAY 26,77 1100					
TOTAL CELLS/ML	13000	10000	32000	42000	37000					
DIVERSITY: DIVISION	1.8	1.2	1.7	1.0	1.3					
..CLASS	1.9	1.2	1.7	1.0	1.3					
...ORDER	2.2	1.3	2.1	1.0	1.7					
...FAMILY	2.6	1.6	2.3	2.7	3.0					
....GENUS	2.7	1.7	2.5	3.4	3.6					
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										
...CHLOROCOCCEAE										
....CHARACIACEAE										
....ACTIDESMIUM	--	-	--	-	--	-	--	-	--	-
....SCHWUEDERIA	--	-	--	-	--	-	1600	4	--	-
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	--	-	1400	4
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	4500	11	720	2
...MICRACINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	270	1	360	1
....MICRACTINIUM	2600#	19	310	3	--	-	8500#	20	5900#	16
...OOCYSTACEAE										
....ANKISTRUDESUS	260	2	120	1	1300	4	2900	7	*	0
....CHODATELLA	--	-	--	-	160	1	2500	6	540	1
....CLOSTERIDIOPSIS	--	-	--	-	--	-	--	-	2600	7
....DICTYOSPHAERIUM	--	-	77	1	--	-	--	-	1800	5
....FRANCEIA	--	-	--	-	--	-	--	-	--	-
....KIPCHNERIELLA	--	-	*	0	--	-	2900	7	980	3
...OOCYSTIS	--	-	--	-	--	-	--	-	--	-
....POLYDRIPSIS	--	-	--	-	--	-	--	-	--	-
....QUADRIGULA	--	-	--	-	--	-	--	-	--	-
....SELENASTRUM	340	3	130	1	--	-	--	-	--	-
....TETRAEDRUM	--	-	--	-	--	-	480	1	--	-
....TREUBARIA	--	-	--	-	--	-	410	1	--	-
....WESTELLA	--	-	--	-	1500	5	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	2000	6	1100	3	3200	9
....CRUCIGENIA	--	-	--	-	--	-	550	1	360	1
...SCENEDESMUS	950	7	960	10	1600	5	7200#	17	2300	6
....TETRASTRUM	--	-	--	-	--	-	--	-	360	1
...TETRASPORALES										
....PALMELLACEAE										
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	--	-
...VULVICALES										
....CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	690	5	--	-	2300	7	--	-	270	1
...VULVICACEAE										
....PANDORINA	--	-	--	-	--	-	--	-	--	-
...ZYGNEMATALES										
....DESMIDIACEAE										
....COSMARUM	--	-	--	-	--	-	--	-	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...PENNALES										
....NAVICULACEAE										
....ENTOMONEIS	--	-	--	-	--	-	--	-	--	-
...CENTRALES										
....COSCINODISCACEAE										
....CYCLOTELLA	4700#	35	130	1	11000#	35	1200	3	1300	3
....MELUSIRA	--	-	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-	--	-	--	-
...RHIZOSULENIACEAE										
....RHIZOSOLENIA	--	-	--	-	--	-	--	-	--	-
...PENNALES										
....ACHNANTHACEAE										
....COCconeis	--	-	--	-	--	-	--	-	--	-
....CYMBELLACEAE										
....EPITHEMIA	--	-	--	-	--	-	--	-	--	-
....FRAGILARIACEAE										
....SYNEDRA	--	-	--	-	--	-	--	-	--	-
...GOMPHONEMATAACEAE										
....GOMPHONEMA	--	-	58	1	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	86	1	170	2	--	-	--	-	--	-
...NITZSCHIAEAE										
....NITZSCHIA	86	1	330	3	650	2	410	1	--	-

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

DATE TIME	FEB 24,77 1130		MAR 10,77 1345		APR 6,77 1000		MAY 10,77 1155		MAY 26,77 1100	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
...SURIRELLACEAE										
....SURIRELLA	--	-	* 0		--	-	* 0		--	-
..CHRYSOPHYCEAE										
...CHRYSONOMADALES										
...CHROMULINACEAE										
....CHRYSOCOCCUS	86	1	--	-	--	-	--	-	--	-
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	--	-	--	-	* 0	
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCOCEAE										
....CHROCOCCOCEAE										
....AGMENELLUM	--	-	--	-	10000# 32		--	-	--	-
....ANACYSTIS	--	-	--	-	--	-	5500 13		5000 14	
....CUCCOCHLORIS	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	7900# 21	
....OSCILLATORIA	1800 14		7200# 72		--	-	--	-	* 0	
....SPIRULINA	--	-	--	-	--	-	--	-	--	-
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	540 1	
EUGLENOPHYTA (EUGLENOIDS)										
....SPONCYLIUM	--	-	--	-	--	-	--	-	* 0	
..CRYPTOPHYCEAE										
...CRYPTOMONIDALES										
....CRYPTOCHRYSIDACEAE										
....CHROMONAS	--	-	--	-	--	-	--	-	360 1	
...CRYPTOMONODACEAE										
....CRYPTOMONAS	--	-	* 0		--	-	--	-	--	-
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENACEAE										
....EUGLENA	1600 12		390 4		1100 4		1100 3		--	-
....PHACUS	86 1		--	-	--	-	--	-	--	-
...TRACHELUMONAS	--	-	--	-	--	-	270 1		450 1	
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...PERIDINIALES										
....PERIDINIACEAE										
....PERIDINIUM	--	-	--	-	--	-	--	-	--	-

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

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

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUN 1,77 1130	JUN 14,77 1130	JUL 6,77 0840	AUG 11,77 1015	SEP 9,77 1345
TOTAL CELLS/ML	4200	150000	200000	140000	120000
DIVERSITY: DIVISION	1.4	1.2	1.2	0.6	1.2
..CLASS	1.4	1.2	1.2	0.6	1.2
...ORDER	1.9	1.6	1.4	0.7	1.3
...FAMILY	3.0	1.8	2.6	2.1	2.3
....GENUS	3.2	2.5	3.2	3.1	3.1

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										
....ACTIDESMIUM	--	-	1000	1	--	-	--	-	--	-
....SCHROEDERIA	--	-	1000	1	* 0		--	-	--	-
...COELASTRACEAE										
....COELASTRUM	860#	20	--	-	29000	15	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	410	10	--	-	4900	3	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	* 0		--	-	--	-
....MICRACTINIUM	--	-	--	-	23000	12	49000#	35	17000	14
...DUCYSTACEAE										
....ANKISTRUDESMUS	--	-	--	-	1200	1	5000	4	7000	6
...CHODATELLA	--	-	--	-	--	-	--	-	17000	14
...CLOSTERIOPSIS	--	-	--	-	--	-	--	-	--	-
...DICTYOSPHAERIUM	--	-	--	-	--	-	11000	8	--	-
...FRANCEIA	--	-	--	-	--	-	--	-	* 0	
...KIRCHNERIELLA	150	4	--	-	* 0		1400	1	5400	4
...DUCYSTIS	--	-	4200	3	--	-	8600	6	--	-
...POLYDRIOPSIS	--	-	--	-	--	-	710	1	--	-
...QUADRIGULA	--	-	--	-	1200	1	7100	5	--	-
...SELENASTRUM	--	-	--	-	--	-	10000	7	--	-
...TETRAEDRON	--	-	--	-	--	-	1400	1	--	-
...TREUBARIA	77	2	--	-	2800	1	--	-	--	-
...WESTELLA	--	-	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	100	2	--	-	14000	7	21000#	15	4300	4
...CRUCIGENIA	51	1	--	-	--	-	--	-	2100	2
...SCENEDESMUS	720#	17	10000	7	40000#	20	10000	7	33000#	27
...TETRASTRUM	--	-	--	-	--	-	--	-	--	-
...TETRASPORALES										
...PALMELLACEAE										
...SPHAEROCYSTIS	--	-	--	-	4900	3	--	-	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	4200	3	--	-	--	-	* 0	
...VOLVOCAEAE										
...PANDURINA	180	4	--	-	--	-	--	-	--	-
...ZYGNEMATALES										
...DESMIDIACEAE										
...COSMARIMUM	--	-	--	-	2200	1	710	1	--	-
...SPONDYLUSIUM	--	-	--	-	--	-	--	-	--	-
CHRYSIOPHYTA										
..BACILLARIOPHYCEAE										
...PENNALES										
...NAVICULACEAE										
...ENTOMONEIS	--	-	--	-	--	-	--	-	--	-
...CENTRALES										
...COSCINOIDISCEAE										
....CYCLOTELLA	--	-	69000#	45	4000	2	--	-	11000	9
....MELUSIRA	150	4	39000#	25	2500	1	--	-	--	-
....STEPHANODISCUS	--	-	--	-	--	-	1400	1	--	-
...RHIZOSOLENACEAE										
....RHIZOSOLENIA	--	-	--	-	--	-	--	-	--	-
...PENNALES										
...ACHNANTHACEAE										
....COCONEIS	--	-	--	-	--	-	710	1	--	-
...CYMBELLACEAE										
....EPITHEMIA	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE										
....SYNEORA	90	2	1000	1	1200	1	--	-	--	-
...GOMPHONEMACEAE										
....GOMPHONEMA	--	-	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	140	3	1000	1	--	-	710	1	2100	2
...NITZSCHACEAE										
....NITZSCHIA	--	-	3100	2	* 0		--	-	--	-
...SURIARELLACEAE										
....SURIARELLA	--	-	--	-	--	-	--	-	--	-

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUN 1,77 1130		JUN 14,77 1130		JUL 6,77 0840		AUG 11,77 1015		SEP 9,77 1345	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
..CHRYSTOPHYCEAE										
..CHRYSSOMONADALES										
..CHROMULINACEAE										
..CHRYSOCCUS	--	-	--	-	--	-	--	-	--	-
..OCHROMONADACEAE										
..DINOBRYON	--	-	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
..CHROCCOCCALES										
..CHROCCOCCAEAE										
..AGMENELLUM					31000#	16				
..ANACYSTIS	190	5	6300	4	32000#	16	8600	6	5400	4
..COCCOCHLORIS	--	-	--	-	--	-	--	-	18000	15
..MORMOGONALES										
..NOSTOCACEAE										
..ANABAENA	--	-	--	-	*	0	--	-	--	-
..OSCILLATORIACEAE										
..LYNGBYA	--	-	5200	3	--	-	--	-	--	-
..OSCILLATORIA	1000#	24	6300	4	--	-	--	-	--	-
..SPIRULINA	--	-	--	-	--	-	--	-	--	-
..RIVULARIACEAE										
..RAPHIIDIOPSIS	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)										
..CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
..CRYPTOCHRYSIDACEAE										
..CHROOMONAS	--	-	--	-	--	-	--	-	--	-
..CRYPTOMONODACEAE										
..CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYCEAE										
..EUGLENALES										
..EUGLENACEAE										
..EUGLENA	--	-	3100	2	--	-	1400	1	--	-
..PHACUS	--	-	--	-	--	-	--	-	--	-
..TRACHELUMONAS	100	2	--	-	1200	1	710	1	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
..PERIDINIALES										
..PERIDINIACEAE										
..PERIDINIUM	--	-	--	-	--	-	--	-	--	-

BENTHIC INVERTEBRATE ANALYSES, OCTOBER 1976 TO AUGUST 1977

DATE TIME	APR 29,77 1035	APR 29,77 1040	AUG 26,77 0000
TOTAL COUNT	51	4	672
DIVERSITY: PHYLUM	0.5	0.0	0.1
..CLASS	0.5	0.0	0.1
..ORDER	0.5	0.0	0.0
..FAMILY	0.5	0.0	0.0
..GENUS	0.0	0.0	0.0
..GENUS-INSECTA	0.0	0.0	0.0
ORGANISM	COUNT	COUNT	COUNT
ANNELIDA			
..OLIGUCHAETA	--	--	5
ARTHROPODA (ARTHROPODS)			
..INSECTA			
..DIPTERA			
..CERATOPOGONIDAE	--	--	1
..CHIRONOMIDAE	5	4	658
..ODONATA			
..LIBELLULIDAE	--	--	4
..COENAGRIONIDAE	--	--	3
MOLLUSCA (MOLLUSCS)			
..GASTROPODA			
..BASOMMATOPHORA			
..PHYSIDAE	46	--	1

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	9.5	9.0	1.0	2.5	7.5	14.0	21.0	23.0	25.5	27.0	26.0
2	18.0	10.0	2.0	1.5	5.5	10.0	14.0	20.0	25.0	23.0	26.0	26.0
3	24.5	12.0	4.0	1.5	6.0	9.0	14.0	20.5	25.5	25.5	26.0	26.0
4	21.0	10.0	5.0	3.0	6.5	7.5	11.5	23.0	25.0	25.5	25.5	26.0
5	17.5	7.0	4.0	1.5	4.0	7.5	9.5	22.0	26.0	26.0	25.0	24.0
6	14.0	9.0	7.0	2.0	4.5	12.5	12.0	20.5	25.0	28.5	26.0	24.0
7	13.0	10.0	1.5	1.0	4.0	9.0	15.0	23.5	24.5	27.5	26.0	24.0
8	10.5	7.5	2.0	2.0	5.0	10.5	15.5	24.5	25.5	27.0	26.0	24.0
9	11.5	9.0	4.0	---	7.5	11.0	17.0	23.5	24.0	27.0	30.0	24.0
10	12.0	10.5	10.0	---	8.0	12.5	17.0	22.0	26.5	27.0	31.0	24.0
11	16.0	10.0	5.0	---	10.0	13.5	18.0	19.0	26.5	26.5	27.0	24.5
12	17.0	4.5	4.0	---	9.0	11.0	17.0	18.5	26.5	26.0	25.0	24.0
13	15.5	5.0	4.0	---	9.5	9.5	19.0	19.5	25.5	25.5	31.0	23.5
14	15.0	8.0	3.5	---	9.5	---	19.0	20.0	27.0	26.0	30.0	21.0
15	17.0	4.0	4.5	---	6.0	15.0	19.0	21.5	26.5	27.5	26.0	19.0
16	12.0	4.5	4.5	4.0	5.5	12.5	19.5	22.5	26.0	27.5	28.0	21.0
17	10.0	4.5	6.0	4.0	7.0	14.0	19.0	23.0	25.5	29.0	27.0	23.5
18	10.0	7.0	5.5	---	8.0	12.0	19.0	23.0	26.0	26.0	25.0	23.0
19	10.0	9.5	6.0	2.5	9.0	14.0	19.0	22.5	26.0	26.5	24.5	22.5
20	7.0	10.0	4.0	2.0	7.0	10.5	20.5	20.5	25.5	26.0	28.0	20.0
21	9.0	10.0	1.5	1.5	9.0	12.0	19.0	20.0	30.0	27.0	25.0	28.0
22	10.0	5.0	2.0	1.5	12.5	8.0	19.0	19.5	27.0	27.5	26.0	24.0
23	15.0	8.0	1.5	4.0	11.5	12.0	15.0	22.0	25.0	27.0	26.5	23.0
24	16.0	7.5	3.0	3.5	10.0	13.0	22.5	23.0	25.0	27.5	28.0	23.0
25	10.5	11.0	5.0	3.0	11.0	15.0	15.5	24.0	26.0	26.5	28.0	26.0
26	13.0	13.0	3.0	4.0	8.0	18.0	15.0	24.0	26.0	28.0	26.0	23.0
27	11.0	5.0	5.0	5.5	9.5	18.0	17.0	23.5	26.5	27.0	25.0	25.0
28	9.0	2.0	5.5	4.0	7.0	15.0	19.0	22.0	26.5	24.0	25.5	25.0
29	10.5	1.5	5.5	2.5	---	14.5	20.0	24.0	26.5	26.5	24.0	24.0
30	9.0	1.5	3.5	6.0	---	13.5	21.5	27.0	27.0	27.5	26.0	24.0
31	8.5	---	1.0	1.0	---	12.0	---	24.0	---	27.0	26.0	---
MEAN	13.0	7.5	4.5	2.5	7.5	12.0	17.0	22.0	26.0	26.5	26.5	24.0
WTR YR 1977	MEAN	16.0		MAX	31.0		MIN	1.0				

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2060	792	1790	2170	1920	1410	1730	2350	834	1130	1620	1400
2	1840	1160	1800	2110	1800	1560	1860	2450	986	473	2260	1440
3	1860	1520	1880	1930	1860	1680	1850	2330	1100	527	2150	1120
4	1710	1680	1920	1780	1920	2030	2040	1900	772	789	2460	1540
5	1830	1850	1810	1790	1910	1380	1900	2120	1030	1200	2080	1680
6	1930	1790	1780	1820	1950	1800	1900	1270	919	1600	1950	1710
7	1630	1790	1860	1720	1860	1760	1870	1960	1160	1920	1930	1840
8	1670	1830	1900	1720	1830	1780	2010	1200	1100	2050	1850	1140
9	1780	---	1520	---	1780	1760	2100	1730	1160	1840	1980	1440
10	1880	1800	1660	---	1830	1890	2040	2100	1310	2140	1970	1810
11	1890	1800	1760	---	1930	1410	2090	2160	1490	2320	1940	1080
12	1890	1850	1800	---	1550	1260	2040	2280	1490	2050	1780	1380
13	1840	2000	1840	---	647	1030	2030	2210	1480	1910	1390	1560
14	1960	1610	1830	---	853	1450	2200	2100	1540	1860	1340	687
15	1960	1770	1800	---	1110	1680	2030	2170	1550	1810	1600	655
16	1940	1880	1820	1530	1480	1860	2040	1800	1570	1920	1920	1070
17	1880	1830	1880	1440	1680	2020	2240	1810	1690	3240	1920	1500
18	1880	1750	1860	---	1750	1910	1950	1840	1660	1430	1990	1630
19	1830	1890	1870	1620	1850	2080	1260	1220	1680	2120	2210	1660
20	1830	1760	1860	1650	1750	1750	1290	1520	1730	1930	1650	1780
21	1920	1790	1870	1570	1820	1710	1590	731	1820	2050	822	1780
22	1740	1820	1860	1750	1870	1800	582	368	1840	1830	1020	1650
23	1780	1850	1800	1840	1840	1820	834	573	1940	1850	1420	1750
24	1880	1760	1820	1850	1800	1940	1030	861	1730	1840	1690	1730
25	1890	1810	1860	1870	1960	1900	1320	1120	1720	1830	1740	1750
26	1880	1880	1900	1810	1720	1840	1170	1340	1730	1800	1820	1730
27	1900	1900	1840	1960	1750	1800	2030	1450	1090	1860	1840	1700
28	1780	2000	1850	1930	1500	1470	2170	364	1430	707	1820	1620
29	1790	1980	2030	2010	---	862	2290	553	1370	578	1790	1690
30	1920	1970	2020	2000	---	924	2420	642	914	893	1870	1690
31	580	---	2200	1960	---	1530	---	738	---	1440	1220	---
MONTH	1810	1760	1850	---	1700	1650	1800	1520	1390	1640	1780	1510
YEAR	MAX	3240	MIN	364	MEAN	1680						

ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK

LOCATION.--Lat 35°15'53", long 96°12'25", in center of SW 1/4 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) above mean sea level. 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 30 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--40 years, 672 ft³/s (19.03 m³/s), 486,900 acre-ft/yr (600 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.--Maximum discharge, 5,760 ft³/s (163 m³/s) at 1800 May 21, gage height, 8.66 ft (2.640 m), no other peak above base of 5,000 ft³/s (142 m³/s); minimum, 52 ft³/s (1.47 m³/s) Sept. 27-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	117	92	78	143	100	226	315	866	186	254	91
2	57	121	92	76	125	102	219	187	866	184	194	78
3	57	153	87	74	121	112	186	160	678	236	162	70
4	58	203	86	78	113	135	158	153	565	298	146	69
5	60	169	84	77	108	137	143	144	530	437	115	298
6	60	139	122	74	106	128	127	139	529	436	98	243
7	103	125	120	77	102	122	114	135	557	279	87	103
8	135	113	118	87	100	122	108	128	529	216	80	97
9	117	107	115	85	100	131	102	125	474	183	69	94
10	105	102	114	83	100	126	98	127	357	165	61	74
11	100	100	102	81	100	199	116	128	335	153	230	59
12	100	97	105	80	114	148	116	129	319	137	168	55
13	95	97	105	80	117	127	105	118	299	126	93	115
14	87	94	105	80	124	128	96	108	291	114	229	91
15	87	94	100	78	132	171	92	104	269	106	97	104
16	84	92	95	78	200	219	107	108	251	93	68	108
17	79	92	95	77	234	175	143	127	236	85	74	84
18	77	93	95	75	182	154	136	112	229	81	69	109
19	74	92	95	75	157	136	144	108	226	78	61	132
20	74	92	95	78	138	122	204	563	192	76	60	102
21	74	87	95	85	130	112	1440	3010	171	73	57	87
22	74	98	95	100	120	110	791	5030	158	73	56	75
23	92	119	95	120	119	116	653	2990	143	68	57	69
24	97	120	95	160	111	158	431	2150	182	63	62	64
25	97	120	95	180	110	151	327	1310	182	59	121	59
26	97	116	95	205	107	148	286	780	161	55	113	55
27	97	111	95	247	103	675	214	561	140	68	90	53
28	95	101	95	200	99	724	186	439	138	72	82	52
29	100	87	94	134	---	528	155	359	141	68	106	53
30	117	97	93	130	---	361	375	508	159	113	145	53
31	117	---	82	107	---	235	---	998	---	145	101	---
TOTAL	2726	3348	3051	3239	3515	6112	7598	21353	10173	4526	3405	2796
MEAN	87.9	112	98.4	104	126	197	253	689	339	146	110	93.2
MAX	135	203	122	247	234	724	1440	5030	866	437	254	298
MIN	57	87	82	74	99	100	92	104	138	55	56	52
AC-FT	5410	6640	6050	6420	6970	12120	15070	42350	20180	8960	6750	5550
CAL YR 1976 TOTAL	104981		MEAN 287	MAX 5900	MIN 48	AC-FT 208200						
WTR YR 1977 TOTAL	71842		MEAN 197	MAX 5030	MIN 52	AC-FT 142500						

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 April 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, 2,030 micromhos Feb. 16; minimum daily, 98 micromhos Apr. 30.

WATER TEMPERATURE: Maximum daily, 29.0°C July 8; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
UCT											
04...	--	--	0730	57	1630	7.2	--	--	--	--	--
14...	1028	9740	1615	87	1900	10.1	23.5	50	17.0	202	169
15...	--	--	0730	87	1690	7.5	--	--	--	--	--
29...	--	--	0730	92	1700	7.9	--	--	--	--	--
NOV											
07...	--	--	0730	129	957	8.3	--	--	--	--	--
10...	1028	9740	1700	102	1200	8.5	14.5	5	14.2	141	38
16...	--	--	0730	92	1620	8.3	--	--	--	--	--
25...	--	--	0730	120	1680	8.4	--	--	--	--	--
DEC											
03...	--	--	0730	89	1720	8.3	--	--	--	--	--
15...	--	--	0730	102	1560	8.4	--	--	--	--	--
15...	1028	9740	1545	97	1540	8.1	9.0	6	13.4	117	30
25...	--	--	0730	95	1650	8.2	--	--	--	--	--
JAN											
05...	--	--	0730	92	1670	8.1	--	--	--	--	--
18...	--	--	1730	186	1660	7.5	--	--	--	--	--
25...	--	--	0730	186	1400	7.9	--	--	--	--	--
27...	1028	9740	1637	242	1020	8.8	5.0	7	17.0	137	60
FEB											
05...	--	--	0730	108	1530	7.2	--	--	--	--	--
09...	1028	9740	1450	100	1700	9.5	13.5	11	>20.0	>192	102
15...	--	--	0730	145	1620	7.4	--	--	--	--	--
25...	--	--	0730	111	1650	7.3	--	--	--	--	--
MAR											
05...	--	--	0730	138	1760	7.8	--	--	--	--	--
09...	1028	9740	1530	129	1500	8.8	16.0	6	16.2	167	54
15...	--	--	0730	155	1630	8.0	--	--	--	--	--
27...	--	--	0730	624	272	7.4	--	--	--	--	--
APR											
04...	--	--	0730	162	1190	7.0	--	--	--	--	--
13...	1028	9740	1400	100	1550	9.0	25.0	30	14.2	171	111
15...	--	--	0730	93	1600	7.2	--	--	--	--	--
23...	--	--	0730	682	803	7.2	--	--	--	--	--
MAY											
05...	--	--	0730	148	1610	7.1	--	--	--	--	--
15...	--	--	0730	104	1490	7.4	--	--	--	--	--
25...	--	--	0730	1430	389	7.4	--	--	--	--	--
JUN											
05...	--	--	0730	538	864	7.9	--	--	--	--	--
08...	1028	9740	1330	529	890	8.2	25.5	155	9.3	116	52
15...	--	--	0730	272	1020	7.4	--	--	--	--	--
25...	--	--	0730	182	1140	7.5	--	--	--	--	--
JUL											
04...	--	--	0730	309	1120	7.7	--	--	--	--	--
13...	1028	9740	1200	125	1200	8.7	29.0	35	8.3	109	48
14...	--	--	0730	116	1370	7.6	--	--	--	--	--
24...	--	--	0730	64	1510	7.7	--	--	--	--	--
AUG											
05...	--	--	0730	120	872	7.4	--	--	--	--	--
10...	1028	9740	1700	57	1600	9.1	34.0	23	10.3	147	65
13...	--	--	0730	102	1060	7.2	--	--	--	--	--
25...	--	--	0730	128	1590	7.3	--	--	--	--	--
SEP											
04...	--	--	0730	68	1610	7.6	--	--	--	--	--
14...	1028	9740	1345	95	1250	8.7	19.0	48	10.0	110	46
15...	--	--	0730	102	1310	7.4	--	--	--	--	--
25...	--	--	0730	60	1340	7.8	--	--	--	--	--

ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	HARD- NESS (CA, MG) (MG/L)	NUN- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NESIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PU- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)
OCT											
04...	270	120	55	31	220	63	5.9	13	178	0	146
14...	--	--	--	--	--	--	--	--	--	--	--
15...	300	160	61	37	220	60	5.5	13	180	0	148
29...	380	150	93	36	200	52	4.5	12	285	0	234
NOV											
07...	230	76	62	19	100	47	2.9	8.5	192	0	157
10...	--	--	--	--	--	--	--	--	--	--	--
16...	370	130	96	32	200	53	4.5	11	294	0	241
25...	440	230	110	41	220	51	4.5	13	238	13	217
DEC											
03...	410	160	100	39	190	49	4.1	11	302	0	248
15...	360	120	94	30	180	51	4.1	11	273	11	242
15...	--	--	--	--	--	--	--	--	--	--	--
25...	390	150	100	35	190	50	4.2	11	292	0	240
JAN											
05...	390	150	100	34	190	50	4.2	13	288	0	236
18...	380	160	96	34	190	51	4.2	11	268	0	220
25...	270	120	71	23	170	57	4.5	9.4	189	0	155
27...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	320	130	75	31	180	54	4.4	10	225	0	185
09...	--	--	--	--	--	--	--	--	--	--	--
15...	420	170	110	35	210	51	4.5	13	306	0	251
25...	380	140	100	31	190	51	4.3	11	287	0	235
MAR											
05...	390	150	100	33	210	53	4.7	12	290	0	240
09...	--	--	--	--	--	--	--	--	--	--	--
15...	380	130	100	31	190	51	4.3	11	300	0	246
27...	82	24	25	4.7	24	38	1.2	3.7	70	0	57
APR											
04...	260	100	66	23	130	51	3.5	8.4	190	0	156
13...	--	--	--	--	--	--	--	--	--	--	--
15...	320	130	72	34	200	57	4.9	9.8	230	0	189
23...	190	72	50	15	87	49	2.8	5.8	140	0	115
MAY											
05...	250	91	46	32	210	64	5.8	11	190	0	160
15...	270	120	62	29	190	59	5.0	10	190	0	160
25...	150	33	46	7.9	25	26	.9	4.7	140	0	110
JUN											
05...	230	87	66	17	86	43	2.4	8.3	180	0	150
08...	--	--	--	--	--	--	--	--	--	--	--
15...	240	80	63	21	110	48	3.1	8.6	200	0	164
25...	260	63	66	23	130	51	3.5	7.8	240	0	197
JUL											
04...	260	93	65	23	130	51	3.5	8.8	200	0	160
13...	--	--	--	--	--	--	--	--	--	--	--
14...	310	100	84	24	160	52	4.0	11	250	0	210
24...	340	91	87	29	180	53	4.3	11	300	0	246
AUG											
05...	200	74	51	17	100	51	3.1	8.8	150	0	120
10...	--	--	--	--	--	--	--	--	--	--	--
13...	180	94	49	15	140	61	4.5	7.7	110	0	90
25...	280	120	66	26	230	63	6.0	13	190	0	160
SEP											
04...	300	120	75	27	220	60	5.5	12	220	0	180
14...	--	--	--	--	--	--	--	--	--	--	--
15...	250	97	60	25	180	60	4.9	10	190	0	156
25...	260	100	65	23	180	59	4.9	12	190	0	160

ARKANSAS RIVER BASIN

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07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	TOTAL FLUORIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TJNS PER AC-FT)	DIS- SOLVED SOLIDS (TJNS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT											
04...	18	170	310	--	912	1.24	140	1.6	--	--	--
14...	--	--	--	.4	--	--	--	--	5.0	.58	--
15...	9.1	200	320	--	955	1.30	224	3.3	--	--	--
29...	5.7	170	300	--	974	1.32	242	3.9	--	--	--
NOV											
07...	1.5	84	140	--	531	.72	185	3.9	--	--	--
10...	--	--	--	.5	--	--	--	--	1.8	1.7	6
18...	2.4	130	280	--	935	1.27	232	5.7	--	--	--
25...	1.7	270	290	--	1140	1.55	369	6.7	--	--	--
DEC											
03...	2.4	170	290	--	1020	1.39	245	5.6	--	--	--
15...	1.9	130	270	--	907	1.23	250	7.0	--	--	--
15...	--	--	--	1.0	--	--	--	--	4.1	7.9	--
25...	2.9	140	280	--	963	1.31	247	5.8	--	--	--
JAN											
05...	3.7	140	290	--	964	1.31	239	7.1	--	--	--
18...	14	140	300	--	961	1.31	483	8.3	--	--	--
25...	3.5	120	260	--	795	1.08	399	6.3	--	--	--
27...	--	--	--	.6	--	--	--	--	1.6	3.5	--
FEB											
05...	23	130	280	--	880	1.20	257	4.7	--	--	--
09...	--	--	--	.8	--	--	--	--	4.0	1.2	5
15...	20	160	310	--	1090	1.48	427	5.8	--	--	--
25...	23	130	290	--	974	1.32	292	4.5	--	--	--
MAR											
05...	7.4	170	310	--	1040	1.41	388	5.7	--	--	--
09...	--	--	--	.8	--	--	--	--	2.0	1.8	--
15...	4.8	120	280	--	971	1.32	406	5.4	--	--	--
27...	4.5	29	32	--	197	.27	332	.16	--	--	--
APR											
04...	30	110	200	--	685	.93	300	2.7	--	--	--
13...	--	--	--	.6	--	--	--	--	10	1.3	--
15...	23	160	280	--	923	1.26	232	1.3	--	--	--
23...	14	73	130	--	464	.63	854	2.1	--	--	--
MAY											
05...	24	120	330	--	915	1.24	366	--	--	--	--
15...	12	110	310	--	837	1.14	235	--	--	--	--
25...	8.9	30	35	--	231	.31	892	--	--	--	--
JUN											
05...	3.6	110	110	--	523	.71	760	--	--	--	--
08...	--	--	--	.5	--	--	--	--	3.4	1.9	--
15...	13	120	150	--	597	.81	438	--	--	--	--
25...	12	81	190	--	639	.87	314	--	--	--	--
JUL											
04...	6.4	64	210	--	622	.85	519	--	--	--	--
13...	--	--	--	.5	--	--	--	--	2.8	1.0	--
14...	10	94	250	--	791	1.08	248	.81	--	--	--
24...	9.6	82	290	--	841	1.14	145	--	--	--	--
AUG											
05...	9.6	82	150	--	494	.67	160	--	--	--	--
10...	--	--	--	.6	--	--	--	--	.95	1.0	13
13...	11	60	240	--	590	.80	162	--	--	--	--
25...	15	160	320	--	891	1.21	308	--	--	--	--
SEP											
04...	8.8	120	330	--	893	1.21	164	--	--	--	--
14...	--	--	--	.6	--	--	--	--	1.1	.93	--
15...	12	110	250	--	733	1.00	202	--	--	--	--
25...	4.8	120	260	--	758	1.03	123	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1700	1530	1700	---	1450	1660	855	360	544	1410	1180	917
2	1820	1560	1720	1850	1420	1680	1100	804	573	1350	1480	1290
3	1830	1340	1720	1760	1470	1740	1350	1320	710	---	798	1600
4	1630	1500	1660	1690	1480	1730	1190	1500	705	1120	769	1610
5	---	1790	---	1670	1530	1760	1190	1610	864	1520	872	192
6	1630	1620	1140	1630	1440	2000	1220	1600	865	974	910	460
7	1680	957	1540	1680	1450	1970	1360	1640	976	583	1130	856
8	1760	971	1600	1660	1470	1860	1400	1770	944	600	1200	1470
9	1980	1000	1530	---	1520	1640	1410	1770	883	712	1430	1480
10	1970	1140	1510	---	1600	1470	1400	1760	1050	763	1610	1160
11	1750	1150	1340	---	1560	1010	1420	1730	1090	913	821	977
12	1790	1420	1250	---	1500	1410	1510	1660	1000	1020	654	1020
13	1710	1560	1240	---	1650	1450	1650	1780	1120	1260	1060	186
14	1760	1630	1450	---	1760	1480	1820	1480	1040	1370	1060	1130
15	1690	1630	1560	---	1620	1630	1600	1490	1020	1550	463	1310
16	1660	1620	1640	---	2030	1760	1590	1220	1100	1540	1200	1320
17	1760	1650	1640	---	2000	1480	1540	1280	1130	1530	1500	1170
18	1760	1670	1480	1660	1930	1620	1430	1330	1140	1530	1520	---
19	1790	1670	1470	1660	1230	1200	1440	1480	1210	1520	1590	1330
20	1780	1680	1520	1740	1240	1220	1300	172	1240	1650	1620	1470
21	1800	1720	1580	1560	1240	1220	249	700	1270	1650	1330	1230
22	1800	1700	1590	1570	1320	1350	526	272	1260	1570	1340	924
23	1740	1610	1660	1410	1350	1480	803	365	1330	1630	1320	922
24	1520	1830	1660	1440	1540	1640	805	361	1300	1510	1300	1070
25	1630	1880	1650	1400	1650	1790	631	389	1140	1500	1590	1340
26	1720	1740	1670	1260	1600	1860	970	428	1140	1600	1680	1410
27	1670	1850	1720	1180	1710	272	1150	496	1180	1420	1520	1580
28	1700	1750	1740	1270	1700	468	824	606	1250	1470	1350	1560
29	1700	1770	1720	1350	---	790	820	815	1280	1340	1350	1590
30	1480	1680	1750	1340	---	956	98	888	1530	1600	1040	1670
31	1470	---	1760	1460	---	843	---	1230	---	1510	1190	---
MONTH	1720	1550	1570	---	1560	1430	1160	1110	1060	1320	1220	1180
YEAR	MAX	2030	MIN	98	MEAN	1360						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	8.0	1.0	---	---	6.5	14.0	21.0	25.0	28.0	27.0	25.5
2	17.0	8.0	3.0	0.0	---	10.0	14.5	20.0	25.5	26.0	26.5	25.0
3	19.5	9.0	3.5	0.0	4.0	8.0	14.5	21.0	26.0	---	26.0	25.5
4	19.0	9.5	4.5	1.0	3.5	7.5	14.0	21.0	27.0	27.0	26.5	25.0
5	---	7.0	---	0.5	4.0	8.0	13.5	21.5	27.0	28.5	26.0	22.5
6	19.0	8.0	7.0	1.0	3.5	9.5	13.0	20.5	27.0	28.0	27.0	24.0
7	15.0	7.5	0.0	1.0	3.0	10.0	14.5	22.0	25.5	28.5	27.5	24.5
8	12.0	7.0	0.0	1.0	4.0	10.0	16.0	22.0	24.0	29.0	27.5	25.0
9	11.5	7.0	2.0	---	5.0	11.0	16.0	22.5	25.0	27.0	27.5	25.0
10	13.5	8.5	8.0	---	7.0	13.0	17.0	22.0	26.0	27.5	28.0	24.5
11	15.0	7.0	2.0	---	8.5	14.0	17.0	20.5	25.0	27.5	28.0	25.0
12	15.5	3.5	2.5	---	9.0	12.0	18.0	19.5	25.5	27.5	25.5	25.0
13	17.5	5.0	2.0	---	10.0	12.5	18.0	20.0	25.5	27.0	28.0	21.0
14	15.0	5.0	2.0	---	10.0	12.5	18.5	20.5	27.0	27.0	26.0	21.0
15	16.0	5.0	2.0	---	11.0	14.5	18.0	21.0	25.5	27.5	27.0	19.0
16	17.0	4.5	2.5	---	5.0	14.5	19.0	22.0	25.0	28.0	27.5	21.5
17	14.0	4.0	3.0	---	4.5	14.0	20.0	22.5	26.0	27.5	28.0	23.0
18	11.0	6.0	4.0	0.0	6.5	---	20.0	22.5	26.5	27.0	25.0	---
19	11.0	8.0	---	0.0	10.0	---	20.0	23.0	26.0	27.5	25.0	23.0
20	7.0	10.0	3.0	0.5	8.0	---	20.0	20.5	26.5	27.5	24.0	23.0
21	7.5	7.0	0.0	0.0	7.5	---	18.0	20.0	27.5	27.0	24.0	22.0
22	8.5	4.0	0.0	0.0	10.5	---	17.5	20.0	26.5	27.0	24.5	23.0
23	12.5	7.0	3.0	0.0	11.0	---	19.5	21.0	26.5	26.5	25.0	23.0
24	12.5	5.0	4.5	0.0	10.0	14.5	18.0	22.5	26.0	26.5	27.0	23.5
25	13.0	7.0	5.0	0.0	10.5	14.0	17.0	23.5	25.0	27.5	27.0	24.0
26	8.5	6.0	7.0	0.5	8.0	15.0	16.5	24.5	25.0	28.0	27.0	24.5
27	10.0	7.0	5.5	0.5	5.0	15.0	17.5	24.5	26.0	27.0	25.0	25.0
28	10.5	1.0	6.0	0.5	5.5	14.5	19.0	25.0	26.0	25.5	25.0	25.0
29	10.0	0.0	6.0	---	---	15.0	19.5	25.5	27.0	27.5	24.5	23.5
30	9.0	0.0	5.0	---	---	15.0	20.0	25.5	27.0	27.5	25.0	24.0
31	8.5	---	0.0	---	---	13.0	---	25.5	---	27.0	25.5	---
MONTH	13.0	6.0	3.0	---	7.0	12.0	17.5	22.0	26.0	27.5	26.0	23.5
YEAR	MAX	29.0	MIN	0.0	MEAN	16.0						

ARKANSAS RIVER BASIN

07242350 DEEP FORK NEAR ARCADIA, OK

LOCATION.--Lat 35°38'58", long 97°21'00", on east line of NW 1/4 sec.31, T.14 N., R.1 W., Oklahoma County, Hydrologic Unit 11100303, on left bank at downstream 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), above mean sea level. Prior to Nov. 1, 1974 at site 0.3 mi (0.5 km) downstream at same datum.

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

AVERAGE DISCHARGE.--8 years, 63.6 ft³/s (1.801 m³/s), 46,080 acre-ft/yr (56.8 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, 14 ft³/s (0.40 m³/s) Oct. 30, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,320 ft³/s (236 m³/s) at 0630 May 21, gage height, 22.90 ft (6.980 m), no other peak above base of 2,000 ft³/s (56.6 m³/s); minimum daily, 16 ft³/s (0.45 m³/s) Oct 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	24	20	18	20	30	28	58	38	460	28	22
2	22	23	19	20	19	31	27	38	38	59	26	22
3	20	21	21	22	19	46	33	35	46	28	24	22
4	18	22	17	23	19	27	27	72	50	32	21	23
5	24	21	17	24	18	24	26	54	51	34	24	26
6	24	21	27	21	18	23	25	105	50	34	27	62
7	22	20	25	21	18	23	24	52	49	36	26	24
8	21	20	25	21	18	21	22	42	50	34	26	20
9	20	21	25	18	19	22	21	38	49	34	28	20
10	20	20	24	18	18	25	20	38	49	39	28	19
11	20	32	23	18	41	89	21	38	48	37	30	19
12	18	46	23	18	172	31	21	36	47	36	48	20
13	18	26	22	18	43	25	25	37	50	37	54	97
14	18	22	22	47	36	24	26	74	51	47	54	39
15	18	24	22	43	33	23	22	40	53	30	54	21
16	20	24	23	38	31	22	25	37	56	31	56	22
17	20	24	22	33	31	22	44	108	57	29	56	19
18	20	23	21	28	30	22	30	52	55	33	55	18
19	18	23	21	25	28	20	62	116	54	33	146	19
20	18	21	20	25	25	19	219	512	55	34	193	19
21	18	21	21	25	25	19	457	3200	57	33	50	18
22	18	21	21	21	26	19	65	77	58	34	42	19
23	17	22	20	24	42	19	67	52	62	36	39	18
24	16	21	21	22	30	18	44	49	62	33	19	23
25	18	21	20	22	29	19	39	55	82	36	20	21
26	18	20	17	21	39	20	36	61	58	60	19	18
27	18	20	19	20	47	75	32	441	54	200	19	21
28	17	18	20	20	44	86	30	34	56	120	36	20
29	63	19	20	20	---	39	29	32	92	60	49	22
30	144	21	18	19	---	30	49	32	67	38	29	21
31	32	---	18	18	---	28	---	37	---	30	23	---
TOTAL	786	682	654	731	938	941	1596	5652	1644	1819	1349	754
MEAN	25.4	22.7	21.1	23.6	33.5	30.4	53.2	182	54.8	58.7	43.5	25.1
MAX	144	46	27	47	172	89	457	3200	92	460	193	97
MIN	16	18	17	18	18	18	20	32	38	28	19	18
AC-FT	1560	1350	1300	1450	1860	1870	3170	11210	3260	3610	2680	1500
CAL YR 1976	TOTAL	12440	MEAN 34.0	MAX 277	MIN 16	AC-FT 24670						
WTR YR 1977	TOTAL	17546	MEAN 48.1	MAX 3200	MIN 16	AC-FT 34800						

ARKANSAS RIVER BASIN

437

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

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; minimum, 0.0°C on several days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,370 micromhos Oct. 15; minimum daily, 286 micromhos May 21.

WATER TEMPERATURE: Maximum daily, 32.0°C July 21; minimum daily, 0.0°C Jan. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
OCT											
05...	--	--	0933	27	1300	7.6	17.0	--	8.6	92	49
05...	1028	9740	0934	27	1300	7.6	17.0	10	8.6	92	--
11...	--	--	1100	82	1280	6.7	--	--	--	--	--
15...	--	--	0830	82	2370	6.7	--	--	--	--	--
30...	--	--	0930	143	418	6.9	--	--	--	--	--
NOV											
04...	--	--	1225	26	1380	7.8	13.0	--	9.5	92	48
04...	1028	9740	1226	26	1380	7.8	13.0	5	9.5	92	--
12...	--	--	1000	53	859	7.7	--	--	--	--	--
17...	--	--	1100	24	1420	7.9	--	--	--	--	--
26...	--	--	1000	22	1260	8.0	--	--	--	--	--
DEC											
07...	--	--	1200	25	1700	7.8	2.0	--	13.8	103	51
07...	1028	9740	1201	25	1700	7.8	2.0	5	13.8	103	--
14...	--	--	1000	22	1220	7.9	--	--	--	--	--
19...	--	--	0900	28	1320	7.7	--	--	--	--	--
31...	--	--	1000	123	1410	7.8	--	--	--	--	--
JAN											
09...	--	--	0900	250	1400	7.7	--	--	--	--	--
14...	1028	9740	1300	45	1500	7.9	5.5	0	8.2	67	45
16...	--	--	0930	225	1020	7.8	--	--	--	--	--
25...	--	--	1100	26	1760	7.7	--	--	--	--	--
27...	--	--	1300	23	1520	7.6	6.0	--	11.8	98	57
27...	1028	9740	1301	23	1520	7.6	6.0	10	11.8	98	--
FEB											
10...	--	--	1300	16	1400	8.1	13.0	--	11.9	112	30
10...	1028	9740	1301	16	1400	8.1	13.0	0	11.9	112	--
11...	--	--	1100	20	1580	6.8	--	--	--	--	--
16...	--	--	1100	34	1300	6.9	--	--	--	--	--
21...	--	--	0900	28	1040	7.0	--	--	--	--	--
MAR											
06...	--	--	0930	27	1580	7.1	--	--	--	--	--
10...	--	--	1050	24	1450	7.8	12.5	--	10.8	106	83
10...	1028	9740	1051	24	1450	7.8	12.5	3	10.8	106	--
11...	--	--	1100	93	586	7.4	--	--	--	--	--
20...	--	--	0900	24	1370	7.2	--	--	--	--	--
APR											
06...	--	--	1230	26	1300	7.9	20.0	--	9.2	102	41
06...	1028	9740	1231	26	1300	7.9	20.0	4	9.2	102	--
12...	--	--	1200	22	1740	7.0	--	--	--	--	--
18...	--	--	1100	32	1070	6.9	--	--	--	--	--
21...	--	--	1000	322	403	7.1	--	--	--	--	--
MAY											
07...	--	--	0900	56	851	7.0	--	--	--	--	--
10...	--	--	0940	41	1380	7.5	21.0	--	8.4	96	42
10...	1028	9740	0941	41	1380	7.5	21.0	19	8.4	96	--
11...	--	--	1100	40	1420	6.7	--	--	--	--	--
21...	--	--	1300	898	286	--	--	--	--	--	--

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
JUN											
02...	--	--	1000	39	975	7.8	24.5	--	16.0	198	33
02...	1028	9740	1001	39	975	7.8	24.5	16	16.0	198	--
04...	--	--	0900	52	1070	7.1	--	--	--	--	--
24...	--	--	1100	63	1440	6.7	--	--	--	--	--
29...	--	--	0900	98	440	6.8	--	--	--	--	--
JUL											
02...	--	--	0800	64	372	7.3	--	--	--	--	--
06...	--	--	1115	36	960	7.8	28.0	--	8.2	108	70
06...	1028	9740	1155	36	960	7.8	28.0	11	8.2	108	--
15...	--	--	1125	30	1390	6.9	--	--	--	--	--
26...	--	--	1000	60	1060	6.9	--	--	--	--	--
AUG											
05...	--	--	1000	26	1070	7.0	--	--	--	--	--
11...	--	--	1245	31	1200	7.9	25.0	--	9.9	121	49
11...	1028	9740	1246	31	1200	7.9	25.0	6	9.9	121	51
12...	--	--	1000	60	1300	6.9	--	--	--	--	--
20...	--	--	0835	204	434	7.5	--	--	--	--	--
SEP											
07...	--	--	1100	26	854	7.1	--	--	--	--	--
09...	1028	9740	1130	22	1190	7.9	26.0	22	7.3	91	--
09...	--	--	1145	22	1190	7.9	26.0	--	7.3	91	44
13...	--	--	1100	293	484	7.1	--	--	--	--	--
23...	--	--	0900	20	1240	7.0	--	--	--	--	--

DATE	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (MG/L)
UCT										
05...	--	--	--	--	--	--	--	--	--	--
05...	--	--	--	--	--	--	--	--	--	--
11...	--	220	120	48	25	160	59	4.7	14	131
15...	--	320	240	74	34	330	67	8.0	18	103
30...	--	110	32	28	10	37	41	1.5	5.1	97
NOV										
04...	9.9	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--
12...	--	200	99	45	22	91	48	2.8	9.3	127
17...	--	270	150	55	32	170	56	4.5	14	149
26...	--	270	130	53	33	140	52	3.7	13	164
DEC										
07...	11	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
14...	--	260	140	52	32	150	54	4.0	12	143
19...	--	270	150	54	33	150	53	4.0	13	151
31...	--	300	160	59	36	160	53	4.1	13	166
JAN										
09...	--	290	140	56	37	150	51	3.8	14	184
14...	--	--	--	--	--	--	--	--	--	--
16...	--	210	110	46	24	110	51	3.3	10	130
25...	--	270	160	59	30	220	63	5.8	12	135
27...	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--
FEB										
10...	23	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
11...	--	280	160	65	29	200	59	5.2	12	153
16...	--	270	130	61	29	150	53	4.0	11	168
21...	--	240	89	54	25	110	49	3.1	10	182
MAR										
06...	--	280	180	67	27	180	57	4.7	15	120
10...	15	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
11...	--	180	52	47	14	51	38	1.7	5.3	150
20...	--	260	120	64	25	170	57	4.6	11	170
APR										
06...	6.8	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
12...	--	300	200	70	30	210	59	5.3	16	120
18...	--	230	97	55	22	120	52	3.5	8.3	160
21...	--	140	34	38	11	31	32	1.1	4.3	130
MAY										
07...	--	200	73	52	18	91	48	2.8	7.7	160
10...	21	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
11...	--	270	140	70	24	170	56	4.5	11	160
21...	--	130	27	35	9.2	11	16	.4	3.7	120

ARKANSAS RIVER BASIN

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07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SURP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCU3) (MG/L)
JUN										
02...	7.4	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--
04...	--	280	79	66	29	110	45	2.8	9.2	250
24...	--	260	110	62	26	180	59	4.8	12	190
29...	--	120	28	31	10	42	42	1.7	5.0	110
JUL										
02...	--	120	26	30	10	28	33	1.1	4.4	110
06...	14	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
15...	--	240	89	55	26	180	60	5.0	13	190
26...	--	200	90	44	21	110	53	3.4	12	130
AUG										
05...	--	220	85	47	24	140	57	4.1	13	160
11...	22	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--
12...	--	230	120	51	25	160	59	4.6	10	130
20...	--	120	41	31	11	40	40	1.6	5.3	100
SEP										
07...	--	180	72	42	18	100	53	3.3	8.8	130
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
13...	--	150	21	41	12	45	38	1.6	5.7	160
23...	--	210	100	45	23	160	61	4.8	13	130
DATE	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACU3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRATE (N) (MG/L)
OCT										
05...	--	--	--	--	--	--	--	--	--	.84
05...	--	--	--	--	--	--	--	--	--	--
11...	0	107	42	170	190	--	743	1.01	165	--
15...	0	84	33	190	520	--	1310	1.78	290	--
30...	0	80	20	48	49	--	244	.33	94.2	--
NOV										
04...	--	--	--	--	--	--	--	--	--	.78
04...	--	--	--	--	--	.7	--	--	--	--
12...	0	104	4.1	110	100	--	472	.64	67.5	--
17...	0	122	3.0	170	210	--	804	1.09	52.1	--
26...	0	135	2.6	160	170	--	723	.98	42.9	--
DEC										
07...	--	--	--	--	--	--	--	--	--	.61
07...	--	--	--	--	--	--	--	--	--	--
14...	0	117	2.9	190	170	--	737	1.00	43.8	--
19...	0	124	4.8	180	190	--	773	1.05	58.4	--
31...	0	136	4.2	190	190	--	830	1.13	276	--
JAN										
09...	0	151	5.9	180	190	--	796	1.08	537	--
14...	--	--	--	--	--	.7	--	--	--	--
16...	0	107	3.3	120	150	--	580	.79	352	--
25...	0	111	4.3	140	350	--	958	1.30	67.3	--
27...	--	--	--	--	--	--	--	--	--	3.3
27...	--	--	--	--	--	--	--	--	--	--
FEB										
10...	--	--	--	--	--	--	--	--	--	.30
10...	--	--	--	--	--	--	--	--	--	--
11...	0	126	39	150	290	--	902	1.23	48.7	--
16...	0	138	34	150	180	--	754	1.03	69.2	--
21...	0	149	29	120	120	--	602	.82	45.5	--
MAR										
06...	0	98	15	160	230	--	870	1.18	63.4	--
10...	--	--	--	--	--	--	--	--	--	.39
10...	--	--	--	--	--	--	--	--	--	--
11...	0	120	9.6	61	62	--	336	.46	84.4	--
20...	0	140	17	150	220	--	786	1.07	50.9	--
APR										
06...	--	--	--	--	--	--	--	--	--	.77
06...	--	--	--	--	--	.6	--	--	--	--
12...	0	98	19	140	280	--	933	1.27	55.4	--

ARKANSAS RIVER BASIN

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRATE (N) (MG/L)
APR										
18...	0	131	32	110	160	--	618	.84	53.4	--
21...	0	107	17	43	33	--	249	.34	216	--
MAY										
07...	0	130	26	85	120	--	497	.68	75.1	--
10...	--	--	--	--	--	--	--	--	--	.92
10...	--	--	--	--	--	.5	--	--	--	--
11...	0	130	51	140	230	--	811	1.10	87.6	--
21...	0	98	--	25	22	--	173	.24	419	--
JUN										
02...	--	--	--	--	--	--	--	--	--	.66
02...	--	--	--	--	--	.6	--	--	--	--
04...	0	210	32	110	130	--	631	.86	88.6	--
24...	0	160	61	130	250	--	828	1.13	141	--
29...	0	90	28	41	50	--	263	.36	69.6	--
JUL										
02...	0	90	8.8	39	38	--	215	.29	37.2	--
06...	--	--	--	--	--	--	--	--	--	2.1
06...	--	--	--	--	--	.6	--	--	--	--
15...	0	160	38	130	270	--	777	1.06	62.9	--
26...	0	110	26	100	160	--	602	.82	97.5	--
AUG										
05...	0	130	26	160	170	--	629	.86	44.2	--
11...	--	--	--	--	--	--	--	--	--	.27
11...	--	--	--	--	--	.6	--	--	--	--
12...	0	110	26	98	260	--	739	1.01	120	--
20...	0	82	5.1	40	51	--	252	.34	139	--
SEP										
07...	0	110	17	97	130	--	497	.68	34.9	--
09...	--	--	--	--	--	.9	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	.48
13...	0	130	20	37	61	--	288	.39	228	--
23...	0	110	21	130	200	--	694	.94	37.5	--
DATE	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (NO2) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED AMMONIA NITRO- GEN (N) (MG/L)	DIS- SOLVED AMMONIA (NH4) (MG/L)	DIS- SOLVED ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL. DAHL NITRO- GEN (N) (MG/L)	DIS- SOLVED KJEL. NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
OCT										
05...	3.7	.66	2.2	1.5	13	17	.00	12	9.2	5.5
05...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	15	--	--	--	--	--	--
15...	--	--	--	20	--	--	--	--	--	--
30...	--	--	--	3.6	--	--	--	--	--	--
NOV										
04...	3.5	.42	1.4	1.2	13	17	.00	--	13	3.4
04...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	8.3	--	--	--	--	--	--
17...	--	--	--	14	--	--	--	--	--	--
26...	--	--	--	12	--	--	--	--	--	--
DEC										
07...	2.7	.15	.49	.76	11	14	.00	--	--	3.4
07...	--	--	--	--	--	--	--	13	--	--
14...	--	--	--	8.9	--	--	--	--	--	--
19...	--	--	--	14	--	--	--	--	--	--
31...	--	--	--	16	--	--	--	--	--	--
JAN										
09...	--	--	--	13	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	9.5	--	4.6
16...	--	--	--	12	--	--	--	--	--	--
25...	--	--	--	14	--	--	--	--	--	--
27...	14	.13	.43	3.4	11	14	.00	--	11	6.9
27...	--	--	--	--	--	--	--	--	--	5.8
FEB										
10...	1.3	.12	.39	.42	16	21	.00	--	15	5.3
10...	--	--	--	--	--	--	--	18	--	--
11...	--	--	--	12	--	--	--	--	--	--
16...	--	--	--	11	--	--	--	--	--	--
21...	--	--	--	9.4	--	--	--	--	--	--
MAR										
06...	--	--	--	23	--	--	--	--	--	--
10...	1.7	.15	.49	.54	17	22	1.0	--	18	6.0
10...	--	--	--	--	--	--	--	18	--	--
11...	--	--	--	2.1	--	--	--	--	--	--
20...	--	--	--	14	--	--	--	--	--	--

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (NO2) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED AMMONIA NITRO- GEN (N) (MG/L)	DIS- SOLVED AMMONIA (NH4) (MG/L)	DIS- SOLVED ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	DIS- SOLVED KJEL- NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
APR 06...	3.4	.33	1.1	1.1	14	18	1.0	--	15	5.1
06...	--	--	--	--	--	--	--	15	--	--
12...	--	--	--	23	--	--	--	--	--	--
18...	--	--	--	7.1	--	--	--	--	--	--
21...	--	--	--	1.5	--	--	--	--	--	--
MAY 07...	--	--	--	--	--	--	--	--	--	--
10...	4.1	.58	1.9	1.5	11	14	2.0	--	13	4.1
10...	--	--	--	--	--	--	--	13	--	--
11...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
JUN 02...	2.9	.64	2.1	1.3	4.6	5.9	4.8	--	9.4	2.5
02...	--	--	--	--	--	--	--	6.4	--	--
04...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
JUL 02...	--	--	--	--	--	--	--	--	--	--
06...	9.3	.90	3.0	3.0	8.0	10	22	--	30	4.0
06...	--	--	--	--	--	--	--	7.4	--	--
15...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
AUG 05...	--	--	--	--	--	--	--	--	--	--
11...	1.2	.73	2.4	1.0	13	17	3.0	--	16	8.5
11...	--	--	--	--	--	--	--	2.7	--	--
12...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
SEP 07...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	12	--	--
09...	2.1	.82	2.7	1.3	11	14	1.0	--	12	12
13...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
OCT 05...	--	--	0933	--	<10	<10	0	10	10	0
05...	1028	9740	0934	--	--	--	--	--	--	--
NOV 04...	--	--	1225	--	<10	<10	0	0	0	0
04...	1028	9740	1226	5	--	--	--	--	--	--
DEC 07...	--	--	1200	--	<10	<10	0	0	0	0
07...	1028	9740	1201	--	--	--	--	--	--	--
JAN 14...	1028	9740	1300	--	--	--	--	--	--	--
27...	--	--	1300	--	<10	<10	0	0	0	0
27...	1028	9740	1301	--	--	--	--	--	--	--
FEB 10...	--	--	1300	--	<10	<10	0	0	0	0
10...	1028	9740	1301	3	--	--	--	--	--	--
MAR 10...	--	--	1050	--	--	--	0	--	--	0
10...	1028	9740	1051	--	--	--	--	--	--	--
APR 06...	--	--	1230	--	<10	--	0	0	0	10
06...	1028	9740	1231	--	--	--	--	--	--	--
MAY 10...	--	--	0940	--	<10	--	0	0	--	0
10...	1028	9740	0941	6	--	--	--	--	--	--
JUN 02...	--	--	1000	--	<10	--	0	0	--	0
02...	1028	9740	1001	--	--	--	--	--	--	--
JUL 06...	--	--	1115	--	<80	<80	0	0	0	0
06...	1028	9740	1155	--	--	--	--	--	--	--
AUG 11...	--	--	1245	--	10	9	1	10	10	0
11...	1028	9740	1246	5	--	--	--	--	--	--
SEP 09...	1028	9740	1130	--	--	--	--	30	--	--

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL COBALT (CU) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDED COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDED LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
OCT										
05...	--	<10	<7	3	760	10	<100	<100	0	340
05...	--	--	--	--	500	--	--	--	--	344
NOV										
04...	--	<10	<7	3	520	110	100	100	0	360
04...	--	--	--	--	400	--	--	--	--	361
DEC										
07...	--	10	8	2	370	70	<100	<96	4	320
07...	--	--	--	--	--	--	--	--	--	--
JAN										
14...	--	--	--	--	400	--	--	--	--	340
27...	--	<10	<6	4	550	40	<100	<100	0	320
27...	--	--	--	--	--	--	--	--	--	--
FEB										
10...	--	<10	<8	2	480	160	<100	<98	2	330
10...	--	--	--	--	540	--	--	--	--	350
MAR										
10...	--	--	--	3	--	90	--	--	0	--
10...	--	--	--	--	380	--	--	--	--	710
APR										
06...	--	<10	--	1	850	30	<100	--	0	300
06...	--	--	--	--	570	--	--	--	--	280
MAY										
10...	<50	<10	--	1	--	--	<100	--	4	450
10...	--	--	--	--	690	--	--	--	--	450
JUN										
02...	--	<10	--	5	920	50	<100	--	0	190
02...	--	--	--	--	550	--	--	--	--	190
JUL										
06...	--	10	0	10	710	90	<100	<95	5	170
06...	--	--	--	--	700	--	--	--	--	210
AUG										
11...	--	20	19	1	410	140	<100	<97	3	610
11...	--	--	--	--	400	--	--	--	--	680
SEP										
09...	--	--	--	--	1100	--	--	--	--	210
09...	--	<10	0	12	980	110	<100	<81	19	210

DATE	SUS- PENDED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS- PENDED ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	PHENOLS (UG/L)
OCT										
05...	70	270	--	--	--	--	20	10	10	2
05...	--	--	--	--	--	--	--	--	--	--
NOV										
04...	30	330	--	--	--	--	20	0	20	3
04...	--	--	<.5	12	<4	2	--	--	--	--
DEC										
07...	10	310	--	--	--	--	20	0	20	4
07...	--	--	--	--	--	--	--	--	--	--
JAN										
14...	--	--	--	--	--	--	--	--	--	--
27...	30	290	--	--	--	--	20	0	20	4
27...	--	--	--	--	--	--	--	--	--	--
FEB										
10...	10	320	--	--	--	--	20	0	20	4
10...	--	--	.5	12	<1	3	--	--	--	--
MAR										
10...	--	330	--	--	--	--	--	--	20	4
10...	--	--	--	--	--	--	--	--	--	--
APR										
06...	20	280	--	--	--	--	20	0	20	4
06...	--	--	--	--	--	--	--	--	--	--
MAY										
10...	--	--	--	--	--	--	--	--	--	2
10...	--	--	1.7	11	<1	3	--	--	--	--
JUN										
02...	--	120	--	--	--	--	10	--	10	4
02...	--	--	--	--	--	--	--	--	--	--
JUL										
06...	30	140	--	--	--	--	10	0	10	2
06...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	490	120	--	--	--	--	50	30	20	6
11...	--	--	<.5	31	2	<2	--	--	--	--
SEP										
09...	--	--	--	--	--	--	--	--	--	--
09...	60	150	--	--	--	--	50	20	30	5

ARKANSAS RIVER BASIN

443

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL PCB (UG/L)	POLY- CHLOR- INATED NAPH- THA- LENES (UG/L)	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)
DEC 07...	1200	.0	.00	.01	.0	.00	.00	.00
JAN 27...	1300	.0	.00	.00	.0	.00	.00	.00
FEB 10...	1300	.0	.00	.00	.0	.00	.00	.00
MAR 10...	1050	.0	.00	.00	.0	.00	.00	.00
APR 06...	1230	.0	.00	.00	.0	.00	.00	.00
MAY 10...	0940	.0	.00	.00	.1	.00	.00	.00
JUN 02...	1000	.0	.00	.00	.0	.00	.00	.00
JUL 06...	1115	.0	.00	.00	.1	.00	.00	.00
AUG 11...	1245	.0	.00	.00	.0	.00	.00	.00
SEP 09...	1145	.0	.00	.00	.0	.00	.00	.00

DATE	TOTAL DI- AZINUN (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDO- SULFAN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)
DEC 07...	.63	.01	.00	.00	.00	.00	.00	.02	.09
JAN 27...	.50	.01	.00	.00	.00	.00	.00	.02	.03
FEB 10...	.67	.01	.00	.00	.00	.01	.00	.02	.04
MAR 10...	.80	.01	.00	.00	.00	.00	.00	.02	.03
APR 06...	.47	.01	.00	.00	.00	.01	.00	.03	.07
MAY 10...	.66	.01	.00	.00	.00	.00	.00	.04	.02
JUN 02...	.43	.01	.00	.00	.00	.00	.01	.03	.00
JUL 06...	.92	.01	.00	.00	.00	.00	.00	.02	.24
AUG 11...	1.4	.00	.00	.00	.00	.00	.00	.00	.00
SEP 09...	.53	.00	.00	.00	.00	.00	.00	.00	.00

DATE	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TUX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
DEC 07...	.00	.00	.00	0	.00	.13	.07	.00
JAN 27...	.00	.00	.00	0	.00	.00	.01	.00
FEB 10...	.00	.00	.00	0	.00	.00	.14	.00
MAR 10...	.00	.00	.00	0	.00	.18	.07	.06
APR 06...	.00	.00	.00	0	.00	.83	.03	.06
MAY 10...	.00	.00	.00	0	.00	--	--	--
JUN 02...	.01	.00	.00	0	.00	.20	.06	.06
JUL 06...	.00	.00	.00	0	.00	.05	.02	.02
AUG 11...	.00	.00	.00	0	.00	.07	.00	.02
SEP 09...	.00	.00	.00	0	.00	.01	.01	.02

ARKANSAS RIVER BASIN

07242350 DEEP FORK NEAR ARCADIA, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	9.0	8.0	1.0	4.0	6.0	14.0	20.0	22.0	22.0	25.0	28.0
2	19.0	14.0	4.0	1.0	7.0	10.0	12.0	21.0	28.0	24.0	27.0	28.0
3	20.0	14.0	5.0	4.0	8.0	11.0	12.0	23.0	28.0	25.0	28.0	25.0
4	22.0	11.0	7.0	6.0	8.0	10.0	13.0	24.0	26.0	23.0	27.0	25.0
5	16.0	8.0	5.0	3.0	4.0	7.0	14.0	23.0	25.0	27.0	27.0	24.0
6	12.0	10.0	8.0	4.0	7.0	8.0	15.0	21.0	27.0	27.0	26.0	26.0
7	12.0	9.0	3.0	4.0	6.0	10.0	16.0	21.0	28.0	29.0	26.0	26.0
8	18.0	9.0	4.0	5.0	5.0	10.0	19.0	23.0	21.0	28.0	28.0	26.0
9	12.0	13.0	6.0	0.0	10.0	11.0	16.0	26.0	26.0	26.0	26.0	27.0
10	13.0	10.0	10.0	---	9.0	12.0	18.0	23.0	28.0	25.0	27.0	22.0
11	16.0	8.0	3.0	0.0	10.0	14.0	18.0	21.0	26.0	26.0	28.0	24.0
12	18.0	7.0	5.0	2.0	10.0	10.0	21.0	20.0	26.0	27.0	24.0	26.0
13	15.0	6.0	5.0	---	9.0	10.0	17.0	20.0	26.0	27.0	25.0	23.0
14	14.0	7.0	5.0	5.0	9.0	19.0	19.0	21.0	30.0	29.0	27.0	26.0
15	16.0	6.0	6.0	4.0	5.0	15.0	19.0	23.0	29.0	30.0	28.0	21.0
16	12.0	7.0	6.0	6.0	5.0	9.0	18.0	23.0	26.0	27.0	27.0	22.0
17	9.0	8.0	7.0	3.0	7.0	13.0	17.0	22.0	27.0	31.0	25.0	23.0
18	12.0	10.0	8.0	3.0	9.0	14.0	19.0	22.0	24.0	27.0	25.0	24.0
19	12.0	11.0	10.0	3.0	8.0	12.0	19.0	23.0	---	26.5	23.0	23.0
20	7.0	11.0	4.0	3.0	6.0	8.0	19.0	22.0	28.0	28.0	22.0	20.0
21	10.0	10.0	2.0	6.0	8.0	8.5	16.0	21.0	28.0	32.0	24.0	23.0
22	11.0	5.0	4.0	4.0	13.0	11.0	15.0	19.0	27.0	29.0	26.0	23.0
23	16.0	9.0	3.0	6.0	12.0	14.0	15.0	21.0	27.0	30.0	27.0	21.0
24	14.0	8.0	5.0	5.0	10.0	14.0	14.0	26.0	24.0	30.0	30.0	22.0
25	11.0	11.0	7.0	4.0	12.0	14.0	16.0	27.0	24.0	28.0	27.0	24.0
26	12.0	14.0	4.0	5.0	7.0	15.0	24.0	25.0	25.0	28.0	30.0	24.0
27	12.0	6.0	8.0	4.0	5.0	13.0	21.0	21.0	27.0	24.0	25.0	25.0
28	9.0	3.0	6.0	4.0	4.0	14.0	21.0	22.0	27.0	27.0	25.0	25.0
29	11.0	1.0	5.0	1.0	---	9.0	23.0	24.0	25.0	30.0	23.0	24.0
30	10.0	2.0	5.0	4.0	---	13.0	21.0	24.0	28.0	27.0	28.0	24.0
31	8.0	---	3.0	2.0	---	10.0	---	23.0	---	26.0	27.0	---
MONTH	13.5	8.5	5.5	3.5	8.0	11.5	17.5	22.5	26.5	27.5	26.0	24.0
YEAR	MAX	32.0	MIN	0.0	MEAN	16.0						

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	1050	1300	1280	1390	1270	1410	706	1050	426	715	1200
2	1290	1210	1290	1220	1490	1480	1440	1080	980	372	964	1240
3	1220	1220	1260	1300	1470	859	1460	1290	1060	687	1040	1210
4	1160	1280	1310	1330	1390	1460	1300	1210	1070	908	1010	1220
5	1190	1250	1340	1300	1380	1480	1530	906	1200	1040	1070	1150
6	939	1260	1280	1330	1400	1580	1180	472	1200	1130	1160	472
7	1190	1240	1250	1310	1380	1450	1090	851	1220	1230	1180	854
8	1240	1280	1300	1270	1520	1580	1340	1050	1210	1150	1220	1080
9	1180	1300	1290	1400	1410	1450	1460	1250	1170	1160	1190	1100
10	1210	1330	1310	---	1460	1470	1410	1310	1150	1180	1270	1140
11	1280	1280	1290	1320	1580	586	1430	1420	1190	1200	1210	1160
12	1220	859	1280	1330	508	981	1740	1310	1200	1060	1300	1050
13	1310	1080	1240	1280	930	1020	1530	1270	1250	1120	1000	484
14	1280	1190	1220	1610	1260	1450	1340	615	1180	1040	1190	620
15	2370	1240	1300	1170	1120	1440	1420	1040	1150	1390	1120	983
16	1350	1320	1300	1020	1300	1480	1360	1130	1250	1190	1020	1110
17	1440	1420	1300	1070	1190	1370	1200	577	1170	1210	1050	1100
18	1390	1300	1310	1310	1230	1300	1070	865	1240	1310	1040	1170
19	1350	1320	1320	1130	1190	1320	714	1160	1160	1250	1110	1150
20	1320	1320	1250	1160	1070	1370	1170	379	1080	1120	434	1180
21	1320	1330	1320	1140	1040	1410	403	286	1040	1230	810	1200
22	1330	1340	1300	1420	1060	1460	750	593	1060	1230	1040	1210
23	1370	1320	1300	1500	1270	1530	772	833	1050	1170	1090	1240
24	1300	1330	1280	1600	1170	1180	988	1000	1440	1250	1070	1190
25	1310	1300	1270	1760	1380	1090	1150	1130	1180	1300	1150	1040
26	1340	1260	1270	1540	1350	1120	1330	1150	692	1060	1210	1060
27	1330	1300	1240	1550	951	989	1220	339	983	1130	1210	1140
28	1320	1360	1340	1530	1140	728	1240	530	1260	520	1280	1190
29	1300	1320	1380	1510	---	826	1320	832	440	940	709	1180
30	418	1350	1380	1550	---	1060	1350	935	852	1010	972	1150
31	968	---	1410	1500	---	1490	---	1080	---	1180	1130	---
MONTH	1270	1270	1300	1360	1250	1270	1240	923	1110	1070	1060	1080
YEAR	MAX	2370	MIN	286	MEAN	1180						

ARKANSAS RIVER BASIN

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07243000 DRY CREEK NEAR KENDRICK, OK

LOCATION.--Lat 35°46'55", long 96°51'20", in NW 1/4 NW 1/4 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.

DRAINAGE AREA.--69.0 mi² (178.7 km).

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 825 ft (251.5 m), from topographic map.

REMARKS.--Records good except for periods of no gage height record, March 9 to April 17.

AVERAGE DISCHARGE.--22 years, 21.7 ft³/s (0.614 m³/s), 15,720 acre-ft/yr (19.4 hm³/yr).

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, 3,830 ft³/s (108 m³/s) May 21, gage height, 13.84 ft (4.218 m), no other peak above base of 2,000 ft³/s (56.6 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.10	.35	.30	.64	.87	.66	.54	1.6	.92	.10	.00
2	.00	.10	.38	.25	.83	.92	.64	.46	1.2	2.4	.01	.00
3	.00	.10	.39	.20	.63	1.1	.62	.42	1.1	.56	.02	.00
4	.00	.10	.40	.30	.66	.89	.60	.42	.95	.28	.00	.00
5	.00	.11	.43	.20	.65	.81	.58	.41	.82	.15	.00	.00
6	.00	.11	.57	.15	.59	.82	.56	.47	.70	.07	.00	.00
7	.00	.14	.43	.13	.62	.82	.55	.40	.64	.03	.00	.00
8	.00	.15	.40	.12	.65	.81	.54	.30	.59	.00	.00	.00
9	.00	.17	.42	.16	.69	.80	.53	.26	.54	.02	.00	.00
10	.00	.18	.43	.25	.76	6.0	.52	.22	.46	.03	.00	.00
11	.00	.25	.39	.20	.95	2.0	.51	.18	.39	.00	.00	.00
12	.00	.26	.43	.30	1.6	1.5	.50	.16	.37	.00	.00	.00
13	.00	.24	.43	.40	.58	1.2	.49	.22	.36	.00	.00	.99
14	.00	.22	.44	.50	.72	.96	.48	.34	.35	.00	.00	.10
15	.00	.23	.45	.52	.67	.82	1.0	.23	.34	.00	.00	.04
16	.00	.23	.44	.40	.68	.76	7.0	.15	.33	.00	.21	.00
17	.00	.23	.44	.30	.73	.70	4.0	17	.33	.00	.09	.00
18	.00	.24	.44	.20	.76	.68	2.1	1.1	.30	.00	.00	.00
19	.00	.25	.45	.18	.78	.66	1.8	16	.27	.00	.00	.00
20	.00	.25	.39	.15	.79	.64	2.2	100	.26	.00	.00	.00
21	.00	.23	.36	.20	.85	.62	17	1050	.23	.00	.00	.00
22	.00	.24	.39	.40	.91	.61	1.8	19	.21	.00	.00	.00
23	.00	.25	.41	.90	.91	.60	1.1	7.8	.20	.00	.00	.00
24	.00	.27	.46	2.0	.85	.59	.85	5.1	.20	.00	.00	.00
25	.00	.31	.46	1.6	.83	.58	.69	3.3	.90	.00	.00	.00
26	.00	.34	.41	1.1	.90	2.0	.61	2.6	.57	.00	.00	.00
27	.00	.30	.44	.95	.96	6.0	.55	3.1	1.8	.00	.00	.00
28	.02	.27	.41	.67	.92	2.0	.48	2.1	.42	.10	7.8	.00
29	.13	.28	.39	.59	---	1.0	.42	1.8	.26	.20	.67	.00
30	.24	.30	.38	.55	---	.80	.43	1.6	.21	.00	.00	.00
31	.15	---	.33	.60	---	.70	---	2.8	---	.68	.00	---
TOTAL	.54	6.45	12.94	14.79	22.43	41.26	49.81	1238.48	16.90	96.52	8.90	1.13
MEAN	.017	.22	.42	.48	.80	1.33	1.66	40.0	.56	3.11	.29	.038
MAX	.24	.34	.57	2.0	1.6	8.0	17	1050	1.8	92	7.8	.99
MIN	.00	.10	.33	.12	.59	.58	.42	.15	.20	.00	.00	.00
AC=FT	1.1	13	26	29	44	82	99	2460	34	191	18	2.2
CAL YR 1976	TOTAL	2626.54	MEAN	7.18	MAX	284	MIN	.00	AC=FT	5210		
WTR YR 1977	TOTAL	1510.15	MEAN	4.14	MAX	1050	MIN	.00	AC=FT	3000		

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OK

LOCATION.--Lat 35°40'15", long 96°04'08", on line between secs. 19 and 20, T.14 N., R.12 E., Okmulgee County, Hydrologic Unit 11100303, near left bank on downstream side of pier of county road bridge, 3.0 mi (4.8 km) upstream from Adams Creek, 4.0 mi (6.4 km) south of Beggs, 8.0 mi (12.9 km) downstream from Flat Rock (Checkerboard) Creek, and at mile 85.0 (136.8 km).

DRAINAGE AREA.--2,018 mi² (5,277 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1938 to current year.

REVISED RECORDS.--WSP 957: 1941. WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 632.55 ft (192.801 m) above mean sea level. Prior to Aug. 29, 1939, nonrecording gage at site 450 ft (137.2 m) downstream at same datum. Aug. 29, 1939, to June 22, 1953, nonrecording gage at present site and datum.

REMARKS.--Records good.

COOPERATION.--Gage-height record and 15 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--39 years, 823 ft³/s (23.31 m³/s), 596,300 acre-ft/yr (735 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,800 ft³/s (1,890 m³/s) May 11, 1943, gage height, 34.55 ft (10.531 m); no flow at times in 1939, 1954, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,780 ft³/s (78.7 m³/s) May 22, gage height, 13.32 ft (4.060 m), no peak above base of 3,000 ft³/s (85.0 m³/s); minimum, 13 ft³/s (0.37 m³/s) Oct. 20-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	33	31	42	62	54	200	184	1050	91	35	26
2	21	33	35	41	57	52	181	146	931	172	78	24
3	22	42	42	40	57	56	166	133	779	551	67	39
4	21	57	45	38	57	56	142	116	632	322	51	58
5	22	66	45	33	56	63	115	94	520	285	42	127
6	22	58	53	32	58	63	92	92	430	356	47	94
7	21	46	55	32	59	65	77	90	356	363	46	47
8	18	37	61	33	58	64	70	81	295	338	34	28
9	17	33	51	29	56	63	61	75	256	300	25	30
10	17	34	61	37	55	63	52	83	224	256	23	56
11	18	38	58	37	55	68	44	84	193	214	20	341
12	19	86	54	37	61	61	38	82	176	183	17	1260
13	26	71	53	36	66	61	33	63	146	147	16	416
14	22	59	53	35	73	87	30	46	153	112	16	771
15	19	45	50	38	70	92	30	38	180	86	16	564
16	18	38	48	41	71	112	32	34	147	67	32	238
17	17	38	47	39	87	126	42	33	109	55	38	140
18	16	39	46	38	95	121	62	35	49	49	38	106
19	15	42	46	51	91	104	134	49	45	45	35	109
20	13	41	46	54	82	92	130	1010	54	40	30	81
21	14	38	45	56	74	86	416	2130	49	33	33	60
22	14	37	44	56	68	76	823	2730	49	30	26	47
23	13	36	43	59	70	68	574	2620	45	28	23	42
24	16	36	43	61	64	60	438	2610	47	24	21	35
25	22	37	43	64	59	51	389	2540	45	21	24	31
26	23	36	40	70	55	49	361	2500	49	21	48	26
27	23	33	39	68	54	169	325	2450	68	50	36	23
28	25	32	40	68	55	602	277	2460	85	60	31	23
29	26	32	43	68	---	557	225	2520	73	53	30	33
30	29	32	45	66	---	439	191	2390	85	41	31	72
31	32	---	45	66	---	284	---	1650	---	32	40	---
TOTAL	621	1285	1450	1465	1825	3964	5750	29168	7320	4425	1051	4947
MEAN	20.0	42.8	46.8	47.3	65.2	128	192	941	244	143	33.9	165
MAX	32	86	61	70	95	602	823	2730	1050	551	78	1260
MIN	13	32	31	29	54	49	30	33	45	21	16	23
AC-FT	1230	2550	2880	2910	3620	7860	11410	57850	14520	8780	2080	9810

CAL YR 1976 TOTAL 144662 MEAN 395 MAX 8140 MIN 10 AC-FT 286900
WTR YR 1977 TOTAL 63271 MEAN 173 MAX 2730 MIN 13 AC-FT 125500

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, 1,780 micromhos Feb. 12; minimum daily, 212 micromhos May 23.

WATER TEMPERATURE: Maximum daily, 35.0°C July 25; minimum daily, 0.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
OCT										
04...	--	--	1730	22	880	8.1	--	--	--	--
13...	1028	9740	1315	26	1100	8.0	18.5	46	--	--
15...	--	--	1730	19	1140	7.9	--	--	--	--
25...	--	--	1700	24	1260	8.1	--	--	--	--
NOV										
05...	--	--	1600	66	1440	8.3	--	--	--	--
10...	1028	9740	1130	35	850	7.8	10.0	47	9.9	89
15...	--	--	1600	45	1150	8.3	--	--	--	--
25...	--	--	--	37	1310	8.2	--	--	--	--
DEC										
04...	--	--	1600	45	1310	8.2	--	--	--	--
15...	1028	9740	1200	50	1320	8.2	4.0	8	12.4	96
15...	--	--	1600	50	1320	7.8	--	--	--	--
25...	--	--	1500	43	1340	8.2	--	--	--	--
JAN										
04...	1028	9740	1000	39	990	8.7	.0	7	18.9	128
05...	--	--	1600	32	1400	8.3	--	--	--	--
16...	--	--	1600	41	1620	8.3	--	--	--	--
25...	--	--	1600	68	1660	8.5	--	--	--	--
FEB										
05...	--	--	1600	57	1040	8.4	--	--	--	--
08...	1028	9740	1245	58	1220	8.1	4.0	9	11.4	87
15...	--	--	1600	69	1290	8.2	--	--	--	--
25...	--	--	1600	59	1100	8.0	--	--	--	--
MAR										
05...	--	--	1630	64	1270	8.0	--	--	--	--
09...	1028	9740	1006	62	1200	8.8	11.5	29	14.2	134
15...	--	--	1630	95	1340	7.6	--	--	--	--
25...	--	--	1630	50	1170	7.8	--	--	--	--
APR										
04...	--	--	1630	138	994	7.7	--	--	--	--
12...	1028	9740	0935	38	960	7.8	19.0	74	9.0	98
14...	--	--	1630	30	1120	7.5	--	--	--	--
24...	--	--	1730	415	756	7.5	--	--	--	--
MAY										
05...	--	--	1730	91	912	7.3	--	--	--	--
15...	--	--	1730	37	1130	7.3	--	--	--	--
17...	1028	9740	1000	33	1000	8.0	23.0	83	7.0	82
25...	--	--	1730	2540	242	7.3	--	--	--	--
JUN										
05...	--	--	1730	495	547	7.4	--	--	--	--
14...	--	--	1730	153	795	7.9	--	--	--	--
23...	1028	9740	1815	45	940	7.9	30.0	51	7.0	92
25...	--	--	1730	45	1000	7.4	--	--	--	--
JUL										
05...	--	--	1730	291	604	7.8	--	--	--	--
13...	1028	9740	1730	139	540	8.0	30.5	125	6.1	82
15...	--	--	1730	82	634	7.6	--	--	--	--

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
JUL										
25...	--	--	1730	21	882	7.9	--	--	--	--
AUG										
04...	--	--	1730	49	1290	7.9	--	--	--	--
15...	--	--	1730	16	900	8.1	--	--	--	--
24...	1028	9740	1745	20	1080	8.3	29.0	250	7.7	101
25...	--	--	1730	24	1150	7.8	--	--	--	--
SEP										
05...	--	--	1730	127	929	7.7	--	--	--	--
15...	--	--	1730	564	374	7.7	--	--	--	--
20...	1028	9740	1945	72	750	8.0	19.0	70	9.4	103
25...	--	--	1730	30	767	7.8	--	--	--	--
DATE	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
OCT										
04...	--	200	42	--	42	--	23	--	99	51
13...	26	--	--	--	--	--	--	--	--	--
15...	--	280	95	--	58	--	33	--	240	64
25...	--	280	77	--	59	--	33	--	150	53
NOV										
05...	--	290	76	--	60	--	34	--	180	56
10...	43	--	--	--	--	--	--	--	--	--
15...	--	270	72	--	57	--	31	--	140	52
25...	--	310	77	--	65	--	36	--	150	50
DEC										
04...	--	320	86	--	63	--	39	--	150	50
15...	27	--	--	--	--	--	--	--	--	--
15...	--	310	76	--	60	--	38	--	150	51
25...	--	340	92	--	64	--	43	--	150	48
JAN										
04...	42	--	--	--	--	--	--	--	--	--
05...	--	340	93	--	67	--	43	--	160	50
16...	--	390	120	--	75	--	49	--	190	51
25...	--	380	100	--	71	--	49	--	200	53
FEB										
05...	--	250	78	--	52	--	30	--	110	48
08...	29	--	--	--	--	--	--	--	--	--
15...	--	280	96	--	58	--	33	--	160	55
25...	--	270	78	--	57	--	32	--	120	48
MAR										
05...	--	320	79	--	69	--	37	--	140	48
09...	50	--	--	--	--	--	--	--	--	--
15...	--	320	94	--	67	--	36	--	150	50
25...	--	290	83	--	61	--	33	--	130	49
APR										
04...	--	250	65	--	52	--	28	--	100	46
12...	46	--	--	--	--	--	--	--	--	--
14...	--	290	64	--	60	--	33	--	110	45
24...	--	180	57	--	39	--	20	--	82	49
MAY										
05...	--	240	65	--	52	--	26	--	92	45
15...	--	280	68	--	60	--	32	--	120	47
17...	46	--	--	--	--	--	--	--	--	--
25...	--	59	3	--	11	--	7.6	--	19	39
JUN										
05...	--	170	26	--	40	--	18	--	43	34
14...	--	240	44	--	52	--	27	--	73	39
23...	37	--	--	--	--	--	--	--	--	--
25...	--	280	57	--	62	--	30	--	100	43
JUL										
05...	--	130	48	--	29	--	14	--	72	54
13...	29	--	--	--	--	--	--	--	--	--
15...	--	190	27	--	42	--	21	--	56	38
25...	--	240	33	--	51	--	27	--	88	44
AUG										
04...	--	290	64	--	63	--	33	--	160	53
15...	--	220	46	--	48	--	24	--	100	49
24...	31	248	--	49	--	13	--	120	--	--
25...	--	270	53	--	57	--	30	--	140	53
SEP										
05...	--	190	37	--	41	--	22	--	120	56
15...	--	68	29	--	17	--	6.3	--	43	56
20...	18	--	--	--	--	--	--	--	--	--
25...	--	160	34	--	35	--	17	--	98	56

ARKANSAS RIVER BASIN

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)
OCT										
04...	3.1	--	6.6	192	0	157	2.4	62	150	--
13...	--	--	--	--	--	--	--	--	--	.4
15...	6.2	--	7.7	227	0	186	4.6	92	220	--
25...	3.9	--	8.0	252	0	207	3.2	120	210	--
NOV										
05...	4.6	--	9.6	261	0	214	2.1	120	240	--
10...	--	--	--	--	--	--	--	--	--	.6
15...	3.7	--	7.8	241	0	198	1.9	92	190	--
25...	3.7	--	8.7	285	0	234	2.9	100	210	--
DEC										
04...	3.7	--	8.5	283	0	232	2.9	110	210	--
15...	--	--	--	--	--	--	--	--	--	.6
15...	3.7	--	8.4	281	0	230	7.1	100	210	--
25...	3.6	--	8.0	298	0	244	3.0	110	210	--
JAN										
04...	--	--	--	--	--	--	--	--	--	.4
05...	3.8	--	8.5	307	0	252	2.5	110	230	--
16...	4.2	--	9.3	334	0	274	2.7	110	290	--
25...	4.5	--	9.5	329	5	278	1.7	130	270	--
FEB										
05...	3.0	--	6.2	212	1	176	1.4	73	170	--
08...	--	--	--	--	--	--	--	--	--	.4
15...	4.2	--	6.2	225	0	185	2.3	70	250	--
25...	3.2	--	6.7	239	0	196	3.8	68	180	--
MAR										
05...	3.4	--	7.3	300	0	250	4.8	87	200	--
09...	--	--	--	--	--	--	--	--	--	.5
15...	3.7	--	6.9	270	0	220	11	72	240	--
25...	3.3	--	7.0	250	0	210	6.3	64	200	--
APR										
04...	2.8	--	6.1	220	0	180	7.0	52	160	--
12...	--	--	--	--	--	--	--	--	--	.4
14...	2.8	--	6.9	270	0	221	14	64	170	--
24...	2.7	--	5.3	150	0	123	7.6	41	130	--
MAY										
05...	2.6	--	6.0	210	0	170	17	54	150	--
15...	3.1	--	7.2	260	0	210	21	84	180	--
17...	--	--	--	--	--	--	--	--	--	.4
25...	1.1	--	4.4	68	0	56	5.5	9.2	32	--
JUN										
05...	1.4	--	5.0	180	0	150	11	34	63	--
14...	2.0	--	5.8	240	0	200	4.8	53	98	--
23...	--	--	--	--	--	--	--	--	--	.5
25...	2.6	--	6.0	270	0	220	17	64	160	--
JUL										
05...	2.7	--	4.7	100	0	82	2.5	38	120	--
13...	--	--	--	--	--	--	--	--	--	.4
15...	1.8	--	5.5	200	0	164	8.0	40	73	--
25...	2.5	--	6.4	250	0	205	5.0	52	120	--
AUG										
04...	4.1	--	7.8	280	0	230	5.6	82	240	--
15...	2.9	--	7.1	210	0	172	2.7	65	140	--
24...	--	7.9	--	--	--	--	--	71	171	.6
25...	3.7	--	7.6	260	0	210	6.6	84	190	--
SEP										
05...	3.8	--	7.5	190	0	160	6.1	77	150	--
15...	2.3	--	4.2	48	0	39	1.5	12	80	--
20...	--	--	--	--	--	--	--	--	--	.3
25...	3.4	--	6.0	150	0	120	3.8	51	130	--

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)
OCT										
04...	--	482	--	.66	28.6	1.6	--	--	--	--
13...	--	--	--	--	--	--	.80	.15	--	--
15...	--	682	--	.93	35.0	2.0	--	--	--	--
25...	--	715	--	.97	46.3	.98	--	--	--	--
NOV										
05...	--	800	--	1.09	143	2.7	--	--	--	--
10...	--	--	--	--	--	--	2.4	1.5	7	2
15...	--	642	--	.87	78.0	2.3	--	--	--	--
25...	--	743	--	1.01	74.2	3.1	--	--	--	--
DEC										
04...	--	741	--	1.01	90.0	4.1	--	--	--	--
15...	--	--	--	--	--	--	2.4	<.02	--	--
15...	--	732	--	1.00	98.8	3.6	--	--	--	--
25...	--	758	--	1.03	88.0	3.8	--	--	--	--
JAN										
04...	--	--	--	--	--	--	2.7	2.3	--	--
05...	--	790	--	1.07	68.3	3.7	--	--	--	--
16...	--	915	--	1.24	101	4.2	--	--	--	--
25...	--	950	--	1.29	174	6.1	--	--	--	--
FEB										
05...	--	579	--	.79	89.1	5.0	--	--	--	--
08...	--	--	--	--	--	--	4.0	1.9	3	1
15...	--	706	--	.96	132	2.5	--	--	--	--
25...	--	608	--	.83	96.9	3.3	--	--	--	--
MAR										
05...	--	711	--	.97	123	3.1	--	--	--	--
09...	--	--	--	--	--	--	2.3	1.3	--	--
15...	--	731	--	.99	188	2.5	--	--	--	--
25...	--	644	--	.88	86.9	2.3	--	--	--	--
APR										
04...	--	550	--	.75	205	2.6	--	--	--	--
12...	--	--	--	--	--	--	2.7	.70	--	--
14...	--	627	--	.85	50.8	1.7	--	--	--	--
24...	--	428	--	.58	480	1.2	--	--	--	--
MAY										
05...	--	499	--	.68	123	--	--	--	--	--
15...	--	628	--	.85	62.7	--	--	--	--	--
17...	--	--	--	--	--	--	2.8	.61	9	2
25...	--	145	--	.20	994	--	--	--	--	--
JUN										
05...	--	308	--	.42	412	--	--	--	--	--
14...	--	438	--	.60	181	--	--	--	--	--
23...	--	--	--	--	--	--	1.0	.33	--	--
25...	--	554	--	.75	67.3	--	--	--	--	--
JUL										
05...	--	325	--	.44	255	--	--	--	--	--
13...	--	--	--	--	--	--	2.8	.62	--	--
15...	--	355	--	.48	78.6	--	--	--	--	--
25...	--	490	--	.67	27.8	--	--	--	--	--
AUG										
04...	--	716	--	.97	94.7	--	--	--	--	--
15...	--	502	--	.68	21.7	--	--	--	--	--
24...	--	--	609	--	--	--	1.8	.30	9	<1
25...	--	642	--	.87	41.6	--	--	--	--	--
SEP										
05...	--	507	--	.69	174	--	--	--	--	--
15...	--	204	--	.28	311	--	--	--	--	--
20...	--	--	--	--	--	--	<.63	.43	--	--
25...	--	415	--	.56	33.6	--	--	--	--	--

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.0	13.0	6.0	3.0	14.0	12.0	16.0	23.0	27.0	28.0	31.0	32.0
2	24.0	15.0	7.0	1.0	11.0	11.0	18.0	24.0	29.0	32.0	31.0	32.0
3	24.0	14.0	2.0	2.0	14.0	12.0	19.0	27.0	27.0	30.0	32.0	30.0
4	22.0	12.0	7.0	4.0	13.0	12.0	18.0	25.0	29.0	31.0	30.0	30.0
5	20.0	12.0	7.0	3.0	7.0	10.0	17.0	26.0	30.0	32.0	31.0	26.0
6	27.0	13.0	7.0	2.0	7.0	12.0	19.0	26.0	28.0	33.0	32.0	28.0
7	16.0	12.0	4.0	3.0	6.0	13.0	21.0	27.0	29.0	33.0	34.0	28.0
8	17.0	11.0	5.0	2.0	9.0	14.0	22.0	27.0	28.0	32.0	34.0	30.0
9	18.0	14.0	6.0	---	8.0	15.0	22.0	26.0	30.0	30.0	34.0	30.0
10	21.0	13.0	7.0	---	11.0	14.0	27.0	26.0	31.0	32.0	32.0	28.0
11	22.0	10.0	4.0	---	10.0	15.0	22.0	25.0	32.0	33.0	32.0	24.0
12	23.0	9.0	7.0	---	11.0	13.0	24.0	26.0	30.0	33.0	31.0	25.0
13	24.0	6.0	6.0	---	12.0	14.0	23.0	26.0	31.0	33.0	26.0	23.0
14	21.0	6.0	8.0	---	11.0	14.0	23.0	27.0	31.0	33.0	32.0	21.0
15	18.0	9.0	8.0	---	8.0	17.0	24.0	27.0	29.0	33.0	32.0	23.0
16	18.0	6.0	7.0	2.0	9.0	18.0	23.0	26.0	28.0	32.0	33.0	26.0
17	17.0	9.0	10.0	3.0	9.0	16.0	24.0	26.0	32.0	34.0	29.0	26.0
18	14.0	14.0	9.0	1.0	11.0	17.0	24.0	27.0	32.0	34.0	31.0	26.0
19	14.0	11.0	10.0	7.0	12.0	16.0	22.0	26.0	31.0	33.0	27.0	26.0
20	14.0	12.0	8.0	9.0	12.0	16.0	24.0	26.0	32.0	32.0	27.0	26.0
21	15.0	12.0	4.0	7.0	12.0	15.0	22.0	23.0	30.0	32.0	29.0	27.0
22	14.0	8.0	7.0	9.0	---	17.0	18.0	25.0	32.0	32.0	31.0	27.0
23	16.0	10.0	6.0	9.0	11.0	16.0	22.0	24.0	33.0	31.0	32.0	26.0
24	16.0	14.0	5.0	11.0	13.0	17.0	21.0	26.0	28.0	34.0	32.0	27.0
25	14.0	14.0	7.0	13.0	15.0	16.0	20.0	26.0	28.0	35.0	33.0	29.0
26	13.0	13.0	7.0	9.0	10.0	17.0	21.0	27.0	30.0	30.0	33.0	30.0
27	13.0	9.0	9.0	14.0	11.0	17.0	22.0	27.0	30.0	27.0	33.0	29.0
28	13.0	7.0	7.0	9.0	12.0	18.0	25.0	26.0	32.0	29.0	27.0	26.0
29	11.0	7.0	7.0	7.0	---	19.0	24.0	27.0	31.0	32.0	28.0	27.0
30	11.0	5.0	4.0	7.0	---	19.0	23.0	28.0	28.0	32.0	29.0	30.0
31	12.0	---	2.0	9.0	---	17.0	---	27.0	---	33.0	32.0	---
MEAN	17.5	10.5	6.5	6.0	10.5	15.0	21.5	26.0	30.0	32.0	31.0	27.5
WTR YR 1977	MEAN	20.0	MAX	35.0	MIN	1.0						

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	972	1380	1350	1370	248	1180	834	742	469	1110	997	1060
2	964	1390	1320	1380	973	1170	810	774	475	1140	982	1020
3	843	1410	1330	1360	1050	1200	872	819	474	417	1180	769
4	880	1380	1310	1370	1010	1240	994	861	502	654	1290	1030
5	920	1440	1270	1400	1040	1270	974	912	547	604	1320	929
6	843	1390	1300	1410	1020	1340	983	939	585	736	1290	642
7	871	1400	1380	1420	1060	1300	994	974	620	488	1090	648
8	860	1370	1400	1440	1120	1290	957	960	655	422	1180	773
9	902	1310	1470	---	1100	1270	988	1020	685	431	1160	714
10	950	1280	1390	---	1260	1300	1000	1080	710	451	1040	804
11	1010	1290	1380	---	1250	1720	1010	1100	726	480	949	988
12	1060	1160	1380	---	1780	1350	1040	1010	745	516	920	339
13	1140	1030	1430	---	1270	1280	1080	1020	760	574	985	467
14	1140	1070	1320	---	1280	1310	1120	1070	795	609	947	326
15	1140	1150	1320	---	1290	1340	1130	1130	744	634	900	374
16	1150	1220	1320	1620	1270	1310	1110	1100	817	707	839	453
17	1170	1280	1300	1660	1230	1300	1370	1040	865	688	766	472
18	1200	1240	1270	1730	1300	1330	1240	1060	893	723	771	499
19	1210	1200	1210	1710	1380	1240	1290	1010	925	755	793	540
20	1230	1190	1270	1480	1300	1190	1350	450	943	775	847	768
21	1240	1210	1320	1520	1320	1230	1150	322	973	839	997	865
22	1260	1210	1350	1640	1200	1160	508	220	980	883	1060	792
23	1250	1230	1330	1640	981	1120	825	212	980	916	1070	758
24	1260	1260	1320	1530	1040	1140	756	214	994	894	1080	740
25	1260	1310	1340	1660	1100	1170	545	242	1000	882	1150	767
26	1300	1320	1340	1490	1110	1180	802	270	1030	882	1180	744
27	1310	1300	1340	1510	1160	1090	641	285	1090	694	1140	732
28	1290	1310	1360	1470	1200	725	633	297	1240	842	1150	788
29	1370	1320	1360	1430	---	717	648	320	1390	852	1070	822
30	1310	1340	1350	1320	---	933	665	351	1220	1020	1270	814
31	1380	---	1360	1220	---	827	---	419	---	904	1200	---
MONTH	1120	1280	1340	---	1160	1200	944	717	828	727	1050	715
YEAR	MAX	1780	MIN	212	MEAN	1040						

07244800 EUFAULA LAKE NEAR BROOKEN, OK

LOCATION.--Lat 35°18'25", long 95°21'45", in SW 1/4 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 mean sea level.

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, 2,455,000 acre-ft (3.03 km³) May 29, elevation, 586.20 ft (178.674 m); minimum, 1,484,000 acre-ft (1.83 km³) Jan. 17, elevation, 575.32 ft (175.358 m).

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

575	1,460,000	581	1,946,000
577	1,610,000	584	2,228,000
579	1,772,000	587	2,539,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1772000	1696000	1560000	1542000	1517000	1561000	2076000	2183000	2427000	2312000	2228000	2226000
2	1771000	1686000	1551000	1543000	1518000	1569000	2067000	2187000	2422000	2320000	2227000	2126000
3	1767000	1682000	1545000	1540000	1520000	1574000	2073000	2194000	2417000	2322000	2222000	2124000
4	1777000	1678000	1543000	1541000	1522000	1576000	2078000	2199000	2406000	2324000	2212000	2122000
5	1778000	1672000	1547000	1535000	1522000	1577000	2064000	2197000	2401000	2322000	2205000	2131000
6	1779000	1674000	1558000	1534000	1522000	1579000	2058000	2204000	2392000	2317000	2201000	2136000
7	1777000	1673000	1567000	1527000	1523000	1580000	2056000	2205000	2387000	2307000	2198000	2139000
8	1775000	1674000	1564000	1529000	1522000	1582000	2056000	2210000	2378000	2304000	2188000	2139000
9	1773000	1666000	1564000	1524000	1522000	1578000	2054000	2209000	2368000	2311000	2177000	2136000
10	1772000	1663000	1564000	1510000	1523000	1580000	2054000	2207000	2360000	2311000	2166000	2133000
11	1769000	1658000	1565000	1500000	1527000	1595000	2046000	2207000	2359000	2306000	2162000	2133000
12	1759000	1653000	1566000	1490000	1542000	1601000	2040000	2207000	2362000	2301000	2162000	2136000
13	1752000	1653000	1567000	1490000	1546000	1604000	2036000	2207000	2351000	2296000	2162000	2136000
14	1750000	1654000	1564000	1487000	1549000	1608000	2029000	2205000	2343000	2289000	2160000	2197000
15	1748000	1648000	1560000	1484000	1548000	1608000	2032000	2207000	2335000	2280000	2160000	2196000
16	1745000	1644000	1558000	1487000	1547000	1610000	2036000	2203000	2332000	2279000	2158000	2197000
17	1742000	1639000	1556000	1484000	1545000	1618000	2041000	2204000	2322000	2277000	2158000	2200000
18	1737000	1632000	1559000	1487000	1545000	1610000	2052000	2204000	2322000	2268000	2157000	2209000
19	1727000	1629000	1560000	1487000	1545000	1614000	2064000	2228000	2322000	2261000	2154000	2204000
20	1718000	1628000	1552000	1487000	1545000	1610000	2074000	2234000	2314000	2252000	2154000	2201000
21	1709000	1630000	1549000	1487000	1551000	1613000	2107000	2285000	2314000	2246000	2154000	2199000
22	1702000	1623000	1551000	1491000	1549000	1611000	2131000	2344000	2309000	2242000	2150000	2194000
23	1709000	1617000	1548000	1498000	1549000	1611000	2143000	2374000	2307000	2240000	2148000	2189000
24	1716000	1605000	1550000	1504000	1555000	1610000	2152000	2392000	2314000	2239000	2142000	2188000
25	1711000	1610000	1550000	1509000	1560000	1608000	2155000	2411000	2320000	2226000	2129000	2189000
26	1708000	1603000	1550000	1510000	1560000	1626000	2157000	2422000	2322000	2225000	2124000	2179000
27	1699000	1603000	1549000	1514000	1563000	1628000	2166000	2423000	2320000	2234000	2119000	2171000
28	1699000	1603000	1554000	1515000	1564000	1959000	2163000	2443000	2325000	2238000	2121000	2168000
29	1695000	1585000	1547000	1518000	---	2032000	2162000	2454000	2320000	2238000	2147000	2168000
30	1698000	1576000	1542000	1517000	---	2055000	2166000	2444000	2316000	2236000	2143000	2166000
31	1699000	---	1544000	1518000	---	2060000	---	2434000	---	2226000	2138000	---
MAX	1779000	1696000	1567000	1543000	1564000	2060000	2166000	2454000	2427000	2324000	2228000	2226000
MIN	1695000	1576000	1542000	1484000	1517000	1561000	2029000	2183000	2307000	2225000	2119000	2122000
†	578.12	576.55	576.13	575.78	576.40	582.25	583.36	586.00	584.87	583.97	583.07	583.37
‡	-76,000	-123,000	-32,000	-26,000	+46,000	+496,000	+106,000	+268,000	-118,000	-90,000	-88,000	+28,000

CAL YR 1976 MAX 2555000 MIN 1542000 ‡ -367,000
WTR YR 1977 MAX 2454000 MIN 1484000 ‡ +391,000

† 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 SE 1/4 SE 1/4 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) above mean sea level. 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 25 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--25 years (water years 1939-63), 6,005 ft³/s (170 m³/s), 4,347,000 acre-ft/yr (5.36 km³/yr); 11 years (water years 1968-77), 5,776 ft³/s (163.3 m³/s), 4,185,000 acre-ft (5.16 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, 14,200 ft³/s (402 m³/s) May 24, gage height, 7.89 ft (2.405 m); minimum daily, 56 ft³/s (1.59 m³/s) May 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	941	2610	6150	455	364	563	521	76	7020	1200	927	3340
2	1710	4080	5020	69	605	112	224	1230	7140	235	664	2930
3	77	2460	2810	1610	426	97	583	451	7200	70	862	673
4	301	1870	759	1650	405	684	1960	351	7160	152	2310	100
5	810	2140	102	1540	330	117	4050	877	7190	758	4070	80
6	276	733	3160	2570	71	68	4310	393	6910	2720	995	466
7	602	88	866	1370	510	71	984	73	5570	4460	108	299
8	282	1440	796	736	711	807	122	57	5470	2060	3170	256
9	73	1130	1410	5040	126	298	516	1690	4960	296	4510	211
10	58	1090	1550	5930	68	844	111	969	4830	93	5440	78
11	1040	3050	655	4590	68	331	2690	376	1410	1920	4090	73
12	4880	2100	93	5450	122	185	3760	534	501	1860	945	1350
13	3370	743	250	4920	86	88	1830	615	3610	1870	155	517
14	826	95	1920	2030	244	554	3220	256	3410	3280	120	137
15	883	2030	2740	234	1620	180	1070	56	3480	3270	981	102
16	157	2550	2210	131	2130	555	178	891	2490	703	1200	681
17	79	2880	820	5040	2810	1620	90	2470	3730	122	1190	306
18	2120	2460	97	5510	916	190	3850	2110	980	2560	308	78
19	5250	2260	72	3010	347	402	1180	2590	119	3050	407	634
20	4580	210	1610	163	85	60	633	5880	2610	4390	254	310
21	3650	98	1080	80	730	672	934	5210	805	1720	82	437
22	3920	2470	1080	62	540	129	3100	1520	728	1120	378	1950
23	962	3950	578	93	119	86	1640	6520	366	346	1910	2990
24	159	5700	77	452	75	429	122	14000	99	445	2980	937
25	1630	1290	66	622	507	813	927	6550	112	4770	3580	85
26	2290	110	59	218	115	686	849	7430	86	1390	2270	2700
27	2550	81	385	338	70	2500	603	7140	728	996	461	2890
28	1330	68	247	109	351	692	86	7000	1090	521	152	2260
29	3570	6820	497	221	---	2130	671	7940	1600	793	211	409
30	717	5210	555	74	---	778	267	11900	2030	241	314	1930
31	102	---	729	626	---	800	---	12800	---	1750	2440	---
TOTAL	48195	61816	38443	54943	14551	17541	41241	111955	93434	49161	47484	29209
MEAN	1555	2061	1240	1772	520	566	1376	3611	3114	1586	1532	974
MAX	5250	6820	6150	5950	2810	2500	4310	14000	7200	4770	5440	3340
MIN	58	68	59	62	68	60	86	56	86	70	82	73
AC-FT	95590	122600	76250	109000	28860	34790	81880	222100	185300	97510	94180	57940
CAL YR 1976 TOTAL	1042047			MEAN 2847	MAX 13500	MIN 57	AC-FT 2067000					
WTR YR 1977 TOTAL	608013			MEAN 1666	MAX 14000	MIN 56	AC-FT 1206000					

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, 57 micromhos Apr. 20, 1976.

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 daily, 617 micromhos May 27; minimum daily, 93 micromhos March 28.

WATER TEMPERATURE: Maximum daily, 30.5°C July 24; minimum daily, 2.0°C on several days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
OCT										
05...	--	--	0830	483	8.2	--	--	--	--	--
15...	--	--	0930	510	--	--	--	--	--	--
25...	--	--	0830	379	8.2	--	--	--	--	--
27...	--	--	1000	400	7.6	14.5	10	9.8	96	--
27...	1028	9740	1001	400	7.6	14.5	--	9.8	96	12
NOV										
05...	--	--	0900	509	8.3	--	--	--	--	--
15...	--	--	0800	531	8.3	--	--	--	--	--
16...	--	--	1230	504	7.9	10.0	10	11.1	99	--
16...	1028	9740	1231	504	7.9	10.0	--	11.1	99	12
26...	--	--	0800	526	8.2	--	--	--	--	--
DEC										
04...	--	--	0830	518	8.2	--	--	--	--	--
15...	--	--	0800	501	8.3	--	--	--	--	--
20...	--	--	1315	470	8.0	7.0	10	12.5	103	--
20...	1028	9740	1316	470	8.0	7.0	--	12.5	103	--
25...	--	--	0900	536	8.3	--	--	--	--	--
JAN										
05...	--	--	0900	516	8.3	--	--	--	--	--
15...	--	--	0830	493	8.2	--	--	--	--	--
19...	--	--	1200	480	8.2	2.0	9	--	--	--
19...	1028	9740	1201	480	8.2	2.0	--	--	--	11
25...	--	--	0930	481	8.3	--	--	--	--	--
FEB										
05...	--	--	0930	504	8.5	--	--	--	--	--
15...	--	--	0930	504	8.3	--	--	--	--	--
17...	--	--	0900	490	8.3	4.0	3	10.0	75	--
17...	1028	9740	1300	490	8.3	5.0	--	10.0	77	8
25...	--	--	0930	474	8.3	--	--	--	--	--
MAR										
05...	--	--	0930	472	8.2	--	--	--	--	--
15...	--	--	0900	485	8.1	--	--	--	--	--
28...	--	--	1000	93	7.2	--	--	--	--	--
31...	--	--	0845	447	7.1	11.0	20	10.6	95	--
31...	1028	9740	0846	447	7.1	11.0	--	10.6	95	21
APR										
04...	--	--	0800	426	8.2	--	--	--	--	--
14...	--	--	0800	488	7.9	--	--	--	--	--
21...	--	--	0830	463	7.6	16.0	15	9.4	96	--
21...	1028	9740	0831	463	7.6	16.0	--	9.4	96	11
24...	--	--	0930	498	8.2	--	--	--	--	--
MAY										
04...	--	--	1000	486	7.8	--	--	--	--	--
15...	--	--	0930	514	8.2	--	--	--	--	--
25...	--	--	0930	469	7.8	--	--	--	--	--
25...	--	--	1045	480	7.7	20.0	17	7.8	86	--

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)
MAY										
25...	1028	9740	1046	480	7.7	20.0	--	7.8	86	9
JUN										
05...	--	--	0900	470	8.1	--	--	--	--	--
14...	--	--	0930	474	7.8	--	--	--	--	--
15...	--	--	1015	445	7.5	21.5	10	8.3	93	--
15...	1028	9740	1100	445	7.5	21.5	--	8.3	93	12
25...	--	--	1000	450	8.1	--	--	--	--	--
JUL										
04...	--	--	0900	490	7.9	--	--	--	--	--
15...	--	--	0900	486	7.7	--	--	--	--	--
20...	--	--	0815	400	7.2	21.5	6	6.8	76	--
20...	1028	9740	0910	400	7.2	21.5	--	6.8	76	10
24...	--	--	0900	511	7.9	--	--	--	--	--
AUG										
05...	--	--	0900	492	8.0	--	--	--	--	--
15...	--	--	1000	496	8.3	--	--	--	--	--
24...	1028	9740	0930	550	7.4	21.0	--	6.7	75	9
24...	--	--	1015	490	8.0	21.0	4	6.7	75	--
25...	--	--	1130	502	7.8	--	--	--	--	--
SEP										
05...	--	--	1000	525	8.3	--	--	--	--	--
16...	--	--	1030	482	7.9	--	--	--	--	--
21...	--	--	0810	475	7.6	20.5	4	7.0	78	--
21...	1028	9740	1215	485	7.7	23.0	--	7.6	88	10
25...	--	--	1130	528	8.0	--	--	--	--	--
DATE	FECAL COLI- FORM 7UM-MF (COL./ 100 ML)	FECAL STREP- TOCOC KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT										
05...	--	--	140	44	34	13	41	38	1.5	3.4
15...	--	--	140	39	35	13	43	39	1.6	3.6
25...	--	--	120	31	32	9.5	29	34	1.2	2.9
27...	77	>2000	130	42	34	12	43	40	1.6	3.7
27...	--	--	--	--	--	--	--	--	--	--
NOV										
05...	--	--	140	38	36	13	45	40	1.6	3.6
15...	--	--	170	33	45	14	43	35	1.4	3.3
16...	92	>10000	140	43	36	13	46	40	1.7	3.7
16...	--	--	--	--	--	--	--	--	--	--
26...	--	--	150	34	38	13	46	40	1.6	3.6
DEC										
04...	--	--	150	47	37	13	45	39	1.6	3.8
15...	--	--	140	41	33	13	45	41	1.7	3.7
20...	--	60	140	40	35	12	44	40	1.6	3.6
20...	--	--	--	--	--	--	--	--	--	--
25...	--	--	170	39	44	14	42	35	1.4	3.3
JAN										
05...	--	--	130	36	34	12	46	42	1.7	3.8
15...	--	--	130	33	33	12	42	40	1.6	3.7
19...	B10	B12	140	40	34	13	45	41	1.7	3.6
19...	--	--	--	--	--	--	--	--	--	--
25...	--	--	130	34	32	12	41	40	1.6	3.6
FEB										
05...	--	--	140	39	36	12	48	42	1.8	3.6
15...	--	--	130	37	33	12	46	42	1.7	3.6
17...	82	110	140	43	33	14	45	40	1.7	3.7
17...	--	--	--	--	--	--	--	--	--	--
25...	--	--	140	30	38	12	37	35	1.3	3.1
MAR										
05...	--	--	130	42	33	12	41	40	1.6	3.4
15...	--	--	140	46	33	13	43	40	1.6	3.6
28...	--	--	29	9	7.4	2.6	8.6	37	.7	2.1
31...	B75	46	120	42	30	12	39	40	1.5	3.3
31...	--	--	--	--	--	--	--	--	--	--
APR										
04...	--	--	120	24	31	11	35	38	1.4	2.9
14...	--	--	130	37	33	11	44	42	1.7	3.4
21...	--	230	130	37	31	12	39	39	1.5	3.3
21...	--	--	--	--	--	--	--	--	--	--
24...	--	--	150	34	40	12	41	37	1.5	3.4
MAY										
04...	--	--	140	38	35	12	43	40	1.6	3.4
15...	--	--	160	38	43	13	43	36	1.5	3.3
25...	--	--	130	37	31	12	42	41	1.6	3.4
25...	21	34	120	30	30	11	42	42	1.7	3.7

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	FECAL COLI- FORM (COL./ 100 ML)	FECAL STREP- TOCOCI KF AGAR (COL. PER 100 ML)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
MAY										
25...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	--	--	130	39	32	12	44	42	1.7	3.5
14...	--	--	130	42	33	12	45	42	1.7	3.5
15...	848	820	130	39	32	12	42	41	1.6	3.4
15...	--	--	--	--	--	--	--	--	--	--
25...	--	--	140	28	39	11	37	36	1.3	2.8
JUL										
04...	--	--	130	36	34	12	44	41	1.7	3.5
15...	--	--	130	42	33	12	44	41	1.7	3.5
20...	91	135	130	42	33	12	44	41	1.7	3.5
20...	--	--	--	--	--	--	--	--	--	--
24...	--	--	150	35	40	13	42	37	1.5	3.6
AUG										
05...	--	--	130	36	34	12	45	41	1.7	3.7
15...	--	--	140	43	35	13	45	40	1.7	3.6
24...	--	--	--	--	--	--	--	--	--	--
24...	190	130	130	34	35	11	43	40	1.6	3.9
25...	--	--	140	40	34	13	45	41	1.7	3.8
SEP										
05...	--	--	160	32	44	13	44	36	1.5	3.5
16...	--	--	140	29	38	12	41	38	1.5	3.3
21...	84	63	140	33	36	12	44	40	1.6	4.2
21...	--	--	--	--	--	--	--	--	--	--
25...	--	--	150	39	40	13	47	39	1.7	3.7
DATE	BICAR- BONATE (MCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)
OCT										
05...	115	0	94	1.2	32	62	--	--	260	--
15...	124	0	102	--	37	68	--	--	270	--
25...	107	0	88	1.1	30	42	--	--	210	--
27...	113	0	93	4.5	33	68	.2	4.0	272	254
27...	--	--	--	--	--	--	--	--	--	--
NOV										
05...	128	0	105	1.0	42	70	--	--	275	--
15...	167	0	137	1.3	39	63	--	--	292	--
16...	123	0	101	2.5	38	68	.3	3.8	269	270
16...	--	--	--	--	--	--	--	--	--	--
26...	139	0	114	1.4	42	71	--	--	288	--
DEC										
04...	121	0	99	1.2	41	78	--	--	300	--
15...	116	0	95	.9	40	75	--	--	279	--
20...	118	0	97	1.9	40	78	.3	4.6	291	276
20...	--	--	--	--	--	--	--	--	--	--
25...	157	0	129	1.3	36	71	--	--	297	--
JAN										
05...	120	0	98	1.0	42	79	--	--	274	--
15...	120	0	98	1.2	43	68	--	--	266	--
19...	120	0	98	1.2	34	74	.3	3.9	387	267
19...	--	--	--	--	--	--	--	--	--	--
25...	116	0	95	.9	42	67	--	--	258	--
FEB										
05...	118	2	100	.6	40	75	--	--	272	--
15...	115	0	94	.9	38	76	--	--	274	--
17...	118	0	97	.9	37	74	.2	3.8	270	269
17...	--	--	--	--	--	--	--	--	--	--
25...	139	0	114	1.1	37	59	--	--	257	--
MAR										
05...	110	0	90	1.1	39	67	--	--	265	--
15...	110	0	90	1.4	39	67	--	--	270	--
28...	25	0	21	2.5	13	6.9	--	--	86	--
31...	100	0	82	13	38	59	.2	4.5	240	235
31...	--	--	--	--	--	--	--	--	--	--
APR										
04...	120	0	98	1.2	35	49	--	--	242	--
14...	110	0	90	2.2	39	67	--	--	269	--
21...	110	0	90	4.4	35	60	.3	4.1	245	239
21...	--	--	--	--	--	--	--	--	--	--
24...	140	0	115	1.4	37	60	--	--	277	--
MAY										
04...	120	0	98	3.0	39	67	--	--	267	--
15...	150	0	120	1.5	39	65	--	--	278	--
25...	110	0	90	2.8	38	67	--	--	247	--
25...	110	0	90	3.5	38	68	.2	2.7	255	250

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
MAY										
25...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	110	0	90	1.4	41	70	--	--	255	--
14...	110	0	90	2.8	39	66	--	--	255	--
15...	110	0	90	5.6	40	66	.2	3.2	253	253
15...	--	--	--	--	--	--	--	--	--	--
25...	140	0	110	1.8	32	49	--	--	238	--
JUL										
04...	120	0	98	2.4	39	64	--	--	270	--
15...	110	0	90	3.5	41	65	--	--	269	--
20...	110	0	90	11	40	65	.2	3.9	260	256
20...	--	--	--	--	--	--	--	--	--	--
24...	140	0	110	2.8	40	63	--	--	281	--
AUG										
05...	120	0	98	1.9	46	63	--	--	272	--
15...	120	0	98	1.0	42	63	--	--	278	--
24...	--	--	--	--	--	--	--	--	--	--
24...	120	0	98	1.9	40	69	.2	4.5	270	266
25...	120	0	98	3.0	43	63	--	--	278	--
SEP										
05...	160	0	130	1.3	45	65	--	--	287	--
16...	140	0	110	2.8	36	61	--	--	264	--
21...	130	0	110	5.2	40	68	.2	5.1	278	274
21...	--	--	--	--	--	--	--	--	--	--
25...	140	0	110	2.2	42	70	--	--	287	--
DATE	DIS- SOLVED SOLIDS (TONS PER AC-FT)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)	
OCT										
05...	.35	--	.28	--	--	--	--	--	--	
15...	.37	--	.28	--	--	--	--	--	--	
25...	.29	--	.28	--	--	--	--	--	--	
27...	.37	.11	--	--	.64	.75	3.3	.03	--	
27...	--	--	--	--	.80	--	--	--	--	
NOV										
05...	.37	--	.18	--	--	--	--	--	--	
15...	.40	--	.19	--	--	--	--	--	--	
16...	.37	.15	--	--	.52	.67	3.0	.06	--	
16...	--	--	--	--	1.1	--	--	--	--	
26...	.39	--	.13	--	--	--	--	--	--	
DEC										
04...	.41	--	.46	--	--	--	--	--	--	
15...	.38	--	.18	--	--	--	--	--	--	
20...	.40	.27	--	--	.48	.75	3.3	.07	--	
20...	--	--	--	--	--	--	--	--	--	
25...	.40	--	.03	--	--	--	--	--	--	
JAN										
05...	.37	--	.27	--	--	--	--	--	--	
15...	.36	--	.29	--	--	--	--	--	--	
19...	.53	.19	--	--	.33	.52	2.3	.02	--	
19...	--	--	--	--	.50	--	--	--	--	
25...	.35	--	.31	--	--	--	--	--	--	
FEB										
05...	.37	--	.23	--	--	--	--	--	--	
15...	.37	--	.23	--	--	--	--	--	--	
17...	.37	.10	--	--	.32	.42	1.9	.07	--	
17...	--	--	--	--	2.0	--	--	--	--	
25...	.35	--	.12	--	--	--	--	--	--	
MAR										
05...	.36	--	.21	--	--	--	--	--	--	
15...	.37	--	.21	--	--	--	--	--	--	
28...	.12	--	1.2	--	--	--	--	--	--	
31...	.33	.03	--	--	.73	.76	3.4	.04	--	
31...	--	--	--	--	1.5	--	--	--	--	
APR										
04...	.33	--	.04	--	--	--	--	--	--	
14...	.37	--	.16	--	--	--	--	--	--	
21...	.33	.16	--	--	.35	.51	2.3	.05	--	
21...	--	--	--	--	1.0	--	--	--	--	
24...	.38	--	.10	--	--	--	--	--	--	
MAY										
04...	.36	--	--	--	--	--	--	--	--	
15...	.38	--	--	--	--	--	--	--	--	
25...	.34	--	--	--	--	--	--	--	--	
25...	.35	.21	--	--	.63	.84	3.7	.03	--	

ARKANSAS RIVER BASIN

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	DIS- SOLVED SOLIDS (TONS PER AC=FT)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)		
DATE											
MAY											
25...	--	--	--	--	1.0	--	--	--	--		
JUN											
05...	.35	--	--	--	--	--	--	--	--		
14...	.35	--	--	--	--	--	--	--	--		
15...	.34	.23	--	--	.33	.56	2.5	.02	--		
15...	--	--	--	--	.71	--	--	--	--		
25...	.32	--	--	--	--	--	--	--	--		
JUL											
04...	.37	--	--	--	--	--	--	--	--		
15...	.37	--	--	--	--	--	--	--	--		
20...	.35	.21	--	--	.83	1.0	4.6	.03	--		
20...	--	--	--	--	1.1	--	--	--	--		
24...	.38	--	--	--	--	--	--	--	--		
AUG											
05...	.37	--	--	--	--	--	--	--	--		
15...	.38	--	--	--	--	--	--	--	--		
24...	--	--	--	--	1.2	--	--	--	--		
24...	.37	.05	--	--	.54	.59	2.6	.04	--		
25...	.38	--	--	--	--	--	--	--	--		
SEP											
05...	.39	--	--	--	--	--	--	--	--		
16...	.36	--	--	--	--	--	--	--	--		
21...	.38	.03	--	.14	--	--	--	.16	.16		
21...	--	--	--	--	1.1	--	--	--	--		
25...	.39	--	--	--	--	--	--	--	--		
DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS- PENDE D ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	SUS- PENDE D CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	SUS- PENDE D CHRO- MIUM (CR) (UG/L)
UCT											
27...	--	--	1000	--	--	--	--	--	--	--	--
27...	1028	9740	1001	--	--	--	--	--	--	--	--
NOV											
16...	--	--	1230	0	0	0	<10	<7	3	0	0
16...	1028	9740	1231	--	--	--	--	--	--	--	--
DEC											
20...	--	--	1315	--	--	--	--	--	--	--	--
20...	1028	9740	1316	--	--	--	--	--	--	--	--
JAN											
19...	--	--	1200	--	--	--	--	--	--	--	--
19...	1028	9740	1201	--	--	--	--	--	--	--	--
FEB											
17...	--	--	0900	1	0	1	<10	<9	1	0	0
17...	1028	9740	1300	--	--	--	--	--	--	--	--
MAR											
31...	--	--	0845	--	--	--	--	--	--	--	--
31...	1028	9740	0846	--	--	--	--	--	--	--	--
APR											
21...	--	--	0830	--	--	--	--	--	--	--	--
21...	1028	9740	0831	--	--	--	--	--	--	--	--
MAY											
25...	--	--	1045	0	0	0	<10	<7	3	10	10
25...	1028	9740	1046	--	--	--	--	--	--	--	--
JUN											
15...	--	--	1015	--	--	--	--	--	--	--	--
15...	1028	9740	1100	--	--	--	--	--	--	--	--
JUL											
20...	--	--	0815	--	--	--	--	--	--	--	--
20...	1028	9740	0910	--	--	--	--	--	--	--	--
AUG											
24...	1028	9740	0930	--	--	--	--	--	--	--	--
24...	--	--	1015	2	0	2	10	0	11	0	0
SEP											
21...	--	--	0810	--	--	--	--	--	--	--	--
21...	1028	9740	1215	--	--	--	--	--	--	--	--

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS- PENDED COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS- PENDED COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS- PENDED LEAD (PB) (UG/L)
OCT											
27...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	100	--	--	--
NOV											
16...	0	<50	<50	0	<10	<3	7	700	30	<100	<79
16...	--	--	--	--	--	--	--	90	--	--	--
DEC											
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
JAN											
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	<50	--	--	--
FEB											
17...	0	<50	<50	0	20	16	4	150	10	<100	<100
17...	--	--	--	--	--	--	--	--	--	--	--
MAR											
31...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	180	--	--	--
APR											
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	290	--	--	--
MAY											
25...	0	<50	<50	0	20	14	6	410	0	<100	<100
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
15...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	190	--	--	--
JUL											
20...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	<200	--	--	--
AUG											
24...	--	--	--	--	--	--	--	--	--	--	--
24...	0	<50	<50	0	50	31	19	280	30	100	87
SEP											
21...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	500	--	--	--

DATE	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	SUS- PENDED MANGANESE (MN) (UG/L)	DIS- SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS- PENDED MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	SUS- PENDED SELENIUM (SE) (UG/L)
OCT										
27...	--	--	--	--	--	--	--	--	--	--
27...	--	73	--	--	--	--	--	--	--	--
NOV										
16...	21	90	80	10	.0	.0	.0	--	0	0
16...	--	65	--	--	--	--	--	6	--	--
DEC										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
JAN										
19...	--	--	--	--	--	--	--	--	--	--
19...	--	37	--	--	--	--	--	--	--	--
FEB										
17...	0	50	40	10	.1	.0	.1	--	1	0
17...	--	--	--	--	--	--	--	5	--	--
MAR										
31...	--	--	--	--	--	--	--	--	--	--
31...	--	50	--	--	--	--	--	--	--	--
APR										
21...	--	--	--	--	--	--	--	--	--	--
21...	--	70	--	--	--	--	--	--	--	--
MAY										
25...	0	40	30	8	.0	.0	.0	--	0	0
25...	--	--	--	--	--	--	--	<2	--	--
JUN										
15...	--	--	--	--	--	--	--	--	--	--
15...	--	50	--	--	--	--	--	--	--	--
JUL										
20...	--	--	--	--	--	--	--	--	--	--
20...	--	160	--	--	--	--	--	--	--	--
AUG										
24...	--	--	--	--	--	--	--	6	--	--
24...	13	130	50	80	.2	.2	.0	--	0	0
SEP										
21...	--	--	--	--	--	--	--	--	--	--
21...	--	210	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	NOV 16,76 1230	DEC 20,76 1315	JAN 19,77 1200	FEB 17,77 0900	MAY 25,77 1045			
TOTAL CELLS/ML	2300	1500	770	1500	100000			
DIVERSITY: DIVISION	1.5	1.7	1.2	0.9	0.2			
..CLASS	1.5	1.7	1.2	0.9	0.2			
...ORDER	2.1	2.2	1.5	1.6	0.3			
...FAMILY	2.5	2.7	2.2	2.2	0.4			
....GENUS	3.1	3.2	3.5	3.0	0.4			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT		
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	* 0	
...CHLOROCOCCACEAE								
...CHLOROCOCCUM	--	-	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	61	3	--	-	--	-	--	-
...HYDRODICTYACEAE								
...PEDIASTRUM	61	3	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	--	-
...MICRACTINIUM	--	-	* 0	--	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	15	1	32 2	36 5	650# 43	1300 1		
....CHLORELLA	--	-	--	20 3	--	--	--	-
....CHODATELLA	--	-	--	20 3	200 13	--	--	-
....DICTYOSPHAERIUM	--	-	--	120# 15	--	--	--	-
....KIRCHNERIELLA	--	-	9 1	--	--	--	--	-
...NEPHROCITIUM	27 1	--	--	--	--	--	--	-
...OOCYSTIS	15 1	36 2	60 8	41 3	--	--	--	-
...QUADRIGULA	--	--	--	31 2	--	--	--	-
...SELENASTRUM	--	--	8 1	--	--	--	--	-
...TETRAEDRON	15 1	--	--	--	--	--	--	-
...TREUBARIA	* 0	--	--	--	--	--	--	-
...WESTELLA	--	--	--	--	--	--	--	-
...SCENEDESMACEAE								
....CRUCIGENIA	61 3	72 5	40 5	--	--	--	--	-
...SCENEDESMUS	190 8	54 4	48 6	--	--	--	--	-
...TETRADESMUS	* 0	--	--	--	--	--	--	-
...TETRASTRUM	61 3	130 8	190# 25	41 3	--	--	--	-
...TETRASPORALES								
...COCCOMYXACEAE								
...ELAKATOTHRIX	--	--	--	--	--	--	--	-
...PALMELLACEAE								
...SPHAEROCYSTIS	--	45 3	--	--	--	--	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	* 0	--	--	10 1	--	--	--	-
...CHLAMYDOMONAS	--	32 2	44 6	120 8	--	--	--	-
...VOLVOCAEAE								
....GONIUM	--	--	--	83 5	--	--	--	-
...ZYGNEMATALES								
...DESMIDIACEAE								
...COSMARIIUM	--	--	--	--	--	--	--	-
CHRYSDOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	180 8	68 5	12 2	83 5	--	--	--	-
...MELOSIRA	23 1	72 5	48 6	--	--	--	--	-
...STEPHANODISCUS	--	--	--	--	--	--	--	-
...PENNALES								
...ACHNANTHACEAE								
...ACHNANTHES	--	--	--	10 1	--	--	--	-
...CYMBELLACEAE								
...AMPHORA	--	--	* 0	--	--	--	--	-
...CYMBELLA	* 0	--	--	--	--	--	--	-
...DIATOMACEAE								
...DIATOMA	--	14 1	--	21 1	--	--	--	-
...FRAGILARIACEAE								
...FRAGILARIA	--	--	--	--	--	--	--	-
...SYNEDRA	* 0	--	--	10 1	--	--	--	-
...GOMPHONEMATACEAE								
...GOMPHONEMA	--	14 1	--	--	--	--	--	-
...NAVICULACEAE								
...ANOMOEONEIS	--	--	8 1	--	--	--	--	-
...NAVICULA	120 5	68 5	--	31 2	700 1			
...NEIDIUM	--	--	--	--	--	--	--	-
...STAURONEIS	--	54 4	--	--	--	--	--	-

ARKANSAS RIVER BASIN

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07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	NOV 16,76 1230		DEC 20,76 1315		JAN 19,77 1200		FEB 17,77 0900		MAY 25,77 1045	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
...NITZSCHIAEAE										
...NITZSCHIA	27	1	100	7	4	1	110	8	*	0
...SURIRELLACEAE										
...SURIRELLA	--	-	--	-	--	-	10	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
..CHROCOCCALES										
..CHROCOCCACEAE										
....AGMENELLUM	970#	42	--	-	--	-	--	-	--	-
....ANACYSTIS	100	5	630#	42	80	10	--	-	--	-
....COCCOCHLORIS	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES										
..NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-
..OSCILLATORIAEAE										
....LYNGBYA	--	-	--	-	--	-	--	-	96000#	96
....OSCILLATORIA	280	12	--	-	--	-	--	-	--	-
....RIVULARIAEAE										
....GLOEOTRICHIA	--	-	--	-	--	-	--	-	--	-
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	930	1
..CHROCOCCALES										
..CHROCOCCACEAE										
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..CRYPTOPHYCEAE										
..CRYPTOMONIDALES										
..CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	32	2	--	-	10	1	--	-
....CRYPTOMONODACEAE	--	-	18	1	--	-	10	1	--	-
..EUGLENOPHYCEAE										
..EUGLENALES										
....EUGLENAEAE										
....EUGLENA	--	-	--	-	--	-	10	1	--	-
....TRACHELOMONAS	50	2	*	0	20	3	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
..GYMNODINIALES										
..GYMNODINIACEAE										
....GYMNODINIUM	--	-	--	-	--	-	21	1	--	-
..PERIDINIALES										
..PERIDINIACEAE										
....PERIDINIUM	--	-	--	-	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

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUN 15,77 1015	JUL 20,77 0815	AUG 24,77 1015	SEP 21,77 0810
TOTAL CELLS/ML	90	1600	10000	41000
DIVERSITY: DIVISION	1.2	1.1	0.3	0.4
..CLASS	1.2	1.1	0.3	0.4
...ORDER	1.6	1.8	1.3	1.4
...FAMILY	2.0	2.3	1.3	1.9
....GENUS	2.4	2.9	1.9	3.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	13	14	41	3	*	0	--	-
...CHLOROCOCCACEAE	--	-	--	-	--	-	*	0
...CHLOROCOCCUM	--	-	--	-	--	-	--	-
...COELASTRACEAE	--	-	83	5	210	2	--	-
...COELASTRUM	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE	--	-	--	-	--	-	--	-
...PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE	--	-	--	-	--	-	--	-
...GULENKINIA	--	-	10	1	--	-	*	0
...MICRACTINIUM	--	-	--	-	--	-	--	-
...UOCYSTACEAE								
....ANKISTRODESMUS	3	4	10	1	*	0	*	0
...CHLORELLA	--	-	--	-	--	-	--	-
...CHODATELLA	--	-	--	-	--	-	--	-
...DICTYOSPHAERIUM	--	-	--	-	--	-	930	2
...KIRCHNERIELLA	--	-	41	3	--	-	*	0
...NEPHROCITIUM	--	-	--	-	--	-	--	-
...UOCYSTIS	26*	29	93	6	--	-	*	0
...QUADRIGULA	--	-	--	-	--	-	--	-
...SELENASTRUM	--	-	--	-	--	-	--	-
...TETRAEURON	--	-	--	-	--	-	*	0
...TREUBAKIA	--	-	--	-	--	-	--	-
...WESTELLA	6	7	--	-	--	-	370	1
...SCENEDESMACEAE								
....CRUCIGENIA	--	-	--	-	110	1	--	-
...SCENEDESMUS	--	-	41	3	--	-	330	1
...TETRADESMUS	--	-	--	-	--	-	--	-
...TETRASTRUM	--	-	--	-	--	-	--	-
...TETRASPORALES								
...CUCCUMYXACEAE								
...ELAKATOTHRIX	--	-	--	-	--	-	*	0
...PALMELLACEAE	--	-	--	-	--	-	--	-
...SPHAERUCYSTIS	--	-	--	-	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	--	-	10	1	--	-	--	-
...CHLAMYDOMONAS	6	7	21	1	--	-	*	0
...VOLVOCAEAE	--	-	--	-	--	-	--	-
...GONIUM	--	-	--	-	--	-	--	-
...ZYGNEMATALES								
...DESMIDIACEAE								
...COSMARIVUM	--	-	21	1	--	-	*	0
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...CUSCINIDISCACEAE								
...CYCLOTETRA	--	-	10	1	*	0	240	1
...MELOSIRA	--	-	31	2	*	0	370	1
...STEPHANODISCUS	--	-	--	-	--	-	--	-
...PENNALES								
...ACHNANTHACEAE	--	-	--	-	--	-	--	-
...ACHNANTHES	--	-	--	-	--	-	--	-
...CYMBELLACEAE	--	-	--	-	--	-	--	-
...AMPHORA	--	-	--	-	--	-	--	-
...CYMBELLA	--	-	--	-	--	-	--	-
...DIATOMACEAE	--	-	--	-	--	-	--	-
...DIATOMA	--	-	--	-	--	-	--	-
...FRAGILARIACEAE	--	-	--	-	64	1	*	0
...FRAGILARIA	--	-	--	-	--	-	--	-
...SYNEDRA	--	-	10	1	--	-	--	-
...GOMPHONEMACEAE								
...GOMPHONEMA	--	-	--	-	--	-	--	-
...NAVICULACEAE	--	-	--	-	--	-	--	-
...ANOMOEONEIS	--	-	--	-	--	-	--	-
...NAVICULA	--	-	41	3	*	0	*	0
...NEIDIVUM	--	-	*	0	--	-	--	-
...STAURONIFIS	--	-	--	-	--	-	--	-

ARKANSAS RIVER BASIN

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07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	JUN 15,77 1015		JUL 20,77 0815		AUG 24,77 1015		SEP 21,77 0810	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
...NITZSCHIACEAE								
...NITZSCHIA	--	-	--	-	--	-	*	0
...SURIPELLACEAE								
...SURIPELLA	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
..CHROCOCCALES								
..CHROCOCCACEAE								
...AGMENELLUM	--	-	660# 41		4400# 43		7400# 18	
...ANACYSTIS	29# 32		270# 16		790 8		6300# 15	
...COCCUHLORIS	--	-	--	-	--	-	1100 3	
..HORMOGONALES								
..NUSTOCACEAE								
...ANABAENA	--	-	200 12		720 7		3600 9	
...APHANIZOMENON	--	-	--	-	3900# 38		--	-
..OSCILLATORIACEAE								
...LYNGBYA	--	-	--	-	--	-	3000 7	
...OSCILLATORIA	--	-	41 3		--	-	12000# 28	
..RIVULARIACEAE								
...GLOEOTRICHIA	--	-	--	-	--	-	770 2	
...RAPHIIDIOPSIS	--	-	--	-	--	-	--	-
..CHROCOCCALES								
..CHROCOCCACEAE								
...GOMPHOSPHAERIA	--	-	--	-	--	-	4600 11	
EUGLENOPHYTA (EUGLENOIDS)								
..CRYPTOPHYCEAE								
..CRYPTOMONIDALES								
..CRYPTOCHRYSIDACEAE								
...CHROOMONAS	--	-	--	-	*	0	--	-
..CRYPTOMONADACEAE								
...CRYPTOMONAS	--	-	--	-	--	-	--	-
..EUGLENOPHYCEAE								
..EUGLENALES								
..EUGLENACEAE								
...EUGLENA	6 7		--	-	--	-	--	-
...TRACHELOMONAS	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
..GYMNODINIALES								
..GYMNODINIACEAE								
...GYMNODINIUM	--	-	--	-	--	-	--	-
..PERIDINIALES								
..PERIDINIACEAE								
...PERIDINIUM	--	-	--	-	--	-	--	-

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

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

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	14.0	11.0	4.0	5.0	8.0	13.0	18.0	18.0	28.0	24.0	25.0
2	24.0	14.0	9.0	4.0	5.0	9.0	19.0	18.0	18.0	28.0	---	24.0
3	23.0	14.0	10.0	4.0	6.0	9.0	12.0	15.0	19.0	25.0	24.0	29.0
4	22.0	14.0	10.0	5.0	5.0	10.0	12.0	18.0	20.0	24.0	23.0	28.0
5	21.0	11.0	8.0	5.0	4.0	10.0	11.0	19.0	20.0	24.0	23.0	25.0
6	18.0	14.0	8.0	5.0	4.0	8.0	12.0	17.0	19.0	24.0	24.0	24.0
7	18.0	13.0	6.0	3.0	4.0	8.0	12.0	23.0	18.0	26.0	26.0	23.0
8	18.0	13.0	7.0	5.0	4.0	10.0	17.0	23.0	19.0	---	26.0	23.0
9	16.0	13.0	6.0	5.0	6.0	10.0	20.0	22.0	20.0	24.0	26.0	26.0
10	16.0	14.0	10.0	5.0	14.0	---	22.0	16.0	23.0	24.0	26.0	24.0
11	17.0	14.0	8.0	3.0	10.0	---	16.0	18.0	21.0	28.0	26.0	24.0
12	19.0	11.0	7.0	3.0	10.0	---	14.0	15.0	24.0	26.0	25.0	26.0
13	20.0	11.0	6.0	4.0	9.0	---	14.0	16.0	24.0	23.0	26.0	22.0
14	20.0	8.0	8.0	4.0	5.0	---	14.0	21.0	21.0	26.0	27.0	22.0
15	20.0	8.0	7.0	5.0	5.0	---	14.0	24.0	21.0	23.0	27.0	23.0
16	18.0	11.0	7.0	2.0	5.0	11.0	21.0	24.0	22.0	24.0	27.0	26.0
17	14.0	11.0	9.0	2.0	5.0	11.0	21.0	18.0	21.0	24.0	23.0	23.0
18	14.0	11.0	9.0	2.0	5.0	19.0	18.0	18.0	24.0	24.0	24.0	23.0
19	17.0	11.0	11.0	2.0	8.0	11.0	15.0	16.0	24.0	23.0	24.0	25.0
20	15.0	12.0	5.0	6.0	12.0	9.0	15.0	19.0	21.0	23.0	22.0	26.0
21	15.0	10.0	---	4.0	9.0	10.0	15.0	19.0	21.0	24.0	23.0	26.0
22	16.0	8.0	---	4.0	11.0	10.0	15.0	19.0	23.0	24.0	24.0	25.0
23	18.0	11.0	---	4.0	12.0	10.0	14.0	19.0	24.0	24.0	25.0	25.0
24	19.0	10.0	---	4.0	11.0	12.0	19.0	18.0	24.0	27.0	28.0	24.0
25	15.0	13.0	---	4.0	11.0	13.0	14.0	18.0	24.0	24.0	28.0	26.0
26	15.0	15.0	---	5.0	11.0	12.0	20.0	18.0	24.0	24.0	24.0	24.0
27	14.0	9.0	---	5.0	11.0	14.0	14.0	18.0	26.0	24.0	27.0	24.0
28	14.0	3.0	---	3.0	8.0	14.0	17.0	19.0	26.0	23.0	24.0	22.0
29	15.0	3.0	6.0	2.0	---	14.0	18.0	20.0	26.0	25.0	25.0	22.0
30	14.0	9.0	6.0	4.0	---	14.0	18.0	18.0	26.0	23.0	24.0	24.0
31	14.0	---	2.0	2.0	---	11.0	---	18.0	---	27.0	25.0	---
MONTH	17.5	11.0	---	4.0	7.5	11.0	16.0	19.0	22.0	24.5	25.0	24.5
YEAR	MAX	29.0	MIN	2.0	MEAN	16.0						

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	530	525	513	511	493	483	371	496	471	490	486	495
2	510	501	513	537	490	492	457	504	473	492	485	495
3	522	501	513	534	490	482	430	480	471	504	491	518
4	537	510	518	512	495	471	426	486	473	490	489	518
5	483	509	532	516	504	472	502	502	470	490	492	525
6	502	510	505	512	507	483	492	479	472	484	491	536
7	519	526	470	512	504	475	472	511	469	482	514	513
8	508	509	495	515	504	499	476	509	473	---	530	514
9	526	507	509	513	506	501	500	509	474	504	497	504
10	532	508	504	514	514	513	503	484	475	501	497	521
11	534	507	498	514	508	383	513	494	472	509	495	520
12	500	509	494	514	387	315	486	487	504	487	496	521
13	496	508	503	509	384	406	486	487	500	486	519	485
14	510	524	497	507	495	412	488	483	474	490	514	458
15	500	536	501	493	504	485	484	514	474	486	496	453
16	512	511	502	436	496	479	505	517	477	487	498	482
17	528	510	506	483	505	486	500	475	478	514	484	499
18	537	510	521	501	504	481	504	477	502	525	517	505
19	499	510	533	498	509	485	483	481	506	488	517	518
20	503	514	544	504	503	492	485	464	478	488	492	510
21	504	536	510	517	504	489	456	461	481	486	512	513
22	507	548	511	455	508	497	467	490	504	491	522	514
23	504	515	513	521	467	508	471	490	501	467	488	513
24	497	510	527	454	462	503	498	467	504	511	498	510
25	379	511	536	481	474	510	513	469	450	484	502	528
26	491	526	549	479	480	504	493	471	449	488	502	516
27	495	548	550	475	467	100	486	467	481	360	511	511
28	500	560	522	452	486	93	511	470	486	473	526	490
29	512	573	517	498	---	478	484	465	446	500	279	509
30	497	519	521	505	---	110	498	465	479	489	400	520
31	514	---	520	521	---	454	---	463	---	487	487	---
MONTH	506	520	514	500	488	437	481	484	479	488	490	507
YEAR	MAX	573	MIN	93	MEAN	491						

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	20.0	---	26.5	---
2								---	20.5	---	27.0	---
3								---	20.5	---	28.0	---
4								---	21.0	---	25.5	---
5								---	21.0	---	24.5	---
6								---	21.0	---	27.0	---
7								---	21.0	---	29.5	---
8								---	21.0	---	28.0	---
9								---	22.0	---	26.0	---
10								---	22.5	---	25.5	---
11								---	24.0	---	25.5	---
12								---	25.0	---	27.0	---
13								---	24.5	---	28.0	---
14								---	23.0	---	29.0	---
15								---	---	24.5	28.5	---
16								---	---	26.0	26.0	---
17								---	---	29.0	25.0	---
18								---	---	28.0	26.0	---
19								---	---	25.0	25.0	---
20								---	---	23.5	23.5	---
21								---	---	24.5	26.5	---
22								---	---	25.5	28.0	24.0
23								---	---	28.0	25.5	24.0
24								---	---	30.5	26.0	26.0
25								19.5	---	25.0	25.5	27.5
26								19.0	---	26.0	26.0	27.0
27								19.5	---	25.0	26.5	25.0
28								19.0	---	25.5	25.5	24.0
29								20.0	---	27.5	25.5	25.0
30								20.0	---	28.5	27.5	26.0
31								20.0	---	27.5	---	---
MEAN								19.5	22.0	26.5	26.5	25.5
WTR YR 1977	MEAN	25.0		MAX	30.5		MIN	19.0				

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						382	---	453	---	490	---
2	---						---	---	471	---	493	---
3	---						---	---	468	---	487	---
4	---						---	---	453	---	490	---
5	---						---	---	461	---	491	---
6	---						---	---	456	---	497	---
7	---						---	---	452	---	519	---
8	---						---	---	453	---	515	---
9	---						---	---	488	---	494	---
10	---						---	---	467	---	488	---
11	---						---	---	455	---	491	---
12	---						---	---	501	---	503	---
13	---						---	---	490	---	515	---
14	---						---	---	474	490	512	---
15	---						---	---	474	487	485	---
16	---						---	---	---	493	498	---
17	---						---	---	---	519	491	---
18	---						---	---	---	509	527	---
19	---						---	---	---	482	514	---
20	---						---	---	---	483	494	---
21	---						---	---	---	493	515	514
22	---						418	---	---	493	523	513
23	---						518	---	---	498	461	509
24	---						---	---	---	514	499	512
25	---						---	---	---	477	501	527
26	---						---	510	---	491	506	504
27	---						---	617	---	378	509	508
28	598						---	450	---	480	494	488
29	513						---	445	---	492	290	497
30	---						---	474	---	501	395	509
31	---						---	467	---	481	508	---
MEAN	556						439	494	468	487	490	508
WTR YR 1977	MEAN	488		MAX	617		MIN	290				

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

DISSOLVED CHLORIDE (CL), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						52	---	62	---	67	---
2	---						---	---	64	---	68	---
3	---						---	---	64	---	67	---
4	---						---	---	62	---	67	---
5	---						---	---	63	---	67	---
6	---						---	---	62	---	68	---
7	---						---	---	62	---	71	---
8	---						---	---	62	---	71	---
9	---						---	---	67	---	68	---
10	---						---	---	64	---	67	---
11	---						---	---	62	---	67	---
12	---						---	---	69	---	69	---
13	---						---	---	67	---	71	---
14	---						---	---	65	67	70	---
15	---						---	---	65	67	66	---
16	---						---	---	---	68	68	---
17	---						---	---	---	71	67	---
18	---						---	---	---	70	72	---
19	---						---	---	---	66	71	---
20	---						---	---	---	66	68	---
21	---						---	---	---	68	71	71
22	---						57	---	---	68	72	70
23	---						71	---	---	68	63	70
24	---						---	---	---	71	68	70
25	---						---	---	---	65	69	72
26	---						---	70	---	67	69	69
27	---						---	85	---	51	70	70
28	82						---	61	---	66	68	67
29	70						---	61	---	67	39	68
30	---						---	65	---	69	54	70
31	---						---	64	---	66	70	---
MEAN	76						60	68	64	67	67	70
WTR YR 1977	MEAN	67		MAX	85	MIN	39					

DISSOLVED SULFATE (SU4), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						32	---	37	---	39	---
2	---						---	---	38	---	39	---
3	---						---	---	38	---	39	---
4	---						---	---	37	---	39	---
5	---						---	---	37	---	39	---
6	---						---	---	37	---	39	---
7	---						---	---	37	---	41	---
8	---						---	---	37	---	41	---
9	---						---	---	39	---	39	---
10	---						---	---	38	---	39	---
11	---						---	---	37	---	39	---
12	---						---	---	40	---	40	---
13	---						---	---	39	---	41	---
14	---						---	---	38	39	40	---
15	---						---	---	38	39	39	---
16	---						---	---	---	39	40	---
17	---						---	---	---	41	39	---
18	---						---	---	---	40	41	---
19	---						---	---	---	39	40	---
20	---						---	---	---	39	39	---
21	---						---	---	---	39	41	40
22	---						35	---	---	39	41	40
23	---						41	---	---	40	37	40
24	---						---	---	---	40	40	40
25	---						---	---	---	38	40	41
26	---						---	40	---	39	40	40
27	---						---	47	---	32	40	40
28	46						---	37	---	38	39	39
29	40						---	36	---	39	27	39
30	---						---	38	---	40	33	40
31	---						---	38	---	38	40	---
MEAN	43						36	39	38	39	39	40
WTR YR 1977	MEAN	39		MAX	47	MIN	27					

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

DISSOLVED CHLORIDE (CL), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						73.1	---	1180.0	---	168.0	---
2	---						---	---	1230.0	---	122.0	---
3	---						---	---	1240.0	---	156.0	---
4	---						---	---	1200.0	---	418.0	---
5	---						---	---	1220.0	---	736.0	---
6	---						---	---	1160.0	---	183.0	---
7	---						---	---	932.0	---	20.7	---
8	---						---	---	916.0	---	608.0	---
9	---						---	---	897.0	---	828.0	---
10	---						---	---	835.0	---	984.0	---
11	---						---	---	236.0	---	740.0	---
12	---						---	---	93.3	---	176.0	---
13	---						---	---	653.0	---	29.7	---
14	---						---	---	598.0	593.0	22.7	---
15	---						---	---	611.0	592.0	175.0	---
16	---						---	---	---	129.0	220.0	---
17	---						---	---	---	23.4	215.0	---
18	---						---	---	---	484.0	59.9	---
19	---						---	---	---	544.0	78.0	---
20	---						---	---	---	782.0	46.6	---
21	---						---	---	---	316.0	15.7	83.8
22	---						477.0	---	---	206.0	73.5	369.0
23	---						314.0	---	---	63.5	325.0	565.0
24	---						---	---	---	85.3	547.0	177.0
25	---						---	---	---	837.0	667.0	16.5
26	---						---	1400.0	---	251.0	423.0	503.0
27	---						---	1640.0	---	137.0	87.1	546.0
28	294.0						---	1150.0	---	92.8	27.9	409.0
29	675.0						---	1310.0	---	143.0	22.2	75.1
30	---						---	2090.0	---	44.9	45.8	365.0
31	---						---	2210.0	---	312.0	461.0	---
MEAN	485.0						288.0	1630.0	867.0	313.0	280.0	311.0
WTR YR 1977	MEAN	495.0					MAX	2210.0		MIN	15.7	

DISSOLVED SULFATE (SO4), TONS PER DAY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						45.00	---	701.00	---	97.60	---
2	---						---	---	733.00	---	69.90	---
3	---						---	---	739.00	---	90.80	---
4	---						---	---	715.00	---	243.00	---
5	---						---	---	718.00	---	429.00	---
6	---						---	---	690.00	---	105.00	---
7	---						---	---	556.00	---	12.00	---
8	---						---	---	546.00	---	351.00	---
9	---						---	---	522.00	---	475.00	---
10	---						---	---	496.00	---	573.00	---
11	---						---	---	141.00	---	431.00	---
12	---						---	---	54.10	---	102.00	---
13	---						---	---	380.00	---	17.20	---
14	---						---	---	350.00	345.00	13.00	---
15	---						---	---	357.00	344.00	103.00	---
16	---						---	---	---	74.00	150.00	---
17	---						---	---	---	13.50	125.00	---
18	---						---	---	---	276.00	34.10	---
19	---						---	---	---	321.00	44.00	---
20	---						---	---	---	462.00	26.70	---
21	---						---	---	---	181.00	9.08	47.20
22	---						293.00	---	---	118.00	41.80	211.00
23	---						162.00	---	---	37.40	191.00	323.00
24	---						---	---	---	48.10	322.00	101.00
25	---						---	---	---	489.00	367.00	9.41
26	---						---	802.00	---	146.00	245.00	292.00
27	---						---	906.00	---	86.10	49.80	312.00
28	165.00						---	699.00	---	53.50	16.00	238.00
29	386.00						---	772.00	---	83.50	15.40	43.10
30	---						---	1220.00	---	26.00	28.00	208.00
31	---						---	1310.00	---	180.00	264.00	---
MEAN	276.00						173.00	952.00	513.00	182.00	163.00	178.00
WTR YR 1977	MEAN	289.00					MAX	1310.00		MIN	9.08	

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

DISSOLVED SOLIDS (RESIDUE AT 180 DEG. C), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						225	---	256	---	273	---
2	---						---	---	264	---	274	---
3	---						---	---	263	---	271	---
4	---						---	---	256	---	273	---
5	---						---	---	260	---	273	---
6	---						---	---	258	---	276	---
7	---						---	---	256	---	286	---
8	---						---	---	256	---	284	---
9	---						---	---	272	---	274	---
10	---						---	---	262	---	272	---
11	---						---	---	257	---	273	---
12	---						---	---	278	---	278	---
13	---						---	---	273	---	284	---
14	---						---	---	266	273	282	---
15	---						---	---	266	271	270	---
16	---						---	---	---	274	276	---
17	---						---	---	---	286	273	---
18	---						---	---	---	281	289	---
19	---						---	---	---	269	283	---
20	---						---	---	---	270	274	---
21	---						---	---	---	274	284	283
22	---						241	---	---	274	287	283
23	---						285	---	---	276	260	281
24	---						---	---	---	283	277	282
25	---						---	---	---	267	278	289
26	---						---	282	---	273	280	279
27	---						---	329	---	223	281	281
28	321						---	255	---	268	274	272
29	283						---	253	---	274	184	276
30	---						---	266	---	278	230	281
31	---						---	262	---	269	281	---
MEAN	302						250	275	263	271	273	281
WTR YR 1977	MEAN	272			MAX	329		MIN	184			

DISSOLVED SOLIDS (TONS PER DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---						317.0	---	4850.0	---	683.0	---
2	---						---	---	5090.0	---	491.0	---
3	---						---	---	5110.0	---	631.0	---
4	---						---	---	4950.0	---	1700.0	---
5	---						---	---	5050.0	---	3000.0	---
6	---						---	---	4810.0	---	741.0	---
7	---						---	---	3850.0	---	83.4	---
8	---						---	---	3780.0	---	2430.0	---
9	---						---	---	3640.0	---	3340.0	---
10	---						---	---	3420.0	---	4000.0	---
11	---						---	---	978.0	---	3010.0	---
12	---						---	---	376.0	---	709.0	---
13	---						---	---	2660.0	---	119.0	---
14	---						---	---	2450.0	2420.0	91.4	---
15	---						---	---	2500.0	2390.0	715.0	---
16	---						---	---	---	520.0	894.0	---
17	---						---	---	---	94.2	877.0	---
18	---						---	---	---	1940.0	240.0	---
19	---						---	---	---	2220.0	311.0	---
20	---						---	---	---	3200.0	188.0	---
21	---						---	---	---	1270.0	62.4	334.0
22	---						2020.0	---	---	829.0	293.0	1490.0
23	---						1260.0	---	---	258.0	1340.0	2270.0
24	---						---	---	---	340.0	2230.0	713.0
25	---						---	---	---	3440.0	2690.0	66.3
26	---						---	5660.0	---	1020.0	1720.0	2030.0
27	---						---	6340.0	---	600.0	350.0	2190.0
28	1150.0						---	4820.0	---	377.0	112.0	1660.0
29	2730.0						---	5420.0	---	587.0	105.0	305.0
30	---						---	8550.0	---	181.0	195.0	1460.0
31	---						---	9050.0	---	1270.0	1850.0	---
MEAN	1940.0						1200.0	6640.0	3570.0	1280.0	1140.0	1250.0
WTR YR 1977	MEAN	2020.0			MAX	9050.0		MIN	62.9			

07245500 SALLISAW CREEK NEAR SALLISAW, OK

LOCATION.--Lat 35°27'52", long 94°51'43", in SW 1/4 sec.34, T.12 N., R.23 E., Sequoyah County, Hydrologic Unit 11110104, at abandoned county road bridge, 300 ft (91.4 m) upstream from U.S. Highway 64, 400 ft (121.9 m) downstream from water-supply dam of city of Sallisaw, 3.5 mi (5.6 km) west of Sallisaw, 5 mi (8 km) upstream from Little Sallisaw Creek, and at mile 9.0 (14.5 km).

DRAINAGE AREA.--182 mi² (471 km²).

PERIOD OF RECORD.--Water years 1952-63, October 1976 to September 1977 (discontinued).

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA,MG) (MG/L)
UCT											
14...	1028	9740	1200	180	7.8	19.0	3	9.3	103	5	56
NOV											
09...	1028	9740	1500	155	7.6	12.0	10	10.5	99	6	68
DEC											
14...	1028	9740	1245	120	6.2	7.5	12	13.1	109	3	65
JAN											
26...	1028	9740	1352	120	8.0	3.0	10	12.8	97	<3	45
FEB											
08...	1028	9740	1310	160	8.2	6.0	6	12.3	97	8	71
MAR											
08...	1028	9740	1500	151	7.1	11.0	9	10.8	98	3	74
APR											
12...	1028	9740	1330	160	7.3	19.0	6	10.2	110	4	71
MAY											
10...	1028	9740	1350	180	7.9	24.0	6	9.2	110	6	78
JUN											
08...	1028	9740	1100	200	7.6	24.5	17	7.1	86	11	97
JUL											
13...	1028	9740	1000	200	7.6	29.0	5	6.7	87	<3	86
AUG											
09...	1028	9740	1345	220	8.0	31.5	5	8.3	114	11	83
SEP											
13...	1028	9740	1230	210	7.7	23.5	3	8.3	99	6	119
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT											
14...	26	1.9	8.0	8.0	--	--	<.1	97	1.0	<.12	--
NOV											
09...	25	2.1	<10	1.9	--	7.0	.1	75	1.0	.03	<1
DEC											
14...	18	1.9	<10	<1.0	--	3.0	.1	91	.50	<.02	--
JAN											
26...	17	1.9	18	1.7	16	7.0	.0	79	.70	.04	--
FEB											
08...	20	4.7	<10	1.0	19	6.0	.1	90	.70	<.03	<1
MAR											
08...	23	1.8	13	1.1	10	20	<.1	106	1.3	.06	--
APR											
12...	25	1.6	<5.0	<1.0	9.0	2.0	.1	85	.64	.05	--
MAY											
10...	27	2.2	<10	1.1	15	6.0	.1	94	1.1	.02	<1
JUN											
08...	32	2.2	9.0	2.3	7.0	9.0	.1	102	1.2	.10	--
JUL											
13...	30	1.8	11	1.9	19	6.0	.2	140	.95	.04	--
AUG											
09...	32	1.8	3.0	1.2	8.0	5.0	.0	106	9.6	.03	<1
SEP											
13...	41	3.8	<5.0	1.3	7.0	5.0	.1	100	<.63	.04	--

ARKANSAS RIVER BASIN

07245500 SALLISAW CREEK NEAR SALLISAW, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 14...	--	--	--	200	--	27	--	--	--	--	--
NOV 09...	<1	12	2	50	10	10	<.5	3	<2	<1	5
DEC 14...	--	--	--	220	--	21	--	--	--	--	--
JAN 26...	--	--	--	110	--	40	--	--	--	--	--
FEB 08...	2	27	7	390	6	10	.6	4	<1	<1	4
MAR 08...	--	--	--	290	--	20	--	--	--	--	--
APR 12...	--	--	--	370	--	40	--	--	--	--	--
MAY 10...	1	7	4	340	15	80	.8	<1	<1	<1	3
JUN 08...	--	--	--	1120	--	240	--	--	--	--	--
JUL 13...	--	--	--	500	--	120	--	--	--	--	--
AUG 09...	<1	<10	4	280	5	60	<.5	5	<1	2	4
SEP 13...	--	--	--	500	--	95	--	--	--	--	--

ARKANSAS RIVER BASIN

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07246400 ROBERT S. KERR LOCK AND DAM (ARKANSAS RIVER) NEAR SALLISAW, OK

LOCATION.--(revised) Lat 35°20'57", long 94°46'43", in SW 1/4 SW 1/4 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, revised. Area at site used prior to Oct. 1, 1976, 147,756 mi² (382,672 km²), revised.

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

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
UCT											
14...	--	--	1000	650	7.8	18.5	--	8.8	97	27	140
14...	1028	9740	1001	650	7.8	18.5	27	8.8	97	13	--
NOV											
09...	--	--	1645	490	7.7	11.5	--	10.8	100	16	130
09...	1028	9740	1646	490	7.7	11.5	12	10.8	100	12	--
DEC											
14...	--	--	1345	460	7.3	6.0	--	13.4	107	12	130
14...	1028	9740	1346	460	7.3	6.0	7	13.4	107	10	--
JAN											
26...	--	--	1520	640	8.3	2.0	--	14.0	103	16	66
26...	1028	9740	1521	640	8.3	2.0	1	14.0	103	7	--
FEB											
08...	--	--	1455	580	8.9	4.0	--	14.6	110	--	150
08...	1028	9740	1456	580	8.9	4.0	3	14.6	110	17	--
MAR											
09...	--	--	1230	595	8.0	11.0	--	11.2	103	30	140
09...	1028	9740	1231	595	8.0	11.0	4	11.2	103	12	--
APR											
12...	--	--	1600	608	8.1	20.0	--	10.8	117	--	110
12...	1028	9740	1601	608	8.1	20.0	23	10.8	117	15	--
MAY											
11...	--	--	1240	490	7.4	21.5	--	6.8	77	22	120
11...	1028	9740	1241	490	7.4	21.5	33	6.8	77	13	--
JUN											
07...	--	--	1300	750	8.0	24.5	--	9.7	117	25	150
07...	1028	9740	1301	750	8.0	24.5	33	9.7	117	18	--
JUL											
12...	--	--	1315	540	7.8	27.5	--	7.4	94	15	130
12...	1028	9740	1330	540	7.9	27.0	33	9.0	112	11	--
AUG											
09...	1028	9740	1440	620	7.8	27.5	23	5.7	72	10	--
09...	--	--	1530	620	7.8	27.5	--	5.7	72	--	130
SEP											
13...	--	--	1315	800	7.9	23.0	--	9.2	108	22	130
13...	1028	9740	1330	800	7.9	23.0	32	9.2	108	15	--

ARKANSAS RIVER BASIN

07246400 ROBERT S. KERR LOCK AND DAM (ARKANSAS RIVER) NEAR SALLISAW, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CaCO3 (MG/L)
UCT										
14...	44	42	8.3	63	49	2.3	3.9	116	0	95
14...	--	--	--	--	--	--	--	--	--	--
NOV										
09...	27	38	7.6	41	41	1.6	3.4	121	0	99
09...	--	--	--	--	--	--	--	--	--	--
DEC										
14...	30	36	9.8	45	42	1.7	3.3	122	0	100
14...	--	--	--	--	--	--	--	--	--	--
JAN										
26...	0	10	10	72	69	3.9	3.5	140	0	112
26...	--	--	--	--	--	--	--	--	--	--
FEB										
08...	45	43	9.5	70	50	2.5	3.7	104	10	102
08...	--	--	--	--	--	--	--	--	--	--
MAR										
09...	30	39	9.2	63	50	2.4	3.4	120	0	98
09...	--	--	--	--	--	--	--	--	--	--
APR										
12...	35	34	7.1	75	58	3.1	3.6	96	0	79
12...	--	--	--	--	--	--	--	--	--	--
MAY										
11...	40	36	7.5	48	46	1.9	3.3	99	0	81
11...	--	--	--	--	--	--	--	--	--	--
JUN										
07...	51	44	9.7	120	63	4.3	4.6	120	0	98
07...	--	--	--	--	--	--	--	--	--	--
JUL										
12...	32	40	7.3	54	46	2.1	4.4	120	0	96
12...	--	--	--	--	--	--	--	--	--	--
AUG										
09...	--	--	--	--	--	--	--	--	--	--
09...	35	41	7.5	67	51	2.5	4.1	120	0	98
SEP										
13...	28	38	7.6	96	61	3.7	4.6	120	0	98
13...	--	--	--	--	--	--	--	--	--	--

DATE	CARBON DIOXIDE (CO2) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	TOTAL FLUORIDE (F) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)	TOTAL CADMIUM (CD) (UG/L)
UCT										
14...	2.9	40	97	--	322	.44	1.1	--	--	--
14...	--	--	--	.2	--	--	--	.12	--	--
NOV										
09...	3.9	27	61	--	259	.35	.49	--	--	--
09...	--	--	--	.2	--	--	--	.05	<1	2
DEC										
14...	9.8	36	67	--	266	.36	.01	--	--	--
14...	--	--	--	--	--	--	--	.08	--	--
JAN										
26...	1.1	47	119	--	369	.50	.02	--	--	--
26...	--	--	--	.3	--	--	--	<.08	--	--
FEB										
08...	.3	41	110	--	346	.47	.03	--	--	--
08...	--	--	--	.2	--	--	--	<.03	<1	1
MAR										
09...	1.9	43	96	--	306	.42	.02	--	--	--
09...	--	--	--	.2	--	--	--	.07	--	--
APR										
12...	1.2	38	110	--	333	.45	.05	--	--	--
12...	--	--	--	.2	--	--	--	.15	--	--
MAY										
11...	6.3	36	70	--	286	.39	.36	--	--	--
11...	--	--	--	.2	--	--	--	<.09	<1	1
JUN										
07...	1.9	50	190	--	510	.69	2.7	--	--	--
07...	--	--	--	.2	--	--	--	.16	--	--
JUL										
12...	3.0	35	80	--	294	.40	--	--	--	--
12...	--	--	--	.2	--	--	--	.14	--	--
AUG										
09...	--	--	--	.1	--	--	--	.09	<1	1
09...	3.0	36	97	--	372	.51	--	--	--	--
SEP										
13...	2.4	43	150	--	577	.78	--	--	--	--
13...	--	--	--	.1	--	--	--	.16	--	--

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 1976 TO SEPTEMBER 1977

DATE	TOTAL CHROMIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT										
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	300	--	62	--	--	--	--	--
NOV										
09...	--	--	--	--	--	--	--	--	--	--
09...	5	<1	<50	5	<5	<.5	<1	<1	1	5
DEC										
14...	--	--	--	--	--	--	--	--	--	--
14...	--	--	<100	--	38	--	--	--	--	--
JAN										
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	100	--	<10	--	--	--	--	--
FEB										
08...	--	--	--	--	--	--	--	--	--	--
08...	18	12	280	22	20	<.5	3	<1	1	7
MAR										
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	330	--	50	--	--	--	--	--
APR										
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	300	--	10	--	--	--	--	--
MAY										
11...	--	--	--	--	--	--	--	--	--	--
11...	7	6	590	51	20	.9	4	<1	2	11
JUN										
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	600	--	100	--	--	--	--	--
JUL										
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	610	--	80	--	--	--	--	--
AUG										
09...	15	4	560	<5	90	<.5	12	<1	<2	10
09...	--	--	--	--	--	--	--	--	--	--
SEP										
13...	--	--	--	--	--	--	--	--	--	--
13...	--	--	1450	--	95	--	--	--	--	--

ARKANSAS RIVER BASIN

07247350 POTEAU RIVER NEAR HEAVENER, OK

LOCATION.--Lat 34°51'29", long 94°37'42", in NE 1/4 SE 1/4 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT 27...	1028	9740	1615	36	--	12.0	17	9.6	90	16	47
NOV 30...	1028	9740	0830	120	7.6	3.0	27	12.7	95	18	26
DEC 28...	1028	9740	1745	65	6.0	6.0	14	11.4	93	8	15
JAN 26...	1028	9740	1000	40	7.3	3.0	34	12.7	95	14	23
FEB 24...	1028	9740	0945	58	8.4	11.0	42	10.0	92	9	18
MAR 23...	1028	9740	1200	40	7.1	14.0	11	10.6	102	15	16
APR 26...	1028	9740	1130	50	7.2	18.0	24	8.7	92	7	9
MAY 25...	1028	9740	0800	80	7.2	23.0	6	7.0	82	9	16
JUN 02...	1028	9740	0845	80	7.2	24.0	9	6.7	81	7	19
JUL 13...	1028	9740	1200	110	7.2	32.5	7	6.7	90	13	28
AUG 24...	1028	9740	0830	121	7.1	24.0	7	6.4	77	15	36
SEP 16...	1028	9740	0830	92	7.0	23.0	23	6.8	79	14	24
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 27...	3.6	2.7	<10	1.8	--	16	.1	94	1.0	<.03	--
NOV 30...	3.7	2.5	<10	2.8	--	7.0	.1	87	1.1	.06	--
DEC 28...	3.1	2.6	<10	1.5	--	7.0	.1	57	.70	.05	--
JAN 26...	3.1	2.6	14	1.9	19	24	.1	79	1.5	.10	--
FEB 24...	3.3	2.4	<10	1.9	17	5.0	.1	101	1.3	.17	2
MAR 23...	1.1	2.1	14	1.0	31	3.0	<.1	72	1.0	.08	--
APR 26...	2.2	1.8	5.0	<1.0	17	2.0	.0	57	1.6	.06	--
MAY 25...	3.3	2.7	11	1.4	8.0	5.0	.1	50	1.0	.10	3
JUN 02...	3.4	3.1	9.0	1.4	4.0	5.0	.1	64	1.1	.08	--
JUL 13...	5.1	3.6	9.0	2.0	16	4.0	.1	49	1.9	.06	--
AUG 24...	4.5	5.8	<.5	2.8	10	6.0	.1	53	1.1	.09	<1
SEP 16...	2.9	3.6	12	2.0	8.0	4.0	.0	82	<.63	.11	--

ARKANSAS RIVER BASIN

477

07247350 POTEAU RIVER NEAR HEAVENER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL CUPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT											
27...	--	--	--	400	--	58	--	--	--	--	--
NOV											
30...	--	--	--	790	--	224	--	--	--	--	--
DEC											
28...	--	--	--	440	--	117	--	--	--	--	--
JAN											
26...	--	--	--	440	--	29	--	--	--	--	--
FEB											
24...	1	9	5	840	7	110	<.5	2	--	2	13
MAR											
23...	--	--	--	59	--	40	--	--	--	--	--
APR											
26...	--	--	--	590	--	40	--	--	--	--	--
MAY											
25...	<1	14	2	610	14	80	<.5	3	1	2	6
JUN											
02...	--	--	--	700	--	140	--	--	--	--	--
JUL											
13...	--	--	--	440	--	190	--	--	--	--	--
AUG											
24...	<1	8	<2	490	20	200	<.5	<3	1	<2	6
SEP											
16...	--	--	--	1190	--	150	--	--	--	--	--

07247500 FOURCHE MALINE NEAR RED OAK, OK

LOCATION.--Lat 34°54'44", long 95°09'20", in NW 1/4 NW 1/4 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).

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) above mean sea level. 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 30 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

AVERAGE DISCHARGE.--39 years, 129 ft³/s (3.653 m³/s), 14.36 in/yr (365 mm/yr), 93,460 acre-ft/yr (115 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, 4,740 ft³/s (134 m³/s) at 1845 Mar. 27, gage height, 16.76 ft (5.108 m), no other peak above base of 3,000 ft³/s (85.0 m³/s); minimum, 0.22 ft³/s (0.006 m³/s) July 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	4.9	11	4.6	34	140	770	39	3.9	2.6	4.9	11
2	.81	3.5	10	4.2	31	101	539	34	3.7	2.4	5.3	8.4
3	.77	2.6	10	3.8	33	145	394	28	3.3	2.0	4.4	6.8
4	1.1	3.6	9.4	4.2	45	200	239	23	2.8	1.6	3.4	5.1
5	5.9	17	8.9	4.4	47	141	88	19	2.5	1.4	2.8	3.8
6	4.1	16	33	5.2	40	102	69	16	2.1	1.1	2.9	3.1
7	3.9	15	99	5.2	34	81	61	14	1.7	.80	31	2.6
8	3.2	13	59	5.2	30	68	53	12	1.4	.57	31	2.2
9	2.6	12	41	6.7	27	58	47	42	1.2	.51	30	1.9
10	2.4	9.8	32	7.3	25	51	40	34	1.1	.44	14	1.6
11	2.1	7.9	57	7.4	30	270	36	20	.88	2.1	6.2	1.3
12	1.8	5.9	57	7.5	128	605	31	14	.80	5.7	3.3	1.1
13	1.6	4.5	46	29	136	298	26	12	.79	4.5	3.9	88
14	1.6	4.1	37	152	98	176	22	9.2	.86	3.3	26	163
15	1.5	3.3	31	233	73	122	19	7.5	.82	2.5	13	69
16	1.3	3.0	27	191	57	93	18	6.2	1.0	2.0	11	34
17	1.3	2.9	24	109	48	78	19	5.6	1.1	1.6	10	22
18	1.1	2.9	20	73	43	70	20	5.1	1.1	1.2	9.6	17
19	1.6	2.8	18	51	37	60	21	4.5	.88	.89	8.0	14
20	2.0	12	15	42	34	52	50	6.1	.71	.78	6.6	13
21	1.9	20	13	38	31	45	99	8.1	.82	3.0	4.5	12
22	1.9	22	12	37	27	40	129	11	.67	1.2	3.5	10
23	1.8	20	12	51	248	35	87	11	.53	.57	3.0	8.8
24	2.2	16	9.6	103	239	31	66	12	.71	.27	2.5	7.3
25	5.9	14	8.0	112	134	28	54	9.7	3.3	.50	2.1	6.1
26	11	15	6.9	95	273	26	45	7.6	3.8	.41	1.7	4.4
27	7.5	15	6.6	81	415	2980	39	7.5	3.0	2.2	1.3	3.1
28	4.6	14	5.9	74	231	2820	34	5.9	3.4	15	2.5	2.7
29	3.9	12	5.4	60	---	1290	30	4.9	3.3	9.3	19	2.3
30	3.7	12	5.2	48	---	984	28	4.6	3.2	12	42	1.9
31	4.4	---	4.6	43	---	878	---	4.1	---	7.9	17	---
TOTAL	90.36	306.7	734.5	1687.7	2628	12068	3173	437.6	55.37	90.34	352.5	527.5
MEAN	2.91	10.2	23.7	54.4	93.9	389	106	14.1	1.85	2.91	11.4	17.6
MAX	11	22	99	233	415	2980	770	42	3.9	15	42	163
MIN	.77	2.6	4.6	3.8	25	26	18	4.1	.53	.27	1.3	1.1
CFSM	.02	.08	.19	.45	.77	3.19	.87	.12	.02	.02	.09	.14
IN.	.03	.09	.22	.51	.80	3.68	.97	.13	.02	.03	.11	.16
AC-FT	179	608	1460	3350	5210	23940	6290	868	110	179	699	1050
CAL YR 1976 TOTAL	23836.64			MEAN 65.1	MAX 3040	MIN .06	CFSM .53	IN 7.27	AC-FT 47280			
WTR YR 1977 TOTAL	22151.57			MEAN 60.7	MAX 2980	MIN .27	CFSM .50	IN 6.75	AC-FT 43940			

07248000 WISTER LAKE NEAR WISTER, OK

LOCATION.--Lat 34°56'10", long 94°43'10", in SE 1/4 NE 1/4 sec.1, T.5 N., R.24 E., LeFlore County, Hydrologic 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 mean sea level.

REMARKS.--Reservoir is formed by an earth dam. 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, 208,700 acre-ft (257 hm³) Mar. 31, elevation, 491.02 ft (149.663 m); minimum, 24,310 acre-ft (30.0 hm³) June 25, elevation, 470.89 ft (143.527 m).

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

470	21,110	482	96,480
474	37,930	487	152,400
478	62,360	492	224,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26980	34200	29530	27060	32620	27470	206300	27550	26550	25990	25570	25300
2	26900	33730	28780	27100	31310	27510	200900	27750	26390	25880	25490	25300
3	26820	33210	27950	27060	30560	33770	194300	28030	26270	25840	25410	25260
4	27060	32480	27670	27060	30220	47830	185300	28160	26230	25760	25300	25220
5	29110	31760	27870	26940	30050	48300	174400	28240	26150	25680	25260	25180
6	30350	31050	29620	27060	29320	45610	162600	28240	26070	25610	25180	25110
7	30960	30260	32160	27020	28450	41920	150600	28240	25990	25530	25070	25110
8	30960	29450	33490	27060	27260	39840	138200	28360	25840	25570	24950	25070
9	30560	28570	33450	27510	26940	38280	125700	28360	25720	25720	24910	24990
10	30130	27750	32530	27510	26860	36370	113100	28260	25610	25640	24910	24910
11	29620	27470	32800	27550	27470	38850	99900	28240	25490	25490	24950	24840
12	29110	27510	34860	27670	29620	45670	86300	28160	25490	25370	25110	24840
13	28610	27630	33490	29110	32620	48000	73200	28080	25370	25300	25300	26550
14	28030	27790	30390	37070	33170	47710	61270	27950	25340	25340	25300	27260
15	27990	27870	27340	46130	31710	45210	53260	27790	25220	25300	25260	27750
16	27750	27990	26740	51470	29920	41060	47060	27630	25140	25180	25220	28160
17	27550	28080	26980	53060	28900	36180	41490	27430	25070	25110	25260	28360
18	27300	28120	27060	51600	28450	32750	36180	27300	24950	25030	25220	28490
19	27300	28200	27060	49870	28030	30700	33170	27140	24840	24910	25220	28490
20	27060	29450	26820	47830	27470	28400	32710	27300	24720	24910	25260	28490
21	26980	30350	26860	45670	26940	27790	32660	27630	24690	25110	25260	28490
22	27020	30780	27020	43630	27180	27950	33210	27630	24460	25030	25180	28450
23	27300	31270	27180	42910	31180	28080	33120	27510	24350	24950	25370	28610
24	27380	31360	27260	43570	33210	28080	31980	27470	24350	24880	25370	28610
25	28450	31400	27300	42520	32620	28120	30520	27340	25220	24720	25300	28530
26	30480	31050	27300	40470	30780	28280	28860	27260	26030	24690	25220	28490
27	31620	31220	27340	37930	29030	78210	27870	27140	26110	24840	25180	28360
28	32300	31400	27550	36670	28080	159600	27140	27060	26070	24800	25340	29660
29	32850	31000	27300	36030	---	197400	27020	26980	26070	25410	25370	29790
30	33450	30300	27260	35060	---	206100	27380	26820	25990	25340	25340	29920
31	34010	---	27180	33870	---	208700	---	26660	---	25450	25300	---
MAX	34010	34200	34860	53060	33210	208700	206300	28360	26550	25990	25570	29920
MIN	26820	27470	26740	26940	26860	27470	27020	26660	24350	24690	24910	24840
†	437.20	472.38	471.63	473.17	471.85	491.02	471.68	471.50	471.33	471.19	471.15	472.29
‡	+6,950	-3,710	-3,120	+6,690	-5,790	+180,620	-181,320	-720	-670	-540	-150	+4,620

CAL YR 1976 MAX 110200 MIN 25920‡ -18,090
WTR YR 1977 MAX 208700 MIN 24350‡ +2,860

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

07248500 POTEAU RIVER NEAR WISTER, OK

LOCATION.--Lat 34°56'15", long 94°42'54", in NW 1/4 NW 1/4 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) above mean sea level. 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 12 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) 28 years (water years 1950-77), 1,054 ft³/s (29.85 m³/s), 763,600 acre-ft/yr (942 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, 6,300 ft³/s (178 m³/s) Apr. 11, gage height, 7.93 ft (2.417 m); minimum daily, 5.1 ft³/s (0.14 m³/s) Aug. 30-Sept. 3, Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	259	541	116	1150	910	4330	116	61	7.7	6.7	5.1
2	29	481	536	116	1140	640	4980	116	53	7.9	6.7	5.1
3	29	480	530	116	1130	475	4930	116	23	8.3	6.7	5.1
4	29	479	233	114	1130	2120	5290	114	22	8.3	6.7	5.3
5	29	476	74	114	1110	3390	6010	114	22	8.3	6.7	5.8
6	29	474	74	112	1100	3380	5950	112	22	7.7	6.7	5.8
7	29	471	74	112	1100	3350	5870	112	22	7.7	6.7	5.8
8	172	469	541	112	1100	2410	5930	114	21	8.1	6.3	5.8
9	300	466	824	112	687	1720	6020	114	20	8.8	6.2	5.8
10	299	465	986	112	455	1710	5900	112	19	8.9	6.2	5.8
11	296	261	1220	109	332	1700	5990	109	19	8.8	6.7	5.8
12	295	18	1220	109	247	1750	5990	107	19	8.8	7.2	5.9
13	294	18	1980	112	247	1770	5830	107	20	8.6	6.9	7.6
14	295	18	2440	112	896	2000	5650	103	20	9.0	6.8	5.7
15	205	17	2220	116	1670	2460	4340	105	20	8.7	6.7	5.4
16	138	17	863	121	1660	3050	3320	105	20	8.5	6.7	5.4
17	140	17	332	863	1160	3290	3270	105	19	7.5	6.6	5.4
18	140	17	332	1810	754	2590	3200	86	18	8.0	7.2	5.4
19	140	16	332	1810	681	1710	2580	74	18	6.7	7.2	5.4
20	140	16	336	1810	681	1680	1440	74	17	7.1	6.8	5.4
21	67	16	201	1790	661	830	1440	76	17	7.6	6.3	5.4
22	24	16	125	1770	445	272	1430	76	16	7.7	6.7	5.4
23	24	16	125	1760	233	272	1450	76	11	7.3	6.8	5.5
24	24	137	125	1760	742	272	1430	76	8.4	7.2	6.3	5.1
25	24	251	123	2250	1550	272	1420	76	9.1	7.2	6.2	5.4
26	24	251	121	2550	1890	268	1400	74	8.6	7.2	6.2	5.4
27	24	251	123	2520	1860	110	944	70	8.3	7.6	6.2	5.4
28	24	251	121	1800	1480	48	675	63	9.7	7.7	5.9	8.6
29	65	416	118	1170	---	910	323	61	10	8.0	5.2	6.4
30	137	541	118	1170	---	2090	118	61	7.8	7.3	5.1	6.0
31	137	---	118	1160	---	2910	---	61	---	7.0	5.1	---
TOTAL	3631	7081	17106	27808	27311	50359	107450	2885	580.9	245.2	200.4	171.4
MEAN	117	236	552	897	975	1624	3582	93.1	19.4	7.91	6.46	5.71
MAX	300	541	2440	2550	1890	3390	6020	116	61	9.0	7.2	8.6
MIN	24	16	74	109	233	48	118	61	7.8	6.7	5.1	5.1
AC-FT	7200	14050	33930	55160	54170	99890	213100	5720	1150	486	397	340

CAL YR 1976 TOTAL 180850.3 MEAN 494 MAX 4230 MIN 4.4 AC-FT 358700
WTR YR 1977 TOTAL 244828.9 MEAN 671 MAX 6020 MIN 5.1 AC-FT 485600

ARKANSAS RIVER BASIN

481

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
UCT											
28...	1028	9740	0940	70	--	12.0	26	10.8	100	16	28
NOV											
30...	1028	9740	1000	100	7.5	6.0	27	13.7	110	15	32
DEC											
26...	1028	9740	1815	75	6.5	6.0	42	11.8	97	15	22
JAN											
26...	1028	9740	0840	38	6.7	3.0	34	13.8	104	14	8
FEB											
24...	1028	9740	0800	44	6.9	10.0	65	11.4	103	10	21
MAR											
23...	1028	9740	1045	52	7.1	14.5	60	11.0	106	20	18
APR											
26...	1028	9740	1100	73	7.0	19.5	37	9.4	103	17	14
MAY											
25...	1028	9740	0900	75	7.2	22.0	44	8.2	95	11	20
JUN											
02...	1028	9740	0945	78	7.0	23.0	44	7.3	86	17	22
JUL											
13...	1028	9740	1045	100	7.4	30.5	58	8.4	110	13	31
AUG											
24...	1028	9740	0945	100	7.0	25.0	50	7.8	95	20	34
SEP											
16...	1028	9740	1000	92	8.3	25.0	45	8.4	101	20	29
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL POT- ASSIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	TOTAL FLUOR- IDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT											
28...	4.0	2.7	<10	1.4	--	8.0	.1	88	.80	<.03	--
NOV											
30...	3.9	2.4	<10	1.2	--	11	.0	78	.90	.05	--
DEC											
28...	3.9	2.68	<10	2.0	--	5.0	.1	77	.60	.12	--
JAN											
26...	3.2	2.4	17	1.9	20	9.0	.1	69	1.1	.12	--
FEB											
24...	3.1	2.4	12	<1.0	29	15	.1	96	1.3	.19	3
MAR											
23...	2.9	1.9	14	1.0	33	20	<.1	107	1.6	.16	--
APR											
26...	3.9	2.5	8.0	<1.0	--	4.0	.0	73	2.2	.08	--
MAY											
25...	4.0	2.8	9.0	1.8	10	4.0	.2	80	1.4	.12	2
JUN											
02...	3.7	2.8	10	1.4	7.0	5.0	.1	84	1.1	.11	--
JUL											
13...	4.8	2.7	10	1.6	22	6.0	.2	119	1.9	.13	--
AUG											
24...	5.8	3.5	11	3.7	21	6.0	.1	40	1.4	.15	10
SEP											
16...	3.1	2.9	12	1.5	8.0	6.0	.1	98	<.63	.14	--

ARKANSAS RIVER BASIN

07248500 POTEAU RIVER NEAR WISTER, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 28...	--	--	--	700	--	313	--	--	--	--	--
NOV 30...	--	--	--	700	--	228	--	--	--	--	--
DEC 28...	--	--	--	740	--	270	--	--	--	--	--
JAN 26...	--	--	--	460	--	113	--	--	--	--	--
FEB 24...	1	12	6	1850	<5	410	<.5	5	--	2	11
MAR 23...	--	--	--	860	--	310	--	--	--	--	--
APR 26...	--	--	--	1340	--	730	--	--	--	--	--
MAY 25...	<1	15	5	1490	9	390	<.5	6	8	3	19
JUN 02...	--	--	--	1320	--	690	--	--	--	--	--
JUL 13...	--	--	--	1630	--	1090	--	--	--	--	--
AUG 24...	<1	10	3	2700	30	1800	<.5	6	4	<2	9
SEP 16...	--	--	--	3700	--	1300	--	--	--	--	--

ARKANSAS RIVER BASIN

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07249400 JAMES FORK NEAR HACKETT, AR

LOCATION.--Lat 35°09'45", long 94°24'25", in NW 1/4 NW 1/4 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) above mean sea level.

REMARKS.--Records good.

AVERAGE DISCHARGE.--19 years, 129 ft³/s (3.65 m³/s), 11.92 in/yr (303 mm/yr) 93,460 acre-ft/yr (115 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 Aug. 16 to Dec. 12, 1963, Sept. 14-21, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,300 ft³/s (178 m³/s) at 0700 Mar. 28, gage height, 20.31 ft (6.190 m), no other peak above base of 3,000 ft³/s (85.0 m³/s); minimum discharge, 0.22 ft³/s (0.006 m³/s) Aug. 12-13, gage height, 0.20 ft (0.061 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	36	13	22	73	82	284	31	9.9	3.6	1.7	1.8
2	.68	34	23	21	68	66	260	36	9.6	3.6	1.1	1.5
3	.66	29	22	21	97	867	219	33	9.3	3.1	.88	1.1
4	.93	22	23	21	173	935	183	31	8.5	2.6	.65	.96
5	112	20	24	23	129	366	151	31	6.0	2.3	.47	6.9
6	91	18	100	28	102	275	123	31	4.6	3.3	.36	24
7	36	17	211	26	82	218	104	31	3.6	8.8	.32	14
8	24	17	97	27	70	179	87	30	3.1	8.8	.28	5.1
9	18	18	66	35	63	151	70	29	2.5	9.3	.24	3.2
10	14	17	51	37	60	124	59	27	1.6	9.3	.25	2.2
11	7.6	16	290	37	64	592	57	26	1.6	13	.26	1.5
12	3.1	18	253	37	221	815	51	26	1.6	8.5	.23	1.2
13	1.7	24	136	39	158	331	49	23	1.6	5.2	.24	15
14	2.8	24	95	411	120	258	42	20	1.7	3.3	1.8	104
15	7.5	23	77	452	95	205	34	19	1.2	2.8	5.8	40
16	8.7	22	55	289	76	168	26	18	1.2	2.8	3.4	21
17	12	22	42	187	68	138	28	16	1.1	2.8	2.5	16
18	10	21	35	155	65	121	58	17	1.1	2.2	3.2	14
19	7.5	20	31	115	62	99	68	21	1.1	1.8	2.5	13
20	4.9	47	29	86	55	82	70	24	1.2	1.9	1.9	12
21	3.4	84	28	91	58	71	77	25	1.1	2.5	12	12
22	5.9	46	27	129	57	57	72	21	1.1	7.1	15	13
23	10	34	26	292	223	54	57	21	1.0	6.9	14	13
24	15	30	25	350	209	49	47	19	.96	5.6	11	13
25	288	29	24	269	129	47	44	18	1.8	3.3	8.5	12
26	127	27	24	237	100	46	39	18	53	1.9	7.3	12
27	61	26	23	216	100	2440	35	19	12	1.9	6.5	11
28	48	21	23	175	91	5450	34	16	6.6	1.7	5.4	10
29	43	12	23	123	---	1180	33	12	5.6	2.1	7.0	7.2
30	57	9.5	22	105	---	525	32	11	4.4	1.9	4.1	4.0
31	61	---	22	86	---	359	---	10	---	1.8	2.7	---
TOTAL	1083.02	763.5	1940	4142	2668	16350	2493	710	159.66	135.7	121.58	405.66
MEAN	34.9	26.1	62.6	134	102	527	83.1	22.9	5.32	4.38	3.92	13.5
MAX	288	84	290	452	223	5450	284	36	53	13	15	104
MIN	.65	9.5	13	21	55	46	26	10	.96	1.7	.23	.96
CFSM	.24	.18	.43	.91	.69	3.59	.57	.16	.04	.03	.03	.09
IN.	.27	.20	.49	1.05	.73	4.14	.63	.18	.04	.03	.03	.10
AC-FT	2150	1550	3850	8220	5690	32430	4940	1410	317	269	241	805
CAL YR 1976 TOTAL	13363.71			MEAN 36.5	MAX 1240	MIN .38	CFSM .25	IN 3.38	AC-FT 26510			
WTR YR 1977 TOTAL	31192.12			MEAN 85.5	MAX 5450	MIN .23	CFSM .58	IN 7.89	AC-FT 61870			

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 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)
OCT									
05...	0845	55	471	7.9	24.0	100	6.6	78	120
19...	0920	8.0	--	--	12.0	--	--	--	--
20...	0945	--	440	6.9	10.5	--	7.3	66	--
NOV									
02...	0830	38	398	7.2	13.0	55	8.8	83	--
17...	1015	--	340	7.2	6.0	--	9.8	79	--
30...	0830	9.5	401	7.5	7.0	30	11.0	90	--
DEC									
01...	0940	8.1	--	--	3.0	--	--	--	--
15...	1230	--	170	6.4	5.5	--	10.2	83	--
JAN									
04...	1230	21	395	7.6	8.0	10	12.0	100	130
19...	0700	--	160	6.8	1.0	--	14.8	99	--
20...	1030	85	--	--	2.0	--	--	--	--
FEB									
10...	0800	--	225	6.9	5.5	--	--	--	--
22...	0815	58	--	--	9.0	--	--	--	--
MAR									
15...	1800	--	202	6.7	15.0	--	9.3	92	--
APR									
05...	0845	179	238	7.1	15.0	90	8.8	86	72
05...	0900	160	--	--	14.0	--	--	--	--
20...	0740	--	320	7.6	17.5	--	8.7	92	--
MAY									
03...	1245	30	417	7.6	23.0	5	7.8	90	--
17...	0845	16	--	--	22.5	--	--	--	--
18...	0755	--	425	7.2	23.0	--	7.2	83	--
31...	1250	12	593	--	24.0	15	7.3	91	--
JUN									
15...	0830	--	700	7.3	23.0	--	6.1	72	--
28...	0830	6.7	--	--	24.5	--	--	--	--
JUL									
05...	1320	2.3	672	8.2	32.0	30	7.8	105	--
20...	0730	--	660	7.5	24.5	--	6.2	76	--
AUG									
02...	1310	1.2	595	7.9	30.0	15	7.2	95	--
09...	0850	.24	--	--	26.0	--	--	--	--
16...	1345	--	700	7.7	26.0	--	6.3	78	--
SEP									
06...	1240	--	431	7.8	27.0	100	4.7	58	--

ARKANSAS RIVER BASIN

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07249400 JAMES FORK NEAR HACKETT, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	NUN= CAR= BUNATE HARD= NESS (MG/L)	DIS= SOLVED CAL= CIUM (CA) (MG/L)	DIS= SOLVED MAG= NE= SIUM (MG) (MG/L)	BICAR= BONATE (HCO3) (MG/L)	CAR= BONATE (CO3) (MG/L)	ALKA= LINITY AS CACO3 (MG/L)	DIS= SOLVED SULFATE (SO4) (MG/L)	DIS= SOLVED CHLO= RIDE (CL) (MG/L)
OCT								
05...	0	27	14	180	--	148	110	12
19...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--
NOV								
02...	--	--	--	--	--	--	130	7.5
17...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	110	8.5
DEC								
01...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
JAN								
04...	90	25	16	49	0	40	110	9.5
19...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--
FEB								
10...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
MAR								
15...	--	--	--	--	--	--	--	--
APR								
05...	--	--	--	--	--	--	81	6.0
05...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--
MAY								
03...	--	--	--	--	--	--	150	7.0
17...	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	270	8.0
JUN								
15...	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--
JUL								
05...	--	--	--	--	--	--	--	23
20...	--	--	--	--	--	--	--	--
AUG								
02...	--	--	--	--	--	--	200	10
09...	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--
SEP								
06...	--	--	--	--	--	--	85	12

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHDS)	PH (UNITS)	TEMPER- ATURE (DEG C)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION
SEP							
19...	0850	14	--	--	23.0	--	--
21...	1030	--	350	7.6	22.0	6.2	71

ARKANSAS RIVER BASIN

07249400 JAMES FORK NEAR HACKETT, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	DIS- SOLVED BERYL- LIUM (BE) (UG/L)	DIS- SOLVED BISMUTH (BI) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)
OCT										
05...	0845	--	<3	--	--	--	--	--	<10	--
20...	0945	50	--	0	30	<1	<2	60	--	5
NOV										
02...	0850	--	--	--	--	--	--	--	--	--
17...	1015	60	--	0	20	<2	<2	30	--	1
30...	0850	--	--	--	--	--	--	--	--	--
DEC										
15...	1230	260	--	0	20	<1	<1	10	--	1
JAN										
04...	1230	--	<3	--	--	--	--	--	<10	--
19...	0700	400	--	0	40	0	<1	20	--	0
FEB										
10...	0800	--	--	1	--	--	--	--	--	--
MAR										
15...	1800	--	--	0	--	--	--	--	--	--
APR										
05...	0845	--	<10	--	--	--	--	--	<10	--
20...	0740	20	--	0	--	--	--	30	--	0
MAY										
05...	1245	--	--	--	--	--	--	--	--	--
16...	0755	0	--	0	--	--	--	40	--	1
31...	1250	--	--	--	--	--	--	--	--	--
JUN										
15...	0830	20	--	0	--	--	--	60	--	1
JUL										
05...	1320	--	--	--	--	--	--	--	<10	--
20...	0730	20	--	0	--	--	--	60	--	1
AUG										
02...	1310	--	--	--	--	--	--	--	--	--
16...	1345	0	--	0	--	--	--	90	--	1
SEP										
21...	1030	60	--	0	--	--	--	50	--	0

DATE	TOTAL CHROM- MIUM (CM) (UG/L)	DIS- SOLVED CHROM- MIUM (CM) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)	DIS- SOLVED GER- MANIUM (GE) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)
OCT										
05...	<3	--	--	20	--	--	--	3400	--	<10
20...	--	<2	<2	--	2	<2	<5	--	190	--
NOV										
02...	--	--	--	60	--	--	--	1900	--	--
17...	--	<2	<2	--	2	<2	<5	--	90	--
30...	--	--	--	110	--	--	--	920	--	--
DEC										
15...	--	14	<1	--	4	<1	<2	--	260	--
JAN										
04...	<3	--	--	170	--	--	--	620	--	30
19...	--	2	1	--	3	<1	<2	--	440	--
FEB										
10...	--	--	--	--	4	--	--	--	--	--
MAR										
15...	--	--	--	--	1	--	--	--	--	--
APR										
05...	--	--	--	50	--	--	--	1800	--	20
20...	--	<10	--	--	3	--	--	--	130	--
MAY										
05...	--	--	--	90	--	--	--	970	--	--
16...	--	0	--	--	2	--	--	--	60	--
31...	--	--	--	70	--	--	--	180	--	--
JUN										
15...	--	0	--	--	5	--	--	--	20	--
JUL										
05...	<10	--	--	180	--	--	--	920	--	40
20...	--	0	--	--	3	--	--	--	80	--
AUG										
02...	--	--	--	50	--	--	--	<30	--	--
16...	--	0	--	--	1	--	--	--	60	--
SEP										
21...	--	0	--	--	1	--	--	--	210	--

ARKANSAS RIVER BASIN

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07249400 JAMES FORK NEAR HACKETT, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DIS- SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)
UCT									
05...	--	--	250	--	.5	--	--	--	--
20...	<3	10	--	200	--	.1	<2	27	<1
NOV									
02...	--	--	300	--	--	--	--	--	--
17...	5	10	--	90	--	.3	<2	26	<1
30...	--	--	130	--	--	--	--	--	--
DEC									
15...	4	0	--	40	--	.1	<1	34	0
JAN									
04...	--	--	230	--	--	--	--	--	--
19...	4	10	--	120	--	.1	<1	41	0
FEB									
10...	--	--	--	--	--	.0	--	--	--
MAR									
15...	--	--	--	--	--	.0	--	--	--
APR									
05...	--	--	320	--	--	--	--	--	--
20...	0	--	--	350	--	.0	0	14	--
MAY									
03...	--	--	170	--	--	--	--	--	--
18...	4	--	--	210	--	.0	1	9	--
31...	--	--	290	--	--	--	--	--	--
JUN									
15...	10	--	--	150	--	.0	0	5	--
JUL									
05...	--	--	400	--	--	--	--	--	--
20...	4	--	--	120	--	.0	0	4	--
AUG									
02...	--	--	220	--	--	--	--	--	--
16...	5	--	--	80	--	.0	0	4	--
SEP									
21...	1	--	--	140	--	.8	1	3	--

DATE	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED TITANIUM (TI) (UG/L)	DIS- SOLVED TANTALUM (TA) (UG/L)	DIS- SOLVED VANADIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED ZINC COPPER (ZC) (UG/L)	SUS- PENDED SEDIMENT (MG/L)	SUS- SED. SIEVE DIAM. % FINE R THAN .062 MM
UCT									
05...	--	--	--	--	50	--	--	--	--
20...	40	<3	<1	<3.9	--	10	<4	--	--
NOV									
02...	--	--	--	--	80	--	--	--	--
17...	40	<3	<1	3.6	--	10	<4	--	--
30...	--	--	--	--	80	--	--	--	--
DEC									
15...	30	<1	8	<1.6	--	20	<2	--	--
JAN									
04...	--	--	--	--	140	--	--	--	--
19...	20	<1	20	<1.4	--	20	<1	29	95
FEB									
10...	--	--	--	--	--	--	--	18	86
MAR									
15...	--	--	--	--	--	--	--	67	98
APR									
05...	--	--	--	--	80	--	--	--	--
20...	--	--	--	--	--	30	--	23	96
MAY									
03...	--	--	--	--	60	--	--	--	--
18...	--	--	--	--	--	10	--	24	94
31...	--	--	--	--	100	--	--	--	--
JUN									
15...	--	--	--	--	--	8	--	50	85
JUL									
05...	--	--	--	--	120	--	--	--	--
20...	--	--	--	--	--	2	--	10	78
AUG									
02...	--	--	--	--	30	--	--	--	--
16...	--	--	--	--	--	10	--	17	87
SEP									
21...	--	--	--	--	--	790	--	--	--

ARKANSAS RIVER BASIN

07249410 JAMES FORK NEAR WILLIAMS, OK

LOCATION.--Lat 35°09'30", long 96°36'01", NE 1/4 NW 1/4 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 1976 TO SEPTEMBER 1977

DATE	TIME	DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- CUBALT UNITS)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL ACIDITY AS H+ (MG/L)
OCT												
20...	1145	5.9	300	6.7	11.0	25	18	7.8	71	97	48	.1
NOV												
17...	1500	26	350	7.6	6.5	17	9.8	10.8	88	130	77	.1
DEC												
15...	1615	92	150	6.9	5.5	100	39	10.8	87	38	16	.1
JAN												
18...	1500	186	125	6.7	.0	110	55	15.2	104	32	14	.1
FEB												
10...	1000	72	220	7.1	5.5	70	22	--	--	62	38	.0
MAR												
15...	1615	246	190	6.9	14.5	55	37	9.4	92	63	46	.1
APR												
20...	0945	84	290	7.4	18.0	5	9.5	9.1	97	120	87	.1
MAY												
18...	0920	20	400	7.2	23.5	4	8.4	7.6	88	190	150	.1
JUN												
15...	0945	1.4	610	7.2	23.5	8	11	5.0	60	250	190	.1
JUL												
19...	1400	2.2	580	7.8	26.5	9	10	6.7	84	170	21	.0
AUG												
17...	0740	3.0	557	7.3	25.0	--	25	4.8	58	230	140	.1
SEP												
21...	1130	14	320	7.6	22.5	22	3.0	6.3	72	110	69	.1

DATE	TOTAL ACIDITY AS CACU3 (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SUMP- TION RATIO	DIS- SOLVED PU- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCU3) (MG/L)	CAR- BONATE (CU3) (MG/L)	ALKA- LINITY AS CACU3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT												
20...	5.0	19	12	21	31	.9	3.2	60	0	49	83	4.9
NOV												
17...	5.0	21	18	22	27	.9	2.5	60	0	49	98	6.9
DEC												
15...	5.0	7.1	4.8	11	38	.8	1.8	26	0	21	32	6.4
JAN												
18...	5.0	6.2	4.0	12	43	.9	1.6	22	0	18	26	9.5
FEB												
10...	.0	12	7.7	14	32	.8	1.4	29	0	24	58	7.5
MAR												
15...	5.0	12	7.9	10	25	.6	1.6	20	0	16	56	5.8
APR												
20...	5.0	23	16	17	23	.7	2.0	44	0	36	110	6.1
MAY												
18...	5.0	38	24	21	19	.7	2.4	53	0	43	180	6.3
JUN												
15...	5.0	50	30	27	19	.7	2.9	74	0	61	220	7.5
JUL												
19...	.0	33	21	63	44	2.1	3.5	180	0	150	130	10
AUG												
17...	5.0	44	28	29	22	.8	3.6	110	0	90	190	7.6
SEP												
21...	5.0	22	14	17	24	.7	3.0	53	0	43	99	5.8

ARKANSAS RIVER BASIN

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07249410 JAMES FORK NEAR WILLIAMS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED SOLIDS (TONS PER DAY)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (NO2) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)
OCT											
20...	.2	6.0	192	180	.26	3.06	.11	.49	.00	.00	.11
NOV											
17...	.2	7.7	216	207	.29	15.2	.17	.75	.00	.00	.17
DEC											
15...	.1	7.6	91	85	.12	22.6	--	--	--	--	.24
JAN											
18...	.1	6.8	79	80	.11	39.7	.51	2.3	.00	.00	.51
FEB											
10...	.1	7.1	128	124	.17	24.9	.34	1.5	.00	.00	.34
MAR											
15...	.1	8.2	120	115	.16	79.7	.71	3.1	.00	.00	.71
APR											
20...	.2	8.4	211	208	.29	47.9	.64	2.8	.00	.00	.64
MAY											
18...	.1	7.7	306	307	.42	16.5	--	--	--	--	.28
JUN											
15...	.2	7.7	406	386	.55	1.53	.63	2.8	.00	.00	.63
JUL											
19...	.3	5.6	359	356	.49	2.13	.13	.58	.00	.00	.13
AUG											
17...	.2	6.6	361	365	.49	2.92	.10	.44	.00	.00	.10
SEP											
21...	.2	6.3	187	195	.25	7.07	.20	.89	.00	.00	.20

DATE	TIME	TOTAL ALUM- INUM (AL) (UG/L)	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	TOTAL BERYL- LIUM (BE) (UG/L)	DIS- SOLVED BERYL- LIUM (BE) (UG/L)	TOTAL BISMUTH (BI) (UG/L)	DIS- SOLVED BISMUTH (BI) (UG/L)	TOTAL BORON (B) (UG/L)
OCT												
20...	1145	--	90	--	0	--	30	--	<1	--	<1	--
NOV												
17...	1500	260	210	0	0	30	40	<1	<1	<1	<1	70
DEC												
15...	1615	--	180	--	0	--	20	--	<1	--	<1	--
JAN												
18...	1500	900	390	--	0	20	10	0	0	<1	<1	20
FEB												
10...	1000	--	--	--	0	--	--	--	--	--	--	--
MAR												
15...	1615	--	--	--	1	--	--	--	--	--	--	--
APR												
20...	0945	150	0	1	0	--	--	--	--	--	--	50
MAY												
18...	0920	--	1	--	0	--	--	--	--	--	--	--
JUN												
15...	0945	240	20	1	0	--	--	--	--	--	--	80
JUL												
19...	1400	400	10	1	0	--	--	--	--	--	--	100
AUG												
17...	0740	--	0	--	0	--	--	--	--	--	--	--
SEP												
21...	1130	--	70	--	0	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07249410 JAMES FORK NEAR WILLIAMS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CU) (UG/L)	DIS- SOLVED COBALT (CU) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL GALLIUM (GA) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)
OCT 20...	50	--	2	--	<1	--	<1	--	3	--	<1
NOV 17...	60	<10	0	3	2	<1	<1	<10	3	<1	<1
DEC 15...	20	--	2	--	4	--	<1	--	5	--	<1
JAN 18...	20	<10	0	2	1	2	<1	1	1	<1	<1
FEB 10...	--	--	--	--	--	--	--	--	6	--	--
MAR 15...	--	--	--	--	--	--	--	--	4	--	--
APR 20...	30	10	1	0	0	--	--	<10	2	--	--
MAY 18...	40	--	0	--	0	--	--	--	2	--	--
JUN 15...	40	<10	1	10	0	--	--	<10	3	--	--
JUL 19...	80	<10	1	10	0	--	--	<10	2	--	--
AUG 17...	50	--	3	--	0	--	--	--	1	--	--
SEP 21...	40	--	0	--	10	--	--	--	2	--	--

DATE	TOTAL GER- MANIUM (GE) (UG/L)	DIS- SOLVED GER- MANIUM (GE) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL LITHIUM (LI) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)
OCT 20...	--	<3	--	140	--	<2	--	10	--	120	--
NOV 17...	<4	<4	310	120	14	<2	10	10	30	30	.0
DEC 15...	--	<2	--	240	--	3	--	10	--	40	--
JAN 18...	<2	<1	1300	360	5	7	0	0	80	80	--
FEB 10...	--	--	--	--	--	--	--	--	--	--	--
MAR 15...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	--	--	600	160	<100	2	--	--	150	110	.0
MAY 18...	--	--	--	70	--	3	--	--	--	210	--
JUN 15...	--	--	490	70	<100	2	--	--	1100	1000	.0
JUL 19...	--	--	710	70	<100	2	--	--	420	260	.4
AUG 17...	--	--	--	80	--	11	--	--	--	780	--
SEP 21...	--	--	--	150	--	2	--	--	--	130	--

ARKANSAS RIVER BASIN

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07249410 JAMES FORK NEAR WILLIAMS, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	TOTAL SILVER (AG) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	TOTAL STRON- TIUM (SR) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	TOTAL TIN (SN) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)
OCT											
20...	.1	--	<1	--	14	--	<1	--	30	--	<2
NOV											
17...	.0	<1	<1	21	16	1	<1	50	50	14	<2
DEC											
15...	.5	--	<1	--	32	--	0	--	20	--	<1
JAN											
18...	.3	<1	<1	22	14	0	0	20	10	2	<1
FEB											
10...	.0	--	--	--	--	--	--	--	--	--	--
MAR											
15...	.0	--	--	--	--	--	--	--	--	--	--
APR											
20...	.0	0	0	<50	6	--	--	--	--	--	--
MAY											
18...	.0	--	0	--	4	--	--	--	--	--	--
JUN											
15...	.4	0	0	<50	10	--	--	--	--	--	--
JUL											
19...	.0	0	0	<50	2	--	--	--	--	--	--
AUG											
17...	.0	--	0	--	4	--	--	--	--	--	--
SEP											
21...	.4	--	1	--	2	--	--	--	--	--	--

DATE	TOTAL TI- TANIUM (TI) (UG/L)	DIS- SOLVED TI- TANIUM (TI) (UG/L)	TOTAL VANA- DIUM (V) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ZIR- CONIUM (ZR) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT											
20...	--	7	--	<2.8	--	10	--	<3	--	--	--
NOV											
17...	20	<1	<2.8	<2.9	0	30	<3	<3	--	--	--
DEC											
15...	--	6	--	<1.3	--	30	--	<1	--	--	--
JAN											
18...	20	10	2.4	<1.1	<10	<10	<1	<1	--	--	--
FEB											
10...	--	--	--	--	--	--	--	--	67	13	51
MAR											
15...	--	--	--	--	--	--	--	--	50	33	97
APR											
20...	--	--	--	--	10	10	--	--	29	6.6	91
MAY											
18...	--	--	--	--	--	10	--	--	38	2.1	95
JUN											
15...	--	--	--	--	6	10	--	--	18	.07	95
JUL											
19...	--	--	--	--	20	2	--	--	15	.09	75
AUG											
17...	--	--	--	--	--	10	--	--	20	.16	92
SEP											
21...	--	--	--	--	--	270	--	--	--	--	--

ARKANSAS RIVER BASIN

07249415 COAL CREEK TRIBUTARY NEAR BOKOSHE, OK

LOCATION.--Lat 35°11'30", long 94°43'19", SW 1/4 SE 1/4 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.

REMARKS.--No flow observed on Oct. 16, Jan. 18, May 17, June 14, July 19, Aug. 16, Sept. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHUS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (NTU)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	HARDNESS (CA, MG)	NON-CARBONATE HARDNESS (MG/L)	TOTAL ACIDITY AS H+ (MG/L)
NOV 18...	1045	.15	160	6.9	5.0	55	27	12.6	100	31	9	.1
DEC 16...	1345	.44	100	7.1	8.5	100	45	11.2	97	22	8	.1
FEB 09...	1500	.23	116	7.2	11.5	90	38	--	--	20	8	.0
MAR 15...	1500	.44	95	7.0	21.0	95	60	9.3	104	25	1	.1
APR 20...	1305	12	115	6.9	19.0	320	450	7.1	77	26	2	.2

DATE	TIME	TOTAL ACIDITY AS CACU3 (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACU3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
NOV 18...	5.0	6.0	3.9	14	47	1.1	2.1	27	0	22	21	10	
DEC 16...	5.0	4.5	2.6	10	47	.9	1.9	17	0	14	19	7.4	
FEB 09...	.0	3.9	2.5	12	55	1.2	1.3	15	0	12	23	9.8	
MAR 15...	5.0	5.0	3.1	9.3	42	.8	2.1	29	0	24	16	6.3	
APR 20...	10	5.3	3.1	12	46	1.0	3.7	29	0	24	14	6.8	

DATE	TIME	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIU2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRATE (NO3) (MG/L)	DISSOLVED NITRITE (N) (MG/L)	DISSOLVED NITRITE (NO2) (MG/L)	DISSOLVED NITRATE PLUS NITRITE (N) (MG/L)
NOV 18...		.1	4.7	86	77	.12	.03	.46	2.0	.01	.03	.47
DEC 16...		.1	6.4	70	65	.10	.08	--	--	--	--	.81
FEB 09...		.1	4.3	88	65	.12	.05	.26	1.2	.00	.00	.26
MAR 15...		.1	5.1	81	62	.11	.10	.10	.44	.00	.00	.10
APR 20...		.5	5.1	83	67	.11	2.69	.20	.89	.02	.07	.22

DATE	TIME	TOTAL ALUMINUM (AL) (UG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DISSOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	DISSOLVED BARIUM (BA) (UG/L)	TOTAL BERYLLIUM (BE) (UG/L)	DISSOLVED BERYLLIUM (BE) (UG/L)	TOTAL BISMUTH (BI) (UG/L)	DISSOLVED BISMUTH (BI) (UG/L)	TOTAL BORON (B) (UG/L)
NOV 18...	1045	>2900	0	1	0	20	30	<1	<1	<1	<1	20
DEC 16...	1345	--	220	--	0	--	20	--	<1	--	<1	--
FEB 09...	1500	--	--	--	0	--	--	--	--	--	--	--
MAR 15...	1500	--	--	--	1	--	--	--	--	--	--	--
APR 20...	1305	4000	200	12	1	--	--	--	--	--	--	50

ARKANSAS RIVER BASIN

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07249415 COAL CREEK TRIBUTARY NEAR BOKOSHE, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHROM- MIUM (CR) (UG/L)	DIS- SOLVED CHROM- MIUM (CR) (UG/L)	TOTAL COBALT (CU) (UG/L)	DIS- SOLVED COBALT (CU) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL GALLIUM (GA) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)
NOV 18...	20	<10	0	2	1	<1	<1	2	4	<1	<1
DEC 16...	10	--	2	--	1	--	<1	--	3	--	<1
FEB 09...	--	--	--	--	--	--	--	--	11	--	--
MAR 15...	--	--	--	--	--	--	--	--	6	--	--
APR 20...	70	<10	1	0	0	--	--	<10	5	--	--

DATE	TOTAL GER- MANIUM (GE) (UG/L)	DIS- SOLVED GER- MANIUM (GE) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL LITHIUM (LI) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MANG- NESE (MN) (UG/L)	DIS- SOLVED MANG- NESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)
NOV 18...	<1	<1	>2400	0	3	3	10	0	10	0	.0
DEC 16...	--	<1	--	200	--	3	--	0	--	20	--
FEB 09...	--	--	--	--	--	--	--	--	--	--	--
MAR 15...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	--	--	7900	460	<100	3	--	--	1000	330	.0

DATE	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL MOLYB- DENUM (MU) (UG/L)	DIS- SOLVED MOLYB- DENUM (MU) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	TOTAL SILVER (AG) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	TOTAL STRON- TIUM (SR) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	TOTAL TIN (SN) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)
NOV 18...	.0	<1	<1	9	4	1	0	30	20	<1	<1
DEC 16...	1.8	--	<1	--	9	--	0	--	20	--	<1
FEB 09...	.0	--	--	--	--	--	--	--	--	--	--
MAR 15...	.0	--	--	--	--	--	--	--	--	--	--
APR 20...	.0	0	0	<50	2	--	--	--	--	--	--

DATE	TOTAL TAN- IUM (TI) (UG/L)	DIS- SOLVED TAN- IUM (TI) (UG/L)	TOTAL VANA- DIUM (V) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL CUMIUM (ZR) (UG/L)	DIS- SOLVED CUMIUM (ZR) (UG/L)	SUS- PENDE- D SED- MENT SEDIM- ENT (MG/L)	SUS- PENDE- D SED- MENT SEDIM- ENT (T/DAY)	SUS- SED. SIEVE DIAM. % FINER THAN .062 MM
NOV 18...	30	9	2.5	<1.2	0	30	<1	<1	--	--	--
DEC 16...	--	7	--	<1.0	--	10	--	<1	--	--	--
FEB 09...	--	--	--	--	--	--	--	--	19	.01	94
MAR 15...	--	--	--	--	--	--	--	--	51	.06	96
APR 20...	--	--	--	--	40	20	--	--	600	19	91

ARKANSAS RIVER BASIN

07249419 COAL CREEK NEAR PANAMA, OK

LOCATION.--Lat 35°11'08", long 94°40'23", NW 1/4 NE 1/4 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.

REMARKS.--No flow observed on Jan. 18, May 18, June 14, July 19, Sept. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COULT UNITS)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL ACIDITY AS H+
OCT 19...	1430	--	125	6.8	14.0	140	80	5.5	53	26	3	.1
NOV 18...	0845	1.2	110	6.5	5.0	140	60	9.3	73	23	0	.1
DEC 16...	1030	1.4	83	7.3	4.0	160	32	11.5	88	23	6	.0
FEB 09...	1630	.86	110	7.0	8.0	100	50	--	--	24	5	.0
MAR 15...	1530	1.7	108	7.0	18.0	95	40	8.7	92	28	3	.0
APR 20...	1135	1.4	150	7.1	17.5	35	16	6.5	68	41	0	.1
AUG 16...	1140	.09	73	6.7	25.0	--	40	6.7	81	23	6	.0

DATE	TOTAL ACIDITY AS CALO3 (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PU- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LITY AS CACO3 (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OCT 19...	5.0	5.6	2.9	16	52	1.4	4.6	28	0	23	8.3	4.1
NOV 18...	5.0	5.2	2.4	7.4	37	.7	3.3	30	0	25	11	5.2
DEC 16...	.0	4.6	2.7	7.8	40	.7	2.6	20	0	16	15	6.0
FEB 09...	.0	5.1	2.8	11	47	1.0	2.0	23	0	19	22	8.2
MAR 15...	.0	6.3	3.0	10	41	.8	2.1	30	0	25	18	6.0
APR 20...	5.0	9.5	4.2	13	39	.9	2.7	50	0	41	15	8.7
AUG 16...	.0	5.8	2.0	2.5	16	.2	4.5	21	0	17	3.9	13

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TUNS PER AC-FT)	DIS- SOLVED SOLIDS (TUNS PER DAY)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (NO2) (MG/L)	DIS- SOLVED NITRATE PLUS NITRITE (N) (MG/L)
OCT 19...	.0	5.3	64	62	.09	--	.10	.44	.01	.03	.11
NOV 18...	.1	5.6	96	61	.13	.31	.00	.00	.02	.07	.02
DEC 16...	.1	6.6	68	60	.09	.26	--	--	--	--	.39
FEB 09...	.1	3.9	83	67	.11	.19	.19	.84	.00	.00	.19
MAR 15...	.1	6.8	86	68	.12	.39	.22	.97	.00	.00	.22
APR 20...	.3	4.6	92	85	.13	.35	.27	1.2	.01	.03	.28
AUG 16...	.1	4.6	50	48	.07	.01	.18	.80	.00	.00	.18

ARKANSAS RIVER BASIN

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07249419 COAL CREEK NEAR PANAMA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TOTAL ALUM- INUM (AL) (UG/L)	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	TOTAL BERYL- LIUM (BE) (UG/L)	DIS- SOLVED BERYL- LIUM (BE) (UG/L)	TOTAL BISMUTH (BI) (UG/L)	DIS- SOLVED BISMUTH (BI) (UG/L)	TOTAL BORON (B) (UG/L)
OCT 19...	1430	--	>280	--	1	--	50	--	<1	--	<1	--
NOV 18...	0845	>2600	>2800	1	0	20	60	<1	<1	<1	<1	40
DEC 16...	1030	--	>2700	--	0	--	20	--	<1	--	<1	--
FEB 09...	1630	--	--	--	0	--	--	--	--	--	--	--
MAR 15...	1530	--	--	--	0	--	--	--	--	--	--	--
APR 20...	1135	220	30	1	0	--	--	--	--	--	--	40
AUG 16...	1140	--	90	--	0	--	--	--	--	--	--	--

DATE	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL GALLIUM (GA) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)
OCT 19...	80	--	2	--	2	--	1	--	6	--	<1
NOV 18...	30	<10	0	6	5	<1	1	5	7	1	<1
DEC 16...	30	--	5	--	3	--	<1	--	4	--	<1
FEB 09...	--	--	--	--	--	--	--	--	16	--	--
MAR 15...	--	--	--	--	--	--	--	--	5	--	--
APR 20...	40	<10	2	0	0	--	--	<10	2	--	--
AUG 16...	50	--	2	--	0	--	--	--	3	--	--

DATE	TOTAL GER- MANIUM (GE) (UG/L)	DIS- SOLVED GER- MANIUM (GE) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL LITHIUM (LI) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MANG- NESE (MN) (UG/L)	DIS- SOLVED MANG- NESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)
OCT 19...	--	<1	--	>280	--	7	--	0	--	>280	--
NOV 18...	<1	<1	>2600	>2800	6	4	0	0	40	30	.3
DEC 16...	--	<1	--	>270	--	5	--	0	--	30	--
FEB 09...	--	--	--	--	--	--	--	--	--	--	--
MAR 15...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	--	--	930	340	<100	6	--	--	300	240	.0
AUG 16...	--	--	--	190	--	7	--	--	--	130	--

ARKANSAS RIVER BASIN

07249419 COAL CREEK NEAR PANAMA, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS- SOLVED MERCURY (MG) (UG/L)	TOTAL MOLYB- DENUM (MU) (UG/L)	DIS- SOLVED MOLYB- DENUM (MU) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	TOTAL SILVER (AG) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	TOTAL STRON- TIUM (SR) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	TOTAL TIN (SN) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)
UCT 19...	.0	--	1	--	13	--	0	--	20	--	<1
NOV 18...	.0	<1	<1	15	12	0	0	20	20	0	<1
DEC 16...	.4	--	<1	--	12	--	0	--	20	--	<1
FEB 09...	.0	--	--	--	--	--	--	--	--	--	--
MAR 15...	.0	--	--	--	--	--	--	--	--	--	--
APR 20...	.0	0	0	<50	2	--	--	--	--	--	--
AUG 16...	.0	--	0	--	4	--	--	--	--	--	--

DATE	TOTAL TI- TANIUM (TI) (UG/L)	DIS- SOLVED TI- TANIUM (TI) (UG/L)	TOTAL VANA- DIUM (V) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ZIR- CONIUM (ZR) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)	SUS- PENDE- SEDIM- MENT (MG/L)	SUS- PENDE- SEDIM- MENT CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
UCT 19...	--	50	--	2.8	--	10	--	4	--	--	--
NOV 18...	70	80	4.9	3.2	10	50	<1	<1	--	--	--
DEC 16...	--	30	--	1.9	--	20	--	<1	--	--	--
FEB 09...	--	--	--	--	--	--	--	--	28	.07	80
MAR 15...	--	--	--	--	--	--	--	--	36	.17	94
APR 20...	--	--	--	--	30	30	--	--	31	.12	90
AUG 16...	--	--	--	--	--	40	--	--	56	.01	82

ARKANSAS RIVER BASIN

497

07249440 POTEAU RIVER NEAR FORT SMITH, AR

LOCATION.--Lat 35°20'43", long 94°27'09", in SE 1/4 SW 1/4 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT											
13...	1028	9740	1915	180	7.2	18.0	47	6.8	73	17	33
NOV											
10...	1028	9740	0745	99	7.2	10.0	24	10.0	89	15	22
DEC											
14...	1028	9740	1515	80	5.7	6.0	52	11.4	91	15	29
JAN											
26...	1028	9740	1750	90	6.2	3.0	50	13.0	98	15	27
FEB											
06...	1028	9740	1640	95	7.7	5.0	37	11.7	91	14	23
MAR											
09...	1028	9740	1100	160	6.9	11.0	90	9.8	89	27	35
APR											
13...	1028	9740	1100	50	6.1	19.0	54	8.5	91	20	10
MAY											
11...	1028	9740	1030	140	6.7	23.5	23	7.0	81	16	40
JUN											
07...	1028	9740	1440	460	8.0	26.5	25	10.4	130	18	103
JUL											
12...	1028	9740	1510	120	6.6	29.0	75	6.3	82	13	38
AUG											
10...	1028	9740	1015	180	7.5	29.0	53	2.6	34	9	61
SEP											
12...	1028	9740	1730	130	6.8	26.0	85	5.3	65	15	50
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT											
13...	8.9	5.6	12	2.7	--	--	.1	122	1.0	<.12	--
NOV											
10...	5.9	3.8	14	2.7	--	7.0	.1	45	1.0	.10	<1
DEC											
14...	4.6	3.8	10	1.5	--	17	.1	101	.60	.06	--
JAN											
26...	5.2	3.5	24	1.1	23	11	.0	91	.80	.11	--
FEB											
06...	4.4	3.2	<10	1.2	26	6.0	.0	92	.90	.09	1
MAR											
09...	3.8	2.4	17	1.9	16	25	<.1	125	1.4	.22	--
APR											
13...	2.9	1.9	<5.0	1.7	12	2.0	<.1	53	1.7	.14	--
MAY											
11...	8.6	5.7	5.0	1.7	30	7.0	.0	88	2.2	.06	<1
JUN											
07...	23	9.4	58	4.1	43	76	.2	271	1.6	.10	--
JUL											
12...	7.6	4.0	10	2.6	26	6.0	.1	137	1.5	.13	--
AUG											
10...	13	5.3	6.0	2.2	26	9.0	.1	118	6.3	.10	2
SEP											
12...	4.8	7.5	9.0	2.3	17	6.0	.1	125	.92	.11	--

ARKANSAS RIVER BASIN

07249440 POTEAU RIVER NEAR FORT SMITH, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CADMI- MIUM (CD) (UG/L)	TOTAL CHROMI- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 13...	--	--	--	700	--	170	--	--	--	--	--
NOV 10...	<1	14	3	350	14	118	<.6	5	<2	<1	6
DEC 14...	--	--	--	880	--	209	--	--	--	--	--
JAN 26...	--	--	--	1020	--	220	--	--	--	--	--
FEB 08...	6	52	4	890	<3	150	<.5	5	<1	<1	15
MAR 09...	--	--	--	160	--	270	--	--	--	--	--
APR 13...	--	--	--	1530	--	250	--	--	--	--	--
MAY 11...	1	9	5	800	11	280	.9	2	<1	<1	11
JUN 07...	--	--	--	500	--	950	--	--	--	--	--
JUL 12...	--	--	--	790	--	310	--	--	--	--	--
AUG 10...	<1	35	5	1620	5	1070	<.5	5	<1	<1	21
SEP 12...	--	--	--	4150	--	280	--	--	--	--	--

ARKANSAS RIVER BASIN

499

07249800 LEE CREEK NEAR SHORT, OK

LOCATION.--Lat 35°33'45", long 94°32'00", north edge sec.34, T.13 N., R.26 E., Sequoyah County, Hydrologic Unit 11110104, at bridge on State Highway 101, 0.2 mi (.3 km) upstream from Little Lee Creek, 0.5 mi (0.8 km) west of Short.

DRAINAGE AREA.--236 mi² (611 km²).

PERIOD OF RECORD.--Water years 1958-61, 1976 to September 1977 (discontinued).

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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
UCT											
13...	1028	9740	1400	175	7.2	18.0	2	10.4	112	7	42
NOV											
10...	1028	9740	1200	125	8.5	10.0	2	10.2	91	4	44
DEC											
15...	1028	9740	1230	90	6.3	7.0	12	11.6	96	2	60
JAN											
27...	1028	9740	1144	80	5.8	3.0	3	12.6	95	5	27
FEB											
09...	1028	9740	1215	120	7.9	5.0	7	12.8	99	4	36
MAR											
08...	1028	9740	1615	190	6.8	11.0	10	10.6	96	7	35
APR											
12...	1028	9740	1445	70	6.5	20.0	8	8.9	97	1	30
MAY											
10...	1028	9740	1545	105	7.6	26.0	2	8.5	105	4	34
JUN											
06...	1028	9740	0930	110	7.4	23.0	3	7.1	84	4	41
JUL											
13...	1028	9740	0750	120	7.1	28.0	3	6.7	86	<3	45
AUG											
10...	1028	9740	1215	120	7.4	29.0	3	7.4	96	3	43
SEP											
13...	1028	9740	1115	130	7.2	23.5	3	7.6	90	3	59
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SU4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
UCT											
13...	13	2.3	7.0	10	--	--	<.1	68	1.0	<.12	--
NOV											
10...	15	2.5	<10	2.0	--	11	.1	48	.80	.03	1
DEC											
15...	10	1.7	<10	1.0	--	9.0	.1	77	.50	.03	--
JAN											
27...	10	1.8	15	.6	14	24	.0	57	.70	<.03	--
FEB											
09...	12	1.8	18	13	12	26	.1	66	.50	<.03	<1
MAR											
08...	10	1.4	16	1.2	10	25	<.1	57	1.3	.05	--
APR											
12...	9.0	1.6	<10	<1.0	6.0	3.0	.1	35	.76	.07	--
MAY											
10...	11	1.9	<10	<1.0	14	6.0	.1	58	1.2	.01	<1
JUN											
06...	13	2.1	8.0	1.4	5.0	10	.1	66	1.2	.04	--
JUL											
13...	14	1.8	10	1.2	16	8.0	.1	96	.71	.02	--
AUG											
10...	12	1.8	5.0	1.0	7.0	9.0	.0	58	1.1	.02	<1
SEP											
13...	17	3.8	5.0	.9	4.0	10	.0	63	<.63	.02	--

ARKANSAS RIVER BASIN

07249800 LEE CREEK NEAR SHORT, OK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT											
13...	--	--	--	200	--	45	--	--	--	--	--
NOV											
10...	<1	10	<1	150	6	<5	<.5	<3	<1	<1	3
DEC											
15...	--	--	--	140	--	14	--	--	--	--	--
JAN											
27...	--	--	--	<100	--	10	--	--	--	--	--
FEB											
09...	3	30	4	200	8	10	.8	2	<1	1	4
MAR											
08...	--	--	--	440	--	20	--	--	--	--	--
APR											
12...	--	--	--	280	--	30	--	--	--	--	--
MAY											
10...	1	2	2	200	17	40	.9	<1	<1	<1	4
JUN											
08...	--	--	--	4200	--	80	--	--	--	--	--
JUL											
13...	--	--	--	240	--	10	--	--	--	--	--
AUG											
10...	<1	10	<2	150	<5	60	<.5	5	<1	<2	9
SEP											
13...	--	--	--	370	--	70	--	--	--	--	--

ARKANSAS RIVER BASIN

501

07250550 ARKANSAS RIVER AT DAM NO. 13 NEAR VAN BUREN, AR

LOCATION.--Lat 35°20'56", long 94°17'54", in sec. 28, T.8 n., R.31 W., Sebastian County, Hydrologic Unit 11110104, from lock wall at Dam No. 13 and at mile 308.9 (497.0 km).

DRAINAGE AREA.--150,547 mi² (389,917 km²), of which 22,241 mi² (57,604 km²) is probably noncontributing.

PERIOD OF RECORD.--Water years 1976 to September 1977 (discontinued).

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 streamflow and water-quality data 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 1976 TO SEPTEMBER 1977

DATE	CODE FOR AGENCY COL- LECTING SAMPLE	CODE FOR AGENCY ANA- LYZING SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	PER- CENT SATUR- ATION	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARD- NESS (CA, MG) (MG/L)
OCT 13...	1028	9740	1730	650	8.2	21.0	17	12.0	135	0	126
NOV 10...	1028	9740	0915	460	7.7	11.0	17	10.6	96	14	119
DEC 15...	1028	9740	1030	315	7.1	6.0	29	12.0	96	16	122
JAN 27...	1028	9740	0837	245	8.6	2.0	28	13.2	97	12	58
FEB 09...	1028	9740	0900	460	8.4	4.5	9	14.2	108	12	124
MAR 09...	1028	9740	0930	250	6.7	11.0	60	9.9	90	15	67
APR 13...	1028	9740	0830	311	7.0	18.0	33	9.6	101	22	59
MAY 10...	1028	9740	1735	450	7.9	24.0	22	8.4	100	13	120
JUN 07...	1028	9740	1700	970	7.9	25.0	44	8.0	98	17	161
JUL 12...	1028	9740	1620	540	7.9	28.0	33	7.8	100	8	125
AUG 10...	1028	9740	0840	650	8.0	28.0	23	7.5	96	9	135
SEP 13...	1028	9740	0915	750	7.8	24.5	31	8.2	99	11	196
DATE	TOTAL CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	TOTAL PO- TAS- SIUM (K) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	TOTAL FLUO- RIDE (F) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ARSENIC (AS) (UG/L)
OCT 13...	41	10	65	3.9	--	--	.2	341	1.0	<.12	--
NOV 10...	38	9.0	46	3.9	--	86	.2	233	1.2	.11	2
DEC 15...	25	7.4	25	3.0	--	56	--	209	.60	.05	--
JAN 27...	15	5.7	<10	.5	36	34	.1	164	5.5	.13	--
FEB 09...	34	9.2	65	2.5	43	80	.2	282	.80	.10	1
MAR 09...	15	5.2	32	2.2	24	33	<.1	191	1.5	.15	--
APR 13...	17	4.9	34	2.4	19	49	.1	169	2.0	.13	--
MAY 10...	33	8.5	50	3.7	36	79	.2	267	1.4	.07	1
JUN 07...	42	11	129	6.3	52	201	.5	531	1.2	.17	--
JUL 12...	38	7.0	58	4.6	39	81	.2	325	1.0	.14	--
AUG 10...	39	7.5	62	4.1	40	97	.2	330	1.1	.13	<1
SEP 13...	52	15	91	4.6	41	147	.2	125	<.63	.17	--

ARKANSAS RIVER BASIN

07250550 ARKANSAS RIVER AT DAM NO. 13 NEAR VAN BUREN, AR--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL NICKEL (NI) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)
OCT 13...	--	--	--	300	--	43	--	--	--	--	--
NOV 10...	2	17	4	100	<10	46	<.5	5	<1	<2	11
DEC 15...	--	--	--	590	--	230	--	--	--	--	--
JAN 27...	--	--	--	600	--	120	--	--	--	--	--
FEB 09...	4	40	12	310	<3	80	<.5	7	<1	<1	16
MAR 09...	--	--	--	980	--	190	--	--	--	--	--
APR 13...	--	--	--	830	--	110	--	--	--	--	--
MAY 10...	2	6	6	400	15	90	.8	4	<1	<1	8
JUN 07...	--	--	--	615	--	115	--	--	--	--	--
JUL 12...	--	--	--	600	--	80	--	--	--	--	--
AUG 10...	<1	10	4	500	10	70	<.5	6	<1	2	8
SEP 13...	--	--	--	1500	--	100	--	--	--	--	--

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	1964-77	08-13-77	12.10	170
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	1964-77	04-12-77	16.02	2,010
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	1964-77	-77		<4
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	1964-77	06-23-77	16.51	336
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 1964-77	05-21-77	4.83	230
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	1964-77	04-30-77	7.13	326
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 1971-76	05-27-77	28.93	20,700
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	1973-77	05-20-77	12.78	1,640
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	1964-77	05-21-77	9.59	2,910
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	1965-77	05-21-77	7.97	296
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	1964-77	03-11-77	15.16	1,540
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	1966-77	07-17-77	12.15	2,020
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	1965-77	07-27-77	6.33	340
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	1964-77	05-20-77	7.35	457
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	1964-77	05-20-77	14.09	596
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	1964-77	09-05-77	8.82	156

[illegible]

† operated as a continuous-record station	
* revised	

GROUND-WATER LEVELS

505

ALFALFA COUNTY

365342098175301. LOCAL NUMBER, 28N11W27DAD 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 15, 1976	8.26	MAR. 10, 1977	8.17	JUNE 15, 1977	7.14
OCT. 20	8.30	MAR. 15	8.34	JUNE 20	7.23
OCT. 25	8.28	MAR. 20	8.32	JUNE 25	7.29
OCT. 31	8.24	MAR. 25	8.31	JUNE 30	7.36
NOV. 5	8.23	MAR. 31	8.42	JULY 5	7.45
NOV. 10	8.24	APR. 5	8.35	JULY 10	7.48
NOV. 15	8.24	APR. 10	8.47	JULY 15	7.61
NOV. 20	8.27	APR. 20	8.40	JULY 20	7.69
NOV. 25	8.22	APR. 25	8.48	JULY 25	7.77
NOV. 30	8.28	APR. 30	8.47	AUG. 15	7.81
DEC. 5	8.25	MAY 5	8.47	AUG. 20	7.59
DEC. 20	8.28	MAY 10	8.50	AUG. 25	7.10
DEC. 25	8.22	MAY 15	8.45	AUG. 31	6.02
DEC. 31	8.19	MAY 20	8.35	SEP. 5	6.80
JAN. 5, 1977	8.23	MAY 31	7.31	SEP. 10	6.79
JAN. 10	8.22	JUNE 5	7.10	SEP. 25	6.47
JAN. 15	8.27	JUNE 10	7.06	SEP. 30	6.49

WTR YEAR 1977 MAX 8.50 MAY 10, 1977 MIN 6.02 AUG 31, 1977

BEAVER COUNTY

363853100311001. LOCAL NUMBER, 02N24E07CCD 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 FT (21.933M)
 BELOW LAND-SURFACE DATUM, JAN. 12, 1971; LOWEST, 78.00 FT (23.774M)
 BELOW LAND-SURFACE DATUM, JAN. 13, 1971.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 10, 1976	76.80	APR. 11, 1977	77.30	AUG. 1, 1977	77.00
JAN. 11, 1977	77.10				

WTR YEAR 1977 MAX 77.30 APR 11, 1977 MIN 76.80 OCT 10, 1976

GROUND-WATER LEVELS

CIMARRON COUNTY

364450102190001. LOCAL NUMBER, 03N07E09888 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 19, 1976	28.85	JAN. 12, 1977	28.50	APR. 12, 1977	28.70
WTR YEAR 1977 MAX 28.85 OCT 19, 1976 MIN 28.50 JAN 12, 1977					

CLEVELAND COUNTY

350136097203001. LOCAL NUMBER, 06N01W06DAD 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, 14.02 FT (4.273M)
 BELOW LAND-SURFACE DATUM, AUG. 9, 1977.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 8, 1976	12.57	MAY 11, 1977	12.70	AUG. 9, 1977	14.02
FEB. 14, 1977	12.66				
WTR YEAR 1977 MAX 14.02 AUG 9, 1977 MIN 12.57 OCT 8, 1976					

350816097233101. LOCAL NUMBER, 08N02W27ACD 1.
 LOCATION.--LAT 35 08'16", LONG 097 23'31", HYDROLOGIC UNIT 11090202,
 OWNER: TOWN OF NOBLE.
 AQUIFER.--GARDNER 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 WATER LEVEL, 165.43 FT (50.423M)
 BELOW LAND-SURFACE DATUM, JULY 7, 1943; LOWEST, 221.74 FT (67.586M)
 BELOW LAND-SURFACE DATUM, DEC. 23, 1948.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 8, 1976	199.62	FEB. 14, 1977	198.46	MAY 11, 1977	186.33
WTR YEAR 1977 MAX 199.62 NOV 8, 1976 MIN 186.33 MAY 11, 1977					

GROUND-WATER LEVELS

507

CLEVELAND COUNTY--Continued

351222097245901. LOCAL NUMBER, 08N02W0988A 1.
 LOCATION.--LAT 35 12'22", LONG 097 24'59", HYDROLOGIC UNIT 11090202,
 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, MAR. 25, 1952; LOWEST, 183.04 FT (55.791M)
 BELOW LAND-SURFACE DATUM, NOV. 30, 1972.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 8, 1976	182.65	MAY 11, 1977	181.70	AUG. 10, 1977	181.63
FEB. 14, 1977	182.67				

WTR YEAR 1977 MAX 182.67 FEB 14, 1977 MIN 181.63 AUG 10, 1977

351357097241901 LOCAL NUMBER, 09N02W2788B 1.
 LOCATION.--LAT 35 13'57", LONG 097 24'19", HYDROLOGIC UNIT 11090203
 OWNER: CITY OF NORMAN.
 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
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 229.66 FT (70.000M)
 BELOW LAND-SURFACE DATUM, JUNE 5, 1977 LOWEST 250.29 FT (76.288M)
 BELOW LAND-SURFACE DATUM, AUG. 15, 1977.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 15, 1976	235.94	APR. 20, 1977	234.77	JULY 20, 1977	241.39
OCT. 20	236.24	MAY 25	230.80	JULY 25	244.09
OCT. 25	236.01	MAY 31	230.11	AUG. 15	250.29
OCT. 31	235.95	JUNE 5	229.66	AUG. 20	249.12
NOV. 5	235.24	JUNE 10	230.15	AUG. 25	247.20
NOV. 10	234.77	JUNE 15	230.66	AUG. 31	246.72
NOV. 15	235.50	JUNE 20	233.54	SEP. 5	245.86
NOV. 20	236.24	JUNE 25	238.55	SEP. 10	244.81
NOV. 25	236.59	JUNE 30	237.05	SEP. 15	244.22
NOV. 30	236.59	JULY 5	235.74	SEP. 20	243.82
DEC. 5	236.90	JULY 10	235.00	SEP. 25	244.20
DEC. 20	238.19	JULY 15	236.74	SEP. 30	244.40

WTR YEAR 1977 MAX 250.29 AUG 15, 1977 MIN 229.66 JUNE 5, 1977

GROUND-WATER LEVELS

CREEK COUNTY

355510096293501. LOCAL NUMBER, 17N08E30C88 1.
 LOCATION.--LAT 35 55'10", LONG 096 29'35", HYDROLOGIC UNIT 11100303,
 OWNER: EVERETT MATHERLY.
 AQUIFER.--VAMOOSA 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	38.42	MAY 25, 1977	39.35	JULY 31, 1977	39.14
OCT. 10	38.53	MAY 31	39.96	AUG. 5	39.16
DEC. 15	38.59	JUNE 5	39.28	AUG. 10	39.18
JAN. 20, 1977	37.94	JUNE 10	39.15	AUG. 15	39.28
JAN. 25	37.91	JUNE 15	39.22	AUG. 20	39.27
JAN. 31	38.15	JUNE 20	39.15	AUG. 25	39.24
FEB. 5	38.11	JUNE 25	39.15	AUG. 31	39.27
FEB. 10	38.04	JUNE 30	39.09	SEP. 5	39.30
FEB. 15	38.27	JULY 5	39.25	SEP. 10	39.50
FEB. 20	38.19	JULY 10	39.11	SEP. 15	39.30
MAY 10	39.29	JULY 15	39.23	SEP. 20	39.33
MAY 15	39.19	JULY 20	39.07	SEP. 25	39.10
MAY 20	39.28	JULY 25	39.04	SEP. 30	39.03

WTR YEAR 1977 MAX 39.96 MAY 31, 1977 MIN 37.91 JAN 25, 1977

CUSTER COUNTY

354112098430601. LOCAL NUMBER, 14N14W17C8D 1.
 LOCATION.--LAT 35 41'12", LONG 098 43'06", HYDROLOGIC UNIT 11090201,
 OWNER: MELT HERRING.
 AQUIFER.--RUSH SPRINGS SANDSTONE.
 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, SEP. 10, 1972.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	26.70E	APR. 5, 1977	27.19	JULY 5, 1977	26.46
NOV. 9	26.66E	APR. 10	27.51	JULY 10	26.46
DEC. 15	26.71E	APR. 15	27.57	JULY 15	26.48
JAN. 5, 1977	26.85	APR. 20	27.47	JULY 20	26.48
JAN. 10	26.84	APR. 25	27.43	JULY 25	26.53
JAN. 15	26.90	APR. 30	27.43	JULY 31	26.63
FEB. 5	26.95	MAY 5	27.42	AUG. 5	26.65
FEB. 10	26.94	MAY 10	27.42	AUG. 10	26.69
FEB. 15	26.97	MAY 15	27.43	AUG. 15	26.71
FEB. 20	26.97	MAY 20	27.39	AUG. 20	26.77
FEB. 25	26.95	MAY 25	27.14	AUG. 25	26.88
FEB. 28	27.02	MAY 31	26.97	AUG. 31	27.02
MAR. 5	27.06	JUNE 5	26.73	SEP. 5	27.09
MAR. 10	26.98	JUNE 10	26.63	SEP. 15	27.16
MAR. 15	27.10	JUNE 15	26.56	SEP. 20	27.15
MAR. 20	27.08	JUNE 20	26.51	SEP. 25	27.16
MAR. 25	27.07	JUNE 25	26.48	SEP. 30	27.21
MAR. 31	27.16	JUNE 30	26.46		

E ESTIMATED.
 WTR YEAR 1977 MAX 27.57 APR 15, 1977 MIN 26.46 JUNE 30, 1977
 JULY 5, 1977
 JULY 10, 1977

GROUND-WATER LEVELS

509

ELLIS COUNTY

361235099474401. LOCAL NUMBER, 20N24W18DAA 1.
 LOCATION.--LAT 36 12'35", LONG 099 47'44", HYDROLOGIC UNIT 11100203,
 OWNER: M. HAMM.
 AQUIFER.--
 WELL CHARACTERISTICS.--DRILLED UNUSED DOMESTIC WELL, DIAMETER 6 IN
 (0.15M), DEPTH 78 FT (23.8M).
 DATUM.--MEASURING POINT: WEST EDGE OF HOLE IN SHELTER BASE 0.56 FT
 (0.17M) ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1972 TO CURRENT YEAR.
 EXTREMES FOR PERIOD OF RECORD.-- HIGHEST WATER LEVEL, 55.97 (17.060M)
 BELOW LAND-SURFACE DATUM, APR. 10, 1974; LOWEST, 57.03 FT (17.383M)
 BELOW LAND-SURFACE DATUM, MAR. 5, 1976.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	57.02	OCT. 25, 1976	57.00	NOV. 15, 1976	56.82
OCT. 10	56.84	OCT. 31	57.03	NOV. 20	56.89
OCT. 15	57.02	NOV. 5	56.97	JAN. 24, 1977	M
OCT. 20	56.94	NOV. 10	56.90		

M MEASUREMENTS DISCONTINUED.
 WTR YEAR 1977 MAX 57.03 OCT 31, 1976 MIN 56.82 NOV 15, 1976

361536099464601. LOCAL NUMBER, 21N24W33BAB 1.
 LOCATION.--LAT 36 15'36", LONG 099 46'46", HYDROLOGIC UNIT 11100203.
 OWNER:
 AQUIFER.--FUSH SPRINGS SANDSTONE.
 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.--1977
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 82.73 FT (25.216M)
 BELOW LAND-SURFACE DATUM, SEPT. 30, 1977; LOWEST, 84.40 FT (25.725M)
 BELOW LAND-SURFACE DATUM, APR. 15, 1977.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 15, 1977	84.10	JUNE 5, 1977	83.03	AUG. 10, 1977	83.33
APR. 20	84.08	JUNE 10	83.12	AUG. 15	83.33
APR. 25	84.00	JUNE 15	83.37	AUG. 20	83.10
APR. 30	83.77	JUNE 20	83.23	AUG. 25	82.95
MAY 5	83.58	JUNE 25	83.26	AUG. 31	82.90
MAY 10	83.48	JUNE 30	82.99	SEP. 10	82.98
MAY 15	84.40	JULY 5	83.01	SEP. 15	82.85
MAY 20	83.39	JULY 10	83.05	SEP. 20	82.82
MAY 25	83.23	JULY 15	83.15	SEP. 25	82.75
MAY 31	83.15	AUG. 5	83.31	SEP. 30	82.73

WTR YEAR 1977 MAX 84.40 APR 15, 1977 MIN 82.73 SEPT 30, 1977

ELLIS COUNTY--Continued

363235099592801. LOCAL NUMBER, 24N26W21CAA 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 (9.178M)
 BELOW LAND-SURFACE DATUM, MAY 10, 1974; LOWEST, 33.25 FT (10.135M)
 BELOW LAND-SURFACE DATUM, OCT. 25, 1972.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	33.17	JAN. 25, 1977	33.01	MAY 15, 1977	32.46
OCT. 10	33.18	JAN. 31	33.00	JUNE 20	31.64
OCT. 15	33.20	FEB. 5	32.99	JUNE 25	31.68
OCT. 20	33.22	FEB. 10	32.98	JUNE 30	31.74
OCT. 25	33.21	FEB. 15	32.98	JULY 5	31.81
OCT. 31	33.21	FEB. 20	32.97	JULY 10	31.86
NOV. 5	33.20	FEB. 25	32.97	JULY 15	31.95
NOV. 10	33.17	FEB. 28	32.97	JULY 20	32.02
NOV. 15	33.14	MAR. 5	32.97	JULY 25	32.12
NOV. 20	33.13	MAR. 10	32.94	JULY 31	32.19
NOV. 25	33.16	MAR. 15	32.96	AUG. 5	32.09
NOV. 30	33.16	MAR. 20	32.94	AUG. 10	32.12
DEC. 5	33.13	MAR. 25	32.92	AUG. 15	32.15
DEC. 10	33.13	MAR. 31	32.95	AUG. 20	32.16
DEC. 15	33.10	APR. 5	32.93	AUG. 25	31.84
DEC. 20	33.10	APR. 10	32.91	AUG. 31	31.59
DEC. 25	33.09	APR. 15	32.91	SEP. 10	31.41
DEC. 31	33.08	APR. 20	32.91	SEP. 15	31.38
JAN. 5, 1977	33.07	APR. 25	32.89	SEP. 20	31.36
JAN. 10	33.05	APR. 30	32.88	SEP. 25	31.37
JAN. 15	33.05	MAY 5	32.84	SEP. 30	31.38
JAN. 20	33.03	MAY 10	32.76		

WTR YEAR 1977 MAX 33.22 OCT 20, 1976 MIN 31.36 SEPT 20, 1977

KAY COUNTY

364210097025401. LOCAL NUMBER, 26N02E26BDD 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)
 BELOW AND ABOVE LAND-SURFACE DATUM, AUG. 11, 1976; LOWEST, 29.15 FT
 (8.879M) BELOW LAND-SURFACE DATUM, FEB. 24, 1955.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 6, 1976	3.00	FEB. 9, 1977	8.10	JUNE 15, 1977	8.30
OCT. 13	3.00	FEB. 16	8.10	JUNE 22	8.20
OCT. 20	2.90	FEB. 23	8.09	JUNE 29	8.20
OCT. 27	2.90	MAR. 9	14.60	JULY 6	8.20
NOV. 3	2.90	MAR. 16	14.65	JULY 13	9.40
NOV. 10	6.20	MAR. 23	14.60	JULY 20	8.80
NOV. 17	8.00	MAR. 30	14.55	JULY 27	8.80
NOV. 24	8.10	APR. 6	14.55	AUG. 3	8.80
DEC. 1	8.20	APR. 13	14.80	AUG. 10	8.70
DEC. 8	8.50	APR. 20	15.40	AUG. 17	8.65
DEC. 15	8.50	APR. 27	15.10	AUG. 24	8.62
DEC. 22	8.55	MAY 4	14.55	AUG. 31	8.62
DEC. 29	8.55	MAY 11	13.30	SEP. 7	12.98
JAN. 5, 1977	13.60	MAY 18	13.50	SEP. 14	12.45
JAN. 12	14.05	MAY 25	12.40	SEP. 21	13.10
JAN. 14	13.55	JUNE 1	8.40	SEP. 28	13.10
FEB. 2	8.05	JUNE 8	8.50		

WTR YEAR 1977 MAX 14.80 APR 13, 1977 MIN 2.90 OCT 20, 27, 1976
 NOV 5, 1976

GROUND-WATER LEVELS

511

LEFLORE COUNTY

350934094332101. LOCAL NUMBER, 08N26E22888 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
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 3.80 FT (1.158M)
 BELOW LAND-SURFACE DATUM, MAR.31,1977, LOWEST 15.90 FT (4.846M),
 BELOW LAND-SURFACE DATUM, SEP.10,1977.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 30, 1976	15.45	FEB. 28, 1977	10.62	MAY 31, 1977	12.84
DEC. 5	15.42	MAR. 15	7.20	AUG. 5	15.26
DEC. 10	15.02	MAR. 20	8.48	AUG. 10	15.49
DEC. 15	14.42	MAR. 25	9.21	AUG. 15	15.49
DEC. 25	12.37	MAR. 31	3.80	AUG. 20	15.52
DEC. 31	14.78	APR. 5	5.96	AUG. 25	5.67
JAN. 5, 1977	14.85	APR. 10	6.98	AUG. 31	15.80
JAN. 10	15.00	APR. 15	7.64	SEP. 5	15.72
JAN. 15	15.87	APR. 20	9.06	SEP. 10	15.90
JAN. 20	15.36	APR. 25	9.77	SEP. 15	15.70
FEB. 10	12.34	APR. 30	10.32	SEP. 20	15.75
FEB. 15	11.71	MAY 5	10.53	SEP. 25	15.64
FEB. 20	12.02	MAY 25	12.45	SEP. 30	15.47
FEB. 25	10.00				

WTR YEAR 1977 MAX 13.77 JUNE 5, 1977 MIN 7.44 MAR 15, 1977

351119094432101. LOCAL NUMBER, 08N24E12ABA 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 .80 FT (0.24M) ABOVE LAND-
 SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1977
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 8.02 FT (2.444M),
 BELOW LAND-SURFACE DATUM, MAR. 25,1977, LOWEST, 13.77 FT (4.197M),
 BELOW LAND-SURFACE DATUM, JUNE 5,1977.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 30, 1976	10.34	MAR. 15, 1977	7.44	JULY 15, 1977	12.20
DEC. 5	10.37	MAR. 20	7.86	JULY 20	12.10
DEC. 10	9.68	MAR. 25	8.02	JULY 25	12.02
DEC. 15	10.22	MAR. 31	8.91	JULY 31	12.11
DEC. 25	9.66	APR. 5	8.90	AUG. 5	12.25
DEC. 31	10.13	APR. 10	9.14	AUG. 10	12.48
JAN. 5, 1977	10.03	APR. 15	8.04	AUG. 15	12.38
JAN. 10	10.13	APR. 20	7.90	AUG. 20	12.48
JAN. 15	9.78	MAY 25	9.13	AUG. 25	13.19
JAN. 20	9.57	MAY 31	9.40	AUG. 31	13.28
FEB. 10	9.24	JUNE 5	13.77	SEP. 5	12.90
FEB. 15	9.08	JUNE 10	12.01	SEP. 10	12.63
FEB. 20	8.96	JUNE 15	11.20	SEP. 15	12.27
FEB. 25	8.38	JUNE 20	12.23	SEP. 20	12.12
FEB. 28	8.70	JUNE 30	12.77	SEP. 25	11.85
MAR. 5	8.12	JULY 5	12.51	SEP. 30	11.73
MAR. 10	8.13	JULY 10	12.10		

WTR YEAR 1977 MAX 15.35 AUG 10, 1977 MIN 3.80 MAR 31, 1977

GROUND-WATER LEVELS

LINCOLN COUNTY

354442096400801. LOCAL NUMBER, 15N06E29AAA 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
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 180.43 FT (54.995M)
 BELOW LAND-SURFACE DATUM, APR. 20, 1977, LOWEST 183.86 FT (56.041M)
 BELOW LAND-SURFACE DATUM, AUG. 25, 1977.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 31, 1976	181.45	MAY 20, 1977	181.09	JULY 31, 1977	181.62
NOV. 5	181.37	MAY 25	181.72	AUG. 5	182.02
NOV. 10	181.01	MAY 31	181.68	AUG. 10	182.40
NOV. 15	181.57	JUNE 5	181.77	AUG. 15	181.20
NOV. 20	180.91	JUNE 10	181.45	AUG. 20	182.05
DEC. 10	181.45	JUNE 15	181.54	AUG. 25	183.86
DEC. 15	180.76	JUNE 25	181.64	AUG. 31	183.25
APR. 20, 1977	180.43	JUNE 30	181.46	SEP. 10	182.16
APR. 25	180.88	JULY 5	182.01	SEP. 15	181.47
APR. 30	181.13	JULY 10	182.37	SEP. 20	181.77
MAY 5	180.58	JULY 15	181.65	SEP. 25	182.88
MAY 10	181.05	JULY 20	181.67	SEP. 30	182.04
MAY 15	181.32	JULY 25	181.62		

WTR YEAR 1977 MAX 183.86 AUG 25, 1977 MIN 180.43 APR 20, 1977

MAJOR COUNTY

361442098092801. LOCAL NUMBER, 20N09W04AAA 1.
 LOCATION.--LAT 36 14'42", LONG 098 09'28", HYDROLOGIC UNIT 11050002,
 OWNER: ROSS 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	14.07	JAN. 5, 1977	14.23	JUNE 15, 1977	13.26
OCT. 10	13.93	JAN. 10	14.26	JUNE 20	14.01
OCT. 15	14.04	MAR. 15	14.64	JUNE 25	13.93
OCT. 20	14.00	MAR. 20	14.50	JUNE 30	14.01
OCT. 25	13.93	MAR. 25	14.43	JULY 5	14.64
OCT. 31	13.96	MAR. 31	14.68	JULY 10	14.24
NOV. 5	13.88	APR. 5	14.65	JULY 15	14.64
NOV. 10	13.99	APR. 10	15.17	JULY 20	15.26
NOV. 15	13.92	APR. 20	14.69	JULY 25	15.16
NOV. 20	13.92	APR. 25	14.73	AUG. 15	15.48
NOV. 25	13.81	APR. 30	14.72	AUG. 20	15.10
NOV. 30	13.98	MAY 5	14.74	AUG. 25	14.97
DEC. 5	13.91	MAY 10	14.80	AUG. 31	15.07
DEC. 10	14.01	MAY 15	14.77	SEP. 5	14.88
DEC. 15	13.99	MAY 20	14.85	SEP. 10	14.88
DEC. 20	14.13	MAY 31	13.83	SEP. 25	14.63
DEC. 25	14.07	JUNE 5	13.37	SEP. 30	15.06
DEC. 31	14.17	JUNE 10	13.31		

WTR YEAR 1977 MAX 15.48 AUG 15, 1977 MIN 13.26 JUNE 15, 1977

GROUND-WATER LEVELS

513

MUSKOGEE COUNTY

354613095161001. LOCAL NUMBER, 15N19E15DDD 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 4, 1976	10.68	MAY 25, 1977	11.53	AUG. 26, 1977	13.20
FEB. 7, 1977	11.40				

WTR YEAR 1977 MAX 13.20 AUG 26, 1977 MIN 10.68 NOV 4, 1976

OKLAHOMA COUNTY

352355097340201. LOCAL NUMBER, 11N04W25ACD 1.
 LOCATION.--LAT 35 23'55", LONG 097 34'02", HYDROLOGIC UNIT 11100302.
 OWNER: OKLAHOMA CITY, OKLAHOMA.
 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 .80 FT (0.24M) ABOVE LAND-SURFACE
 DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1977
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 196.56 FT (59.911M)
 BELOW LAND-SURFACE DATUM, JUNE 10, 1977; LOWEST, 303.80 FT (92.598M)
 BELOW LAND-SURFACE DATUM, AUG. 15, 1977.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 5, 1977	300.05	MAY 25, 1977	297.03	JULY 10, 1977	298.44
APR. 10	299.94	MAY 31	296.74	JULY 15	298.26
APR. 15	300.09	JUNE 5	296.60	AUG. 10	303.54
APR. 20	299.91	JUNE 10	296.56	AUG. 15	303.80
APR. 25	299.98	JUNE 15	296.60	AUG. 20	303.40
APR. 30	300.16	JUNE 20	297.70	AUG. 25	302.95
MAY 5	300.17	JUNE 25	298.42	AUG. 31	302.34
MAY 10	299.08	JUNE 30	298.62	SEP. 5	302.52
MAY 15	298.12	JULY 5	298.67	SEP. 10	302.30
MAY 20	297.60				

WTR YEAR 1977 MAX 303.80 AUG 15, 1977 MIN 296.56 JUNE 10, 1977

GROUND-WATER LEVELS

OKLAHOMA COUNTY --Continued

352448097263201. LOCAL NUMBER, 11N02W19DDA 1.
 LOCATION.--LAT 35 24'48", LONG 097 26'32", HYDROLOGIC UNIT 11100302,
 OWNER: 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, 142.80 FT (43.53M)
 BELOW LAND-SURFACE DATUM, AUG. 31, 1976.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	140.60	JAN. 25, 1977	138.94	JUNE 5, 1977	139.68
OCT. 10	140.60	JAN. 31	139.17	JUNE 10	139.58
OCT. 15	140.50	FEB. 5	139.28	JUNE 15	139.70
OCT. 20	140.50	FEB. 10	139.39	JUNE 20	139.76
OCT. 25	139.79	FEB. 15	139.60	JUNE 25	140.00
OCT. 31	139.58	FEB. 20	139.78	JUNE 30	140.16
NOV. 5	139.43	FEB. 25	139.52	JULY 5	140.58
NOV. 10	139.29	MAR. 20	140.82	JULY 10	140.55
NOV. 15	139.06	MAR. 25	140.78	JULY 15	140.58
NOV. 20	138.87	MAR. 31	140.85	JULY 20	140.93
NOV. 30	138.40	APR. 5	140.70	AUG. 10	141.80
DEC. 5	138.55	APR. 10	140.71	AUG. 15	141.85
DEC. 10	138.58	APR. 15	140.50	AUG. 31	141.60
DEC. 15	138.59	MAY 5	139.90	SEP. 5	141.47
DEC. 20	138.60	MAY 10	139.94	SEP. 10	141.96
DEC. 25	138.80	MAY 15	139.86	SEP. 15	141.88
DEC. 31	139.10	MAY 20	139.78	SEP. 20	141.43
JAN. 5, 1977	139.02	MAY 25	139.78	SEP. 25	141.40
JAN. 10	138.92	MAY 31	139.80	SEP. 30	142.10
JAN. 15	139.00				

WTR YEAR 1977 MAX 142.10 SEPT 30, 1977 MIN 138.40 NOV 30, 1976

352449097293201. LOCAL NUMBER, 11N03W238CD 1.
 LOCATION.--LAT 35 24'49", LONG 097 29'32", HYDROLOGIC UNIT 11100302,
 OWNER: 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 15, 1976	112.58	FEB. 5, 1977	112.93	JUNE 15, 1977	112.22
OCT. 20	112.83	FEB. 10	112.86	JUNE 20	112.12
OCT. 25	112.72	FEB. 15	113.05	JUNE 25	112.21
OCT. 31	113.01	FEB. 20	112.90	JUNE 30	112.81
NOV. 5	112.93	FEB. 25	112.41	JULY 5	112.33
NOV. 10	112.78	MAR. 20	112.28	JULY 10	112.70
NOV. 15	112.80	MAR. 25	112.20	JULY 15	112.90
NOV. 20	113.07	MAR. 31	112.63	AUG. 10	112.88
NOV. 30	113.90	APR. 5	112.58	AUG. 15	112.88
DEC. 5	114.20	APR. 10	112.56	AUG. 20	112.84
DEC. 10	114.20	APR. 15	112.32	AUG. 25	112.78
DEC. 15	114.00	MAY 5	111.86	AUG. 31	112.79
DEC. 31	112.40	MAY 10	112.08	SEP. 5	112.65
JAN. 5, 1977	112.47	MAY 15	112.47	SEP. 10	112.77
JAN. 10	112.57	MAY 20	112.57	SEP. 15	112.60
JAN. 15	112.80	MAY 25	112.63	SEP. 20	112.62
JAN. 20	112.70	MAY 31	112.82	SEP. 25	112.35
JAN. 25	112.79	JUNE 5	112.63	SEP. 30	112.32
JAN. 31	112.96	JUNE 10	112.11		

WTR YEAR 1977 MAX 114.20 DEC 5, 10, 1976 MIN 111.86 MAY 5, 1977

GROUND-WATER LEVELS

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OKLAHOMA COUNTY--Continued

352705097281201. LOCAL NUMBER, 11N03W01CDD 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, 215.22 FT (65.60M)
 BELOW LAND-SURFACE DATUM, AUG. 31, 1976.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 15, 1976	213.20	FEB. 10, 1977	210.46	JUNE 25, 1977	211.55
OCT. 20	213.30	FEB. 15	211.30	JUNE 30	211.64
OCT. 25	212.75	FEB. 20	211.50	JULY 5	211.68
OCT. 31	212.67	FEB. 25	211.41	JULY 10	211.53
NOV. 5	212.35	MAR. 20	213.30	JULY 15	211.70
NOV. 10	211.95	MAR. 25	213.21	JULY 20	212.96
NOV. 15	211.65	MAR. 31	213.40	JULY 25	214.43
NOV. 30	211.08	APR. 10	213.22	JULY 31	215.05
DEC. 5	210.80	APR. 15	212.80	AUG. 5	214.70
DEC. 10	210.69	APR. 25	212.78	AUG. 10	214.80
DEC. 15	210.30	APR. 30	212.42	AUG. 15	214.53
DEC. 20	210.42	MAY 5	211.97	AUG. 20	214.14
DEC. 25	209.70E	MAY 10	212.02	AUG. 25	213.80
DEC. 31	209.67	MAY 15	212.08	AUG. 31	213.55
JAN. 5, 1977	209.59	MAY 20	211.92	SEP. 5	213.33
JAN. 10	209.48	MAY 21	211.81	SEP. 10	213.29
JAN. 15	209.56	MAY 31	211.85	SEP. 15	212.92
JAN. 20	209.46	JUNE 5	211.50	SEP. 20	212.81
JAN. 25	209.58	JUNE 10	211.02	SEP. 25	212.45
JAN. 31	209.95	JUNE 15	210.93	SEP. 30	212.27
FEB. 5	210.07	JUNE 20	211.13		

E ESTIMATED.

WTR YEAR 1977 MAX 215.05 JULY 31, 1977 MIN 209.46 JAN 20, 1977

352725097224701. LOCAL NUMBER, 11N02W02BDD 1.
 LOCATION.--LAT 35 27'25", LONG 097 22'47", HYDROLOGIC UNIT 11100302,
 OWNER: MIDWEST CITY, WELL NO. 44.
 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 19, 1976	241.00	MAR. 8, 1977	248.00	JULY 5, 1977	232.00
DEC. 30	257.00	APR. 21	234.00	AUG. 9	451.00A
JAN. 26, 1977	246.00	MAY 9	202.00	AUG. 31	232.00
FEB. 14	222.00	JUNE 9	190.00		

A WELL BEING PUMPED.

WTR YEAR 1977 MAX 257.00 DEC 30, 1976 MIN 190.00 JUNE 9, 1977

GROUND-WATER LEVELS

OKLAHOMA COUNTY--Continued

352750097223001. LOCAL NUMBER, 11N02W02ABA 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, JUNE 9, 1977; LOWEST 275.00 FT (73.82M) BELOW
 LAND-SURFACE DATUM, JULY 16, 1976.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 19, 1976	259.00	MAR. 8, 1977	259.00	JULY 5, 1977	234.00A
DEC. 30	275.00	APR. 21	252.00	AUG. 9	367.00A
JAN. 26, 1977	264.00	MAY 9	268.00	AUG. 31	273.00
FEB. 14	243.00	JUNE 9	210.00		

A WELL BEING PUMPED.

WTR YEAR 1977 MAX 275.00 DEC 30, 1976 MIN 210.00 JUNE 9, 1977

352910097232001. LOCAL NUMBER, 12N02W26CBB 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; LOWEST, 263.00 FT (80.16M)
 BELOW LAND-SURFACE DATUM, JULY 16,
 AUG. 4,
 DEC. 30, 1976.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 19, 1976	247.00	MAR. 8, 1977	249.00	JULY 5, 1977	215.00
DEC. 30	263.00	APR. 21	245.00	AUG. 9	249.00
JAN. 26, 1977	252.00	MAY 9	215.00	AUG. 31	222.00
FEB. 14	235.00	JUNE 9	205.00		

WTR YEAR 1977 MAX 263.00 DEC 30, 1976 MIN 205.00 JUNE 9, 1977

GROUND-WATER LEVELS

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OKLAHOMA COUNTY --Continued

353100097400001. LOCAL NUMBER, 12N04W07CDC 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	32.05	MAR. 31, 1977	26.86	JULY 5, 1977	26.44
OCT. 10	31.02	APR. 20	27.76	JULY 10	26.91
OCT. 15	29.42	APR. 25	27.92	JULY 15	27.06
OCT. 20	28.64	APR. 30	27.95	JULY 20	27.42
OCT. 25	28.07	MAY 5	27.94	JULY 25	27.80
OCT. 31	27.52	MAY 10	27.87	AUG. 15	29.70
NOV. 5	27.33	MAY 15	27.85	AUG. 20	29.82
NOV. 10	27.09	MAY 20	27.76	AUG. 25	29.91
NOV. 15	26.91	MAY 25	26.30	AUG. 31	30.13
NOV. 20	26.80	MAY 31	25.99	SEP. 5	30.18
NOV. 25	26.79	JUNE 5	25.81	SEP. 10	30.17
MAR. 5, 1977	26.56	JUNE 10	25.76	SEP. 15	30.12
MAR. 10	26.54	JUNE 15	25.94	SEP. 20	30.06
MAR. 15	26.51	JUNE 20	26.32	SEP. 25	30.02
MAR. 20	26.58	JUNE 25	26.78	SEP. 30	30.10
MAR. 25	26.73	JUNE 30	26.94		

WTR YEAR 1977 MAX 32.05 OCT 5, 1976 MIN 25.81 JUNE 5, 1977

353530097172001. LOCAL NUMBER, 13N01E22ADD 1.
 LOCATION.--LAT 35 35'30", LONG 097 17'20", HYDROLOGIC UNIT 11100303,
 OWNER: T.E. BOOHER.
 AQUIFER.--GARBER-WELLINGTON FORMATION.
 WELL CHARACTERISTICS.--UNUSED ARTESIAN WELL, DIAMETER 6 IN (0.15M),
 DEPTH 153 FT (46.6M).
 DATUM.--MEASURING POINT: CHISLED ARROW AT NORTHWEST 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, 113.11 FT (34.476M)
 BELOW LAND-SURFACE DATUM, JAN. 20, 1975.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 15, 1976	110.86	FEB. 25, 1977	110.66	MAY 31, 1977	111.51
OCT. 20	110.99	FEB. 28	111.15	JUNE 5	111.41
OCT. 31	110.95	MAR. 10	109.35	JUNE 10	111.28
NOV. 5	111.35	MAR. 15	109.87	JUNE 15	111.44
NOV. 10	111.56	MAR. 20	109.94	JUNE 20	111.38
NOV. 25	111.17	MAR. 25	110.05	JULY 31	111.65
DEC. 31	111.20	MAR. 31	110.27	AUG. 5	111.66
JAN. 5, 1977	111.09	APR. 5	110.21	AUG. 10	111.64
JAN. 10	111.17	APR. 10	110.57	AUG. 15	111.74
JAN. 15	111.04	APR. 15	111.42	AUG. 20	111.73
JAN. 20	111.24	APR. 20	111.21	AUG. 25	111.68
JAN. 25	111.05	APR. 25	111.62	AUG. 31	111.75
JAN. 31	111.42	APR. 30	111.35	SEP. 10	111.97
FEB. 5	111.21	MAY 5	111.06	SEP. 15	111.78
FEB. 10	111.44	MAY 10	111.24	SEP. 20	111.77
FEB. 15	111.09	MAY 15	111.12	SEP. 25	111.69
FEB. 20	111.17	MAY 25	111.26	SEP. 30	111.70

WTR YEAR 1977 MAX 111.97 SEPT 10, 1977 MIN 109.35 MAR 10, 1977

GROUND-WATER LEVELS

OSAGE COUNTY

362935096291501. LOCAL NUMBER, 23N09W10AAD 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	7.92	FEB. 10, 1977	8.15	JUNE 5, 1977	7.56
OCT. 10	7.79	FEB. 15	8.22	JUNE 10	7.57
OCT. 15	7.86	FEB. 20	8.06	JUNE 15	7.71
OCT. 20	8.01	FEB. 25	8.02	JUNE 20	7.80
OCT. 25	7.92	FEB. 28	8.23	JUNE 25	7.78
OCT. 31	8.02	MAR. 5	8.03	JUNE 30	7.92
NOV. 5	7.91	MAR. 10	8.03	JULY 5	7.83
NOV. 10	7.88	MAR. 15	8.27	JULY 10	7.81
NOV. 15	7.88	MAR. 20	8.21	JULY 15	8.08
NOV. 20	8.00	MAR. 25	8.13	JULY 20	8.19
NOV. 25	7.67	MAR. 31	8.25	JULY 25	8.31
NOV. 30	8.08	APR. 5	8.26	JULY 31	8.45
DEC. 5	8.00	APR. 10	8.16	AUG. 5	8.50
DEC. 10	8.20	APR. 15	8.04	AUG. 10	8.62
DEC. 15	7.98	APR. 20	8.12	AUG. 15	8.52
DEC. 20	8.32	APR. 25	8.10	AUG. 20	8.34
DEC. 25	8.06	APR. 30	7.97	AUG. 25	8.26
DEC. 31	8.30	MAY 5	7.84	AUG. 31	8.10
JAN. 10, 1977	8.29	MAY 10	7.91	SEP. 10	8.29
JAN. 15	7.96	MAY 15	7.88	SEP. 15	7.85
JAN. 20	8.13	MAY 20	7.64	SEP. 20	7.81
JAN. 25	8.09	MAY 25	7.53	SEP. 25	7.80
JAN. 31	8.25	MAY 31	7.98	SEP. 30	7.69
FEB. 5	8.23				

WTR YEAR 1977 MAX/M 8.62 AUG 10, 1977 MIN 7.53 MAY 25, 1977

PAYNE COUNTY

360245096562001. LOCAL NUMBER, 18N03E12CDC 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 27, 1976	17.60	JULY 2, 1977	30.70	SEP. 28, 1977	18.10
MAR. 29, 1977	18.30				

WTR YEAR 1977 MAX 30.70 JULY 2, 1977 MIN 17.60 DEC 27, 1977

GROUND-WATER LEVELS

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PAYNE COUNTY--Continued

360515096564501. LOCAL NUMBER, 19N03E35AAB 1.
 LOCATION.--LAT 36 05'15", LONG 096 56'45", HYDROLOGIC UNIT 11050003,
 OWNER: LOVELL BRUS.
 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 27, 1976	25.30	JULY 2, 1977	22.53	SEP. 28, 1977	24.03
MAR. 27, 1977	22.23				

WTR YEAR 1977 MAX 25.30 DEC 27, 1976 MIN 22.23 MAR 27, 1977

360615097100501. LOCAL NUMBER, 19N01E23COC 1.
 LOCATION.--LAT 36 06'15", LONG 097 10'05", HYDROLOGIC UNIT 11050003,
 OWNER: E.T. POOL.
 AQUIFER.--ROCKS OF EARLY 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, MAR. 25, 1974.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 27, 1976	23.30	JULY 2, 1977	24.20	SEP. 28, 1977	24.40
MAR. 29, 1977	23.80				

WTR YEAR 1977 MAX 24.40 SEPT 28, 1977 MIN 23.30 DEC 27, 1976

360725096521501. LOCAL NUMBER, 19N04E15CBB 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 27, 1976	5.90	JULY 2, 1977	4.00	SEP. 28, 1977	5.90
MAR. 29, 1977	5.30				

WTR YEAR 1977 MAX 5.90 DEC 27, 1976 MIN 4.00 JULY 2, 1977
 SEPT 28, 1977

GROUND-WATER LEVELS

PAYNE COUNTY--Continued

360930096573001. LOCAL NUMBER, 19N03E0288A 1.
 LOCATION.--LAT 36 09'30", LONG 096 57'30", HYDROLOGIC UNIT 11050003,
 OWNER: W.D. SNYDER.
 AQUIFER.--ROCKS OF EARLY PERMIAN AGE.
 WELL CHARACTERISTICS.--DRILLED WELL, DIAMETER 6 IN (0.15M),
 DEPTH 34 FT (10.4M).
 DATUM.--MEASURING POINT: TOP 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 27, 1976	21.90	JULY 2, 1977	19.80	SEP. 28, 1977	22.60
MAR. 29, 1977	22.10				

WTR YEAR 1977 MAX 22.60 SEPT 28, 1977 MIN 19.80 JULY 2, 1977

361120097055001. LOCAL NUMBER, 20N02E21CCD 1.
 LOCATION.--LAT 36 11'20", LONG 097 05'50", HYDROLOGIC UNIT 11050003,
 OWNER: A.L. SIMON.
 AQUIFER.--ROCKS OF EARLY 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 27, 1976	21.50	JULY 2, 1977	23.20	SEP. 28, 1977	22.40
MAR. 29, 1977	23.10				

WTR YEAR 1977 MAX 23.20 JULY 2, 1977 MIN 21.50 DEC 27, 1976

361205096572501. LOCAL NUMBER, 20N03E238AB 1.
 LOCATION.--LAT 36 12'05", LONG 096 57'25", HYDROLOGIC UNIT 11050003,
 OWNER: V.D. MESSER.
 AQUIFER.--ROCKS 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, MAR. 1, 1957.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 27, 1976	10.93	JULY 2, 1977	10.03	SEP. 28, 1977	11.33
MAR. 29, 1977	10.93				

WTR YEAR 1977 MAX 11.33 SEPT 8, 1977 MIN 10.03 JULY 2, 1977

PITTSBURG COUNTY

350422095341901. LOCAL NUMBER, 07N16E248AB 1.
 LOCATION.--LAT 35 04'22", LONG 095 34'19", HYDROLOGIC UNIT 11090204.
 OWNER: SAM SUDWITZ.
 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
 EXTREMES FOR PERIOD OF RECORD.--HIGHEST WATER LEVEL, 29.97 FT (9.135M),
 BELOW LAND-SURFACE DATUM, APR. 5, 1977, LOWEST, 32.74 (9.979M), BELOW
 LAND-SURFACE DATUM, JAN. 10, 1977.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV. 30, 1976	32.32	MAR. 5, 1977	31.08	JUNE 25, 1977	31.62
DEC. 5	32.37	MAR. 10	30.85	JUNE 30	31.64
DEC. 10	32.33	MAR. 15	31.07	JULY 5	31.84
DEC. 15	32.26	MAR. 20	31.14	JULY 10	32.04
DEC. 25	32.27	MAR. 25	31.17	JULY 20	31.97
DEC. 31	32.50	APR. 15	30.90	JULY 25	32.06
JAN. 5, 1977	32.57	APR. 20	30.59	JULY 31	32.25
JAN. 10	32.74	APR. 25	30.27	AUG. 5	32.28
JAN. 15	32.20	APR. 30	30.14	AUG. 10	32.26
JAN. 20	32.35	MAY 5	29.97	AUG. 15	32.25
JAN. 25	31.77	MAY 15	30.32	AUG. 20	32.24
JAN. 31	32.02	MAY 20	30.38	AUG. 31	32.33
FEB. 5	31.85	MAY 25	30.46	SEP. 5	32.35
FEB. 10	31.75	MAY 31	30.51	SEP. 10	32.38
FEB. 15	31.45	JUNE 5	30.51	SEP. 15	32.06
FEB. 20	31.26	JUNE 10	30.52	SEP. 20	32.27
FEB. 25	30.90	JUNE 15	31.10	SEP. 25	32.07
FEB. 28	31.08	JUNE 20	31.41	SEP. 30	32.09

WTR YEAR 1977 MAX 32.74 JAN 10, 1977 MIN 30.14 APR 30, 1977

SEQUOYAH COUNTY

352419094270401. LOCAL NUMBER, 11N27E21CDD 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	11.41	FEB. 5, 1977	11.24	JUNE 15, 1977	11.46
OCT. 10	11.20	FEB. 10	11.32	JUNE 20	11.63
OCT. 15	11.37	FEB. 15	11.41	JUNE 25	11.73
OCT. 20	11.55	FEB. 20	11.42	JUNE 30	10.62
OCT. 25	10.90	FEB. 25	11.35	JULY 5	10.25
OCT. 31	10.56	FEB. 28	11.49	JULY 10	10.53
NOV. 5	10.68	MAR. 25	10.90	JULY 15	10.22
NOV. 10	10.78	MAR. 31	8.70	JULY 20	10.05
NOV. 15	10.89	APR. 5	9.23	JULY 25	10.04
NOV. 20	10.98	APR. 10	9.63	JULY 31	10.75
NOV. 25	11.04	APR. 15	9.64	AUG. 5	10.92
NOV. 30	11.37	APR. 20	9.81	AUG. 10	11.04
DEC. 5	11.43	APR. 25	10.07	AUG. 15	11.15
DEC. 10	11.12	APR. 30	10.18	AUG. 20	11.19
DEC. 15	10.83	MAY 5	10.17	AUG. 25	11.16
DEC. 20	11.13	MAY 10	10.42	AUG. 31	10.70
DEC. 25	11.13	MAY 15	10.41	SEP. 5	10.92
DEC. 31	11.49	MAY 20	10.58	SEP. 10	11.17
JAN. 5, 1977	11.43	MAY 25	10.45	SEP. 15	11.16
JAN. 20	11.50	MAY 31	10.71	SEP. 20	11.29
JAN. 25	11.35	JUNE 5	10.92	SEP. 25	11.31
JAN. 31	11.23	JUNE 10	11.22	SEP. 30	11.67

WTR YEAR 1977 MAX 11.73 JUNE 25, 1977 MIN 8.70 MAR 31, 1977

GROUND-WATER LEVELS

TEXAS COUNTY

363033101440701. LOCAL NUMBER, 01N12E35800 1.
 LOCATION,--LAT 36 30'33", LONG 101 44'07", HYDROLOGIC UNIT 11100103,
 OWNER: OTTU A. HARLAND.
 AQUIFER,--UGALLALA 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, 200.14 FT (61.003M)
 BELOW LAND-SURFACE DATUM, JULY 25, 1977

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	198.84	JAN. 15, 1977	198.87	APR. 25, 1977	199.25
OCT. 10	198.62	JAN. 20	198.76	APR. 30	199.23
OCT. 15	198.69	JAN. 25	198.67	MAY 5	199.24
OCT. 20	198.76	JAN. 31	198.76	MAY 10	199.52
OCT. 25	198.63	FEB. 5	198.78	MAY 15	199.45
OCT. 31	198.73	FEB. 10	198.62	MAY 20	199.70
NOV. 5	198.54	FEB. 20	199.00	MAY 25	199.71
NOV. 10	198.50	FEB. 25	198.85	MAY 31	199.52
NOV. 15	198.60	FEB. 28	199.03	JUNE 5	199.29
NOV. 20	198.81	MAR. 5	199.21	JUNE 10	199.46
NOV. 25	198.72	MAR. 10	199.02	JULY 15	200.10
NOV. 30	198.93	MAR. 15	199.52	JULY 20	200.04
DEC. 5	198.70	MAR. 20	199.40	JULY 25	200.14
DEC. 10	198.88	MAR. 25	199.42	JULY 31	200.11
DEC. 15	198.79	MAR. 31	199.85	AUG. 5	200.04
DEC. 20	198.99	APR. 5	199.69	AUG. 10	200.03
DEC. 25	198.82	APR. 10	199.62	SEP. 20	199.59
DEC. 31	198.82	APR. 15	199.50	SEP. 25	199.79
JAN. 5, 1977	198.91	APR. 20	199.30	SEP. 30	199.94
JAN. 10	198.79				

WTR YEAR 1977 MAX 200.14 JULY 25, 1977 MIN 198.50 NOV 10, 1976

GROUND-WATER LEVELS

523

WOODS COUNTY

365143098404201. LOCAL NUMBER, 28N14W35BCC 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 (7.330M)
 BELOW LAND-SURFACE DATUM, DEC. 5, 1972.

WATER LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	22.60	FEB. 10, 1977	23.20	JUNE 5, 1977	23.40
OCT. 10	22.57	FEB. 15	23.26	JUNE 10	23.34
OCT. 15	22.67	FEB. 20	23.22	JUNE 15	23.35
OCT. 20	22.66	FEB. 25	23.29	JUNE 20	23.38
OCT. 25	22.69	FEB. 28	23.30	JUNE 25	23.41
OCT. 31	22.74	MAR. 5	23.33	JUNE 30	23.45
NOV. 5	22.69	MAR. 10	23.21	JULY 5	23.46
NOV. 15	22.77	MAR. 15	23.40	JULY 10	23.47
NOV. 20	22.86	MAR. 20	23.37	JULY 15	23.56
NOV. 25	22.75	MAR. 25	23.37	JULY 20	23.60
NOV. 30	22.86	MAR. 31	23.49	JULY 25	23.64
DEC. 5	22.89	APR. 5	23.52	JULY 31	23.68
DEC. 10	23.00	APR. 10	23.49	AUG. 5	23.72
DEC. 15	22.95	APR. 15	23.51	AUG. 10	23.75
DEC. 20	23.03	APR. 20	23.54	AUG. 20	23.74
DEC. 25	23.04	APR. 25	23.52	AUG. 25	23.70
DEC. 31	23.06	APR. 30	23.56	AUG. 31	23.50
JAN. 5, 1977	23.12	MAY 5	23.57	SEP. 5	23.22
JAN. 15	23.16	MAY 10	23.61	SEP. 10	23.13
JAN. 20	23.11	MAY 15	23.61	SEP. 15	23.07
JAN. 25	23.15	MAY 20	23.65	SEP. 20	22.97
JAN. 31	23.17	MAY 25	23.49	SEP. 25	22.83
FEB. 5	23.20	MAY 31	23.50	SEP. 30	22.80

WTR YEAR 1977 MAX 23.75 AUG 10, 1977 MIN 22.57 OCT 10, 1976

GROUND-WATER LEVELS

WOODWARD COUNTY

361256099102101. LOCAL NUMBER, 20N19W13AB 1.
 LOCATION.--LAT 36 12'56", LONG 099 10'21", HYDROLOGIC UNIT 11100301,
 OWNER: M. JAZEN.
 AQUIFER.--RUSH SPRINGS SANDSTONE.
 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	12.62	FEB. 10, 1977	12.70	JUNE 10, 1977	12.86
OCT. 10	12.44	FEB. 15	12.83	JUNE 15	12.70
OCT. 15	12.59	FEB. 20	12.73	JUNE 20	12.57
OCT. 20	12.59	FEB. 25	12.72	JUNE 25	12.46
OCT. 25	12.52	FEB. 28	12.84	JUNE 30	12.37
OCT. 31	12.65	MAR. 5	12.87	JULY 5	12.31
NOV. 5	12.48	MAR. 10	12.43	JULY 10	12.16
NOV. 10	12.52	MAR. 15	12.94	JULY 15	12.17
NOV. 15	12.51	MAR. 20	12.74	JULY 20	12.03
NOV. 20	12.60	MAR. 25	12.58	JULY 25	12.01
NOV. 25	12.49	MAR. 31	12.98	JULY 31	11.99
NOV. 30	12.65	APR. 5	12.90	AUG. 5	11.90
DEC. 5	12.55	APR. 10	12.80	AUG. 10	11.92
DEC. 15	12.62	APR. 15	12.82	AUG. 15	11.89
DEC. 20	12.85	APR. 20	12.90	AUG. 20	11.82
DEC. 25	12.71	APR. 25	12.99	AUG. 25	11.79
DEC. 31	12.77	APR. 30	13.00	AUG. 31	11.72
JAN. 5, 1977	12.81	MAY 5	12.93	SEP. 5	11.73
JAN. 10	12.68	MAY 10	13.10	SEP. 10	11.73
JAN. 15	12.91	MAY 15	13.08	SEP. 15	11.61
JAN. 20	12.72	MAY 20	13.18	SEP. 20	11.58
JAN. 25	12.69	MAY 25	13.09	SEP. 25	11.55
JAN. 31	12.77	MAY 31	13.16	SEP. 30	11.43
FEB. 5	12.80	JUNE 5	12.94		

WTR YEAR 1977 MAX 13.18 MAY 20, 1977 MIN 11.43 SEPT 30, 1977

GROUND-WATER LEVELS

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WOODWARD COUNTY--Continued

361714099315101. LOCAL NUMBER, 21N22W2388B 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 5, 1976	29.97	JAN. 20, 1977	30.17	MAY 5, 1977	30.47
OCT. 10	29.97	JAN. 25	30.12	JUNE 20	29.85
OCT. 15	29.98	JAN. 31	30.17	JUNE 25	29.84
OCT. 20	30.01	FEB. 5	30.20	JUNE 30	29.85
OCT. 25	29.90	FEB. 10	30.21	JULY 5	29.87
OCT. 31	30.02	FEB. 15	30.25	JULY 10	29.87
NOV. 5	29.96	FEB. 20	30.20	JULY 15	28.90
NOV. 10	30.01	FEB. 25	30.27	JULY 20	28.89
NOV. 15	29.99	FEB. 28	30.31	JULY 25	28.93
NOV. 20	30.05	MAR. 5	30.37	JULY 31	28.97
NOV. 25	29.88	MAR. 10	30.17	AUG. 5	29.95
NOV. 30	30.14	MAR. 15	30.41	AUG. 10	29.97
DEC. 5	30.03	MAR. 20	30.36	AUG. 15	29.98
DEC. 10	30.22	MAR. 25	30.29	AUG. 20	29.99
DEC. 15	30.08	MAR. 31	30.52	AUG. 25	29.98
DEC. 20	30.21	APR. 5	30.49	AUG. 31	29.91
DEC. 25	30.13	APR. 10	30.41	SEP. 10	29.97
DEC. 31	30.22	APR. 15	30.41	SEP. 15	29.92
JAN. 5, 1977	30.25	APR. 20	30.50	SEP. 20	29.87
JAN. 10	30.18	APR. 25	30.54	SEP. 25	29.79
JAN. 15	30.28	APR. 30	30.52	SEP. 30	29.73

WTR YEAR 1977 MAX 30.54 APR 25, 1977 MIN 28.89 JULY 20, 1977

362707099174201. LOCAL NUMBER, 23N20W19C6B 1.
 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 (0.61M)
 ABOVE LAND-SURFACE DATUM.
 REMARKS.--
 PERIOD OF RECORD.--1945 TO 1963, 1965 TO 1973, 1975 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 LEVEL IN FEET BELOW LAND SURFACE DATUM
 WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MEAN VALUE

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 27, 1976	4.94	JAN. 7, 1977	5.00	MAY 20, 1977	4.85

WTR YEAR 1977 MAX 5.00 JAN 7, 1977 MIN 4.85 MAY 20, 1977

QUALITY OF GROUND WATER
WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

STATION NUMBER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL ACIDITY AS H+ (MG/L)
CHEROKEE COUNTY											
370128094521201	--	76-10-21	1045	200	1200	8.6	16.0	1.0	590	460	--
	--	76-10-21	1130	220	2850	7.0	16.5	150	1200	1000	--
	--	76-10-21	1200	260	2850	7.0	16.5	--	--	--	--
	--	76-10-21	1230	298	2850	7.0	17.0	--	--	--	--
	--	77-06-09	0900	180	1200	7.5	16.5	--	--	--	--
	--	77-06-09	0930	200	1200	8.3	16.0	1.0	740	610	.0
	--	77-06-09	0945	210	2350	6.6	16.5	--	--	--	--
	--	77-06-09	1000	220	2750	7.2	17.0	350	1200	1000	.9
	--	77-06-09	1030	240	2650	6.7	17.0	--	--	--	--
	--	77-06-09	1050	260	2600	6.7	16.5	--	--	--	--
	--	77-06-09	1130	280	2650	6.7	17.0	--	--	--	--
	--	77-06-09	1150	298	2650	6.7	17.0	--	--	--	--
OKLAHOMA COUNTY											
354229097223201	318GRBR	77-04-19	1000	140	7400	--	18.0	--	3000	2800	--
354229097223301	318GRBR	77-04-19	1050	--	1500	--	18.0	--	620	350	--
OTTAWA COUNTY											
365927094485901	--	76-10-19	1125	165	830	6.7	14.5	--	480	420	--
	--	76-10-19	1200	215	840	6.7	15.0	--	--	--	--
	--	76-10-19	1255	230	4000	5.3	14.5	130	2200	2200	--
	--	76-12-07	1000	165	900	7.4	14.5	1.1	520	460	.1
	--	76-12-07	1015	215	890	7.4	14.5	--	--	--	--
	--	76-12-07	1045	230	4650	5.5	15.5	45	2400	2400	20
	--	77-02-17	0945	165	1030	7.6	13.5	1.0	570	520	.1
	--	77-02-17	1130	215	1080	7.5	14.0	--	--	--	--
	--	77-02-17	1200	222	4080	5.7	14.5	--	--	--	--
	--	77-02-17	1215	230	4280	5.3	15.0	160	2200	2200	21
	--	77-04-21	0900	152	1170	6.8	14.5	.55	--	--	--
	--	77-04-21	0925	165	1080	7.2	14.5	1.0	570	520	.1
	--	77-04-21	0945	215	1080	7.3	14.5	--	--	--	--
	--	77-04-21	1020	220	1080	7.2	14.5	--	--	--	--
	--	77-04-21	1035	230	4150	5.3	15.5	70	2200	2200	11
	--	77-06-07	0830	165	810	7.4	16.0	.70	440	380	.0
	--	77-06-07	0845	215	740	7.6	15.5	--	--	--	--
	--	77-06-07	0900	225	810	7.1	16.0	--	--	--	--
365930094480001	--	77-06-07	0915	230	4100	5.6	16.0	200	2200	2200	22
	--	76-10-19	1520	162	1900	6.0	15.0	24	890	850	--
	--	76-10-19	1610	180	3800	5.6	15.0	160	2100	2100	--
	--	76-12-07	1220	160	1550	6.6	14.5	9.8	830	740	.4
	--	76-12-07	1225	170	3300	3.8	15.0	--	--	--	--
	--	76-12-07	1235	180	4000	5.7	16.0	130	2400	2400	18
	--	77-02-18	0845	145	3000	5.7	15.0	--	--	--	--
	--	77-02-18	0905	160	3850	5.0	15.0	55	1900	1900	20
	--	77-02-18	0920	170	3850	4.5	15.0	--	--	--	--
	--	77-02-18	0935	180	4050	5.4	15.5	80	2100	2100	20
	--	77-04-21	1415	155	1550	7.2	15.0	2.1	730	660	.2
	--	77-04-21	1425	167	3650	5.3	15.5	--	--	--	--
	--	77-04-21	1455	170	3850	5.0	16.0	33	2000	2000	9.0
	--	77-04-21	1515	180	4400	5.8	16.0	95	2500	2500	10
	--	77-06-08	1200	155	830	6.8	16.0	7.9	410	330	.2
	--	77-06-08	1220	162	830	6.8	15.5	--	--	--	--
	--	77-06-08	1240	166	3500	5.1	16.0	--	--	--	--
	--	77-06-08	1300	170	3800	5.0	16.0	110	2200	2200	22
	--	77-06-08	1325	175	3800	5.3	16.0	--	--	--	--
	--	77-06-08	1345	180	4100	5.8	16.5	400	2500	2400	19

QUALITY OF GROUND WATER

527

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

TOTAL ACIDITY AS CACO3 (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (MCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	ALKA- LINITY AS CACO3 (MG/L)	CARBON DIOXIDE (CO2) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
CHEROKEE COUNTY												
--	210	15	36	12	.6	3.2	152	0	125	.6	520	3.1
--	320	100	200	26	2.5	7.1	228	0	187	36	1400	80
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
.0	270	16	22	6	.4	2.9	160	0	130	1.3	600	2.3
45	330	92	190	25	2.4	6.9	230	0	190	23	1300	80
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
OKLAHOMA COUNTY												
--	680	320	680	33	5.4	.5	260	0	210	--	14	3000
--	140	65	62	18	1.1	.4	320	0	260	--	13	330
OTTAWA COUNTY												
--	160	20	8.9	4	.2	2.0	76	0	62	24	440	1.1
--	--	--	--	--	--	--	--	--	--	--	--	--
--	510	230	81	7	.7	4.1	7	0	6	56	3400	7.0
5.0	170	23	9.7	4	.2	1.9	71	0	58	4.5	490	1.3
--	--	--	--	--	--	--	--	--	--	--	--	--
993	560	240	77	7	.7	3.9	20	0	16	101	3500	7.0
5.0	180	29	12	4	.2	2.1	57	0	47	2.3	510	3.1
--	--	--	--	--	--	--	--	--	--	--	--	--
1040	520	230	81	7	.7	3.6	0	0	0	.0	3300	6.8
--	--	--	--	--	--	--	--	--	--	--	--	--
5.0	180	29	12	4	.2	2.1	55	0	45	5.6	500	1.8
--	--	--	--	--	--	--	--	--	--	--	--	--
546	510	230	77	7	.7	3.4	0	0	0	.0	3000	6.3
.0	150	16	7.1	3	.1	1.4	78	0	64	5.0	370	1.1
--	--	--	--	--	--	--	--	--	--	--	--	--
1090	510	220	80	7	.7	3.8	0	0	0	.0	3100	5.9
--	250	64	40	9	.6	4.9	51	0	42	82	1000	4.7
--	490	220	47	5	.4	4.1	45	0	37	181	3100	7.3
20	230	62	63	14	1.0	6.3	112	0	92	45	870	5.5
--	--	--	--	--	--	--	--	--	--	--	--	--
894	540	260	46	4	.4	3.0	0	0	0	.0	3500	6.9
--	--	--	--	--	--	--	--	--	--	--	--	--
993	480	180	54	6	.5	4.2	0	0	0	.0	2900	7.4
--	--	--	--	--	--	--	--	--	--	--	--	--
993	490	210	51	5	.5	3.8	0	0	0	.0	3200	6.8
10	200	55	59	15	1.0	4.6	84	0	69	8.5	760	3.4
--	--	--	--	--	--	--	--	--	--	--	--	--
447	470	190	61	6	.6	4.6	0	0	0	.0	2700	6.4
497	570	270	47	4	.4	3.2	0	0	0	.0	3100	6.9
10	120	27	19	9	.4	3.7	94	0	77	24	360	2.3
--	--	--	--	--	--	--	--	--	--	--	--	--
1090	500	230	63	6	.6	5.0	0	0	0	.0	3200	6.9
--	--	--	--	--	--	--	--	--	--	--	--	--
943	540	270	44	4	.4	3.5	39	0	32	99	3200	7.2

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED FLUORIDE (F) (MG/L)	BROMIDE (BR) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	SUS-PENDED SOLIDS (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)
CHEROKEE COUNTY										
370128094521201	76-10-21	.6	--	7.8	953	872	1.30	0	.15	.66
	76-10-21	2.2	--	7.4	2300	2300	3.13	82	.01	.04
	76-10-21	--	--	--	--	--	--	--	--	--
	76-10-21	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	.3	--	9.2	1050	1000	1.43	1	.06	.27
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	2.1	--	8.8	2270	2190	3.09	94	.02	.09
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
OKLAHOMA COUNTY										
354229097223201	77-04-19	--	.2	--	5250	--	7.14	--	--	--
354229097223301	77-04-19	--	1.9	--	855	--	1.16	--	--	--
OTTAWA COUNTY										
365927094485901	76-10-19	.7	--	11	722	686	.98	12	.22	.97
	76-10-19	--	--	--	--	--	--	--	--	--
	76-10-19	2.4	--	7.7	5160	4860	7.02	186	.42	1.9
	76-12-07	.3	--	12	768	747	1.04	0	--	--
	76-12-07	--	--	--	--	--	--	--	--	--
	76-12-07	1.9	--	9.2	5090	5010	6.92	74	--	--
	77-02-17	.5	--	13	838	781	1.14	0	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	3.5	--	8.0	5180	4790	7.04	93	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	.6	--	12	845	769	1.15	2	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	1.5	--	8.8	4970	4420	6.76	73	--	--
	77-06-07	.4	--	12	622	600	.85	0	.21	.93
	77-06-07	--	--	--	--	--	--	--	--	--
	77-06-07	--	--	--	--	--	--	--	--	--
	77-06-07	1.8	--	8.4	5100	4330	6.94	114	.02	.09
	76-10-19	1.8	--	6.4	1590	1480	2.16	29	.01	.04
	76-10-19	2.5	--	12	4620	4390	6.28	165	.01	.04
	76-12-07	.5	--	7.8	1390	1310	1.89	3	--	--
	76-12-07	--	--	--	--	--	--	--	--	--
	76-12-07	1.1	--	12	5000	4880	6.80	149	--	--
	77-02-18	--	--	--	--	--	--	--	--	--
	77-02-18	8.6	--	13	4570	4210	6.22	115	--	--
	77-02-18	--	--	--	--	--	--	--	--	--
	77-02-18	6.5	--	13	4860	4600	6.61	216	--	--
	77-04-21	1.1	--	4.9	1260	1140	1.71	9	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	7.6	--	13	4300	3920	5.85	70	--	--
	77-04-21	1.2	--	12	5100	4610	6.94	186	--	--
	77-06-08	.6	--	6.8	630	595	.86	4	.36	1.6
	77-06-08	--	--	--	--	--	--	--	--	--
	77-06-08	--	--	--	--	--	--	--	--	--
	77-06-08	8.6	--	14	4960	4620	6.75	84	.06	.27
	77-06-08	--	--	--	--	--	--	--	--	--
	77-06-08	.4	--	9.4	5340	4760	7.26	156	.05	.22
365930094480001	77-06-07	1.8	--	8.4	5100	4330	6.94	114	.02	.09
	76-10-19	1.8	--	6.4	1590	1480	2.16	29	.01	.04
	76-10-19	2.5	--	12	4620	4390	6.28	165	.01	.04
	76-12-07	.5	--	7.8	1390	1310	1.89	3	--	--
	76-12-07	--	--	--	--	--	--	--	--	--
	76-12-07	1.1	--	12	5000	4880	6.80	149	--	--
	77-02-18	--	--	--	--	--	--	--	--	--
	77-02-18	8.6	--	13	4570	4210	6.22	115	--	--
	77-02-18	--	--	--	--	--	--	--	--	--
	77-02-18	6.5	--	13	4860	4600	6.61	216	--	--

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DIS- SOLVED NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (NO2) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED AMMONIA NITRO- GEN (N) (MG/L)	DIS- SOLVED AMMONIA (NH4) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ALUM- INUM (AL) (UG/L)	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)
CHEROKEE COUNTY												
.00	.00	.15	.00	.00	--	60	0	1	0	0	0	140
.00	.00	.01	.57	.73	--	2000	300	8	8	0	0	620
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
.01	.03	.07	.03	.04	--	30	40	0	0	100	100	110
--	--	--	--	--	--	--	--	--	--	--	--	--
.01	.03	.03	.65	.84	--	150	100	8	6	100	100	600
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
OKLAHOMA COUNTY												
--	--	1.9	--	--	.05	--	--	--	--	--	--	--
--	--	3.4	--	--	.03	--	--	--	--	--	--	--
OTTAWA COUNTY												
.00	.00	.22	.00	.00	--	150	0	1	0	0	0	70
.00	.00	.42	.27	.35	--	10000	5000	10	10	0	0	240
--	--	--	--	--	--	40	0	--	--	--	--	60
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	10000	5000	--	--	--	--	240
--	--	--	--	--	--	40	0	--	--	--	--	70
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	4500	1400	--	--	--	--	270
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	40	10	--	--	--	--	50
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
.00	.00	.21	.00	.00	--	4500	4500	--	--	--	--	240
--	--	--	--	--	--	60	20	0	0	100	100	60
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
.01	.03	.03	.27	.35	--	200	200	5	6	200	200	280
.00	.00	.01	.19	.24	--	980	600	1	1	0	0	150
.01	.03	.02	.17	.22	--	4000	3200	0	0	0	0	220
--	--	--	--	--	--	60	0	--	--	--	--	190
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	4000	2000	--	--	--	--	230
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	13000	13000	--	--	--	--	240
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	8900	7900	--	--	--	--	220
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	180	20	--	--	--	--	120
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	11000	11000	--	--	--	--	230
--	--	--	--	--	--	1000	1000	--	--	--	--	230
.04	.13	.40	.14	.18	--	70	50	0	0	100	100	110
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
.01	.03	.07	.51	.66	--	6200	2900	3	3	100	100	260
--	--	--	--	--	--	--	--	--	--	--	--	--
.01	.03	.06	.03	.04	--	100	100	6	6	100	200	250

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
CHEROKEE COUNTY										
370128094521201	76-10-21	90	10	4	0	0	50	1	<10	6
	76-10-21	560	10	1	10	0	150	57	<10	1
	76-10-21	--	--	--	--	--	--	--	--	--
	76-10-21	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	90	10	8	0	10	<50	0	<10	2
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	550	10	2	0	10	50	100	10	2
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--	--	--
OKLAHOMA COUNTY										
354229097223201	77-04-19	--	--	--	--	--	--	--	--	--
354229097223301	77-04-19	--	--	--	--	--	--	--	--	--
OTTAWA COUNTY										
365927094485901	76-10-19	40	90	80	10	0	<50	4	<10	3
	76-10-19	--	--	--	--	--	--	--	--	--
	76-10-19	170	570	540	20	10	750	61	30	33
	76-12-07	60	90	70	--	--	--	--	--	--
	76-12-07	--	--	--	--	--	--	--	--	--
	76-12-07	190	540	540	--	--	--	--	--	--
	77-02-17	40	60	65	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	170	580	600	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	30	70	75	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	140	580	610	--	--	--	--	--	--
	77-06-07	30	70	80	10	10	<50	2	<10	1
	77-06-07	--	--	--	--	--	--	--	--	--
	77-06-07	--	--	--	--	--	--	--	--	--
365930094480001	77-06-07	170	530	550	20	30	750	800	30	13
	76-10-19	110	130	8	10	0	150	74	<10	2
	76-10-19	160	100	60	20	0	600	71	10	2
	76-12-07	140	<10	1	--	--	--	--	--	--
	76-12-07	--	--	--	--	--	--	--	--	--
	76-12-07	170	160	60	--	--	--	--	--	--
	77-02-18	--	--	--	--	--	--	--	--	--
	77-02-18	150	350	360	--	--	--	--	--	--
	77-02-18	--	--	--	--	--	--	--	--	--
	77-02-18	160	360	370	--	--	--	--	--	--
	77-04-21	90	130	140	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	150	280	300	--	--	--	--	--	--
	77-04-21	160	100	80	--	--	--	--	--	--
	77-06-08	70	60	55	0	10	<50	9	<10	8
	77-06-08	--	--	--	--	--	--	--	--	--
	77-06-08	--	--	--	--	--	--	--	--	--
	77-06-08	180	260	180	10	20	650	700	70	90
	77-06-08	--	--	--	--	--	--	--	--	--
	77-06-08	200	80	20	10	20	800	800	10	4

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DIS- SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)
CHEROKEE COUNTY												
160	10	<100	3	20	10	10	.3	.2	0	0	<50	4
58000	57000	100	4	210	5500	2000	.4	.4	1	1	300	200
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
30	30	<100	6	20	10	10	.1	.0	0	0	50	6
61000	54000	100	4	200	1900	1900	.3	.4	0	2	200	250
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
OKLAHOMA COUNTY												
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
OTTAWA COUNTY												
140	40	100	3	30	40	30	.2	.4	0	0	50	39
300000	310000	300	300	200	5500	5400	.2	.3	0	0	3500	3400
70	40	<100	3	30	50	40	--	--	--	--	900	37
--	--	--	--	--	--	--	--	--	--	--	--	--
300000	290000	300	350	190	6000	50	--	--	--	--	6000	3300
120	0	<100	1	40	60	60	--	--	--	--	50	36
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
310000	300000	400	450	200	5600	5500	--	--	--	--	3400	3600
--	--	--	--	--	--	--	--	--	--	--	--	--
480	40	100	50	40	100	100	--	--	--	--	50	55
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
280000	270000	400	400	190	5600	5100	--	--	--	--	3200	3200
300	70	0	0	20	160	160	.2	.0	1	0	<50	14
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
350000	53000	400	350	300	5400	5600	.1	.2	0	0	3500	3400
15000	13000	100	51	50	1300	930	.2	.0	0	0	500	500
150000	110000	200	13	150	9000	9000	.0	.1	0	0	2500	2500
2000	710	100	2	40	1800	1500	--	--	--	--	500	150
--	--	--	--	--	--	--	--	--	--	--	--	--
160000	83000	300	67	160	11000	10000	--	--	--	--	8000	2900
--	--	--	--	--	--	--	--	--	--	--	--	--
190000	180000	300	300	160	5200	5000	--	--	--	--	2900	3100
--	--	--	--	--	--	--	--	--	--	--	--	--
210000	200000	300	300	160	7400	7000	--	--	--	--	3000	3200
--	--	--	--	--	--	--	--	--	--	--	--	--
280	140	100	50	30	300	300	--	--	--	--	100	97
--	--	--	--	--	--	--	--	--	--	--	--	--
190000	170000	300	200	160	5000	4400	--	--	--	--	2900	2900
200000	200000	200	200	140	15000	14000	--	--	--	--	2800	3000
710	90	<100	7	20	180	190	.4	.0	0	0	50	50
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
240000	220000	200	40	200	5000	5200	.1	.2	0	0	3000	3500
--	--	--	--	--	--	--	--	--	--	--	--	--
230000	230000	300	17	140	13000	13000	.1	.0	0	0	2800	3000

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

STATION NUMBER	DATE OF SAMPLE	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED VANADIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
CHEROKEE COUNTY								
370128094521201	76-10-21	0	0	.2	730	670	1.8	.00
	76-10-21	0	0	.4	7000	7000	.6	.00
	76-10-21	--	--	--	--	--	--	--
	76-10-21	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--
	77-06-09	0	0	.0	2300	2300	1.3	.00
	77-06-09	--	--	--	--	--	--	--
	77-06-09	0	0	.0	7000	6600	1.1	.10
	77-06-09	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--
	77-06-09	--	--	--	--	--	--	--
OKLAHOMA COUNTY								
354229097223201	77-04-19	--	--	--	--	--	--	--
354229097223301	77-04-19	--	--	--	--	--	--	--
OTTAWA COUNTY								
365927094485901	76-10-19	1	1	1.0	3900	3900	1.7	.00
	76-10-19	--	--	--	--	--	--	--
	76-10-19	1	1	130	290000	290000	.9	.00
	76-12-07	--	--	.0	30000	3500	--	--
	76-12-07	--	--	--	--	--	--	--
	76-12-07	--	--	60	280000	280000	--	--
	77-02-17	--	--	.0	3300	3300	--	--
	77-02-17	--	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--
	77-02-17	--	--	200	300000	300000	--	--
	77-04-21	--	--	--	--	--	--	--
	77-04-21	--	--	.0	--	4200	--	--
	77-04-21	--	--	--	--	--	--	--
365930094480001	77-04-21	--	--	--	--	--	--	--
	77-04-21	--	--	110	--	292000	--	--
	77-06-07	1	0	.0	2100	2100	.7	.00
	77-06-07	--	--	--	--	--	--	--
	77-06-07	--	--	--	--	--	--	--
	77-06-07	0	0	160	310000	310000	1.0	.00
	76-10-19	2	1	.8	65000	65000	4.2	.00
	76-10-19	0	0	49	370000	360000	5.4	.00
	76-12-07	--	--	.0	54000	4400	--	--
	76-12-07	--	--	--	--	--	--	--
	76-12-07	--	--	45	390000	390000	--	--
	77-02-18	--	--	--	--	--	--	--
	77-02-18	--	--	110	340000	340000	--	--
	77-02-18	--	--	--	--	--	--	--
	77-02-18	--	--	100	390000	380000	--	--
	77-04-21	--	--	.0	8400	8300	--	--
	77-04-21	--	--	--	--	--	--	--
	77-04-21	--	--	50	310000	270000	--	--
	77-04-21	--	--	50	410000	370000	--	--
	77-06-08	0	0	.0	6400	6700	2.4	.00
	77-06-08	--	--	--	--	--	--	--
	77-06-08	--	--	--	--	--	--	--
	77-06-08	0	0	130	340000	340000	4.6	.10
	77-06-08	--	--	--	--	--	--	--
	77-06-08	0	0	50	410000	400000	5.1	.10
	77-06-08	--	--	--	--	--	--	--
	77-06-08	--	--	--	--	--	--	--
	77-06-08	--	--	--	--	--	--	--
	77-06-08	--	--	--	--	--	--	--

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MULTIPLE STATION LIST

STATION NUMBER	GEO-LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL ACIDITY AS H+ (MG/L)
OTTAWA COUNTY											
365754094493401	--	76-10-20	1350	165	3200	7.6	16.5	160	2100	2000	--
	--	76-10-20	1410	180	3200	7.6	16.5	--	--	--	--
	--	76-10-20	1430	195	3200	4.8	16.0	75	1900	1800	--
	--	76-12-06	1445	165	2650	7.0	14.5	8.4	2100	2000	.8
	--	76-12-06	1500	180	2800	7.1	15.0	--	--	--	--
	--	76-12-06	1530	195	2950	4.7	16.0	90	1900	1900	8.2
	--	77-02-17	1620	165	3150	6.2	14.5	8.0	2000	1900	1.7
	--	77-02-17	1630	180	3150	6.2	14.5	--	--	--	--
	--	77-02-17	1640	195	3200	4.2	15.0	45	1800	1800	6.0
	--	77-04-21	1220	165	3000	7.1	15.0	1.3	2000	1900	.7
	--	77-04-21	1230	185	3000	7.1	15.0	--	--	--	--
	--	77-04-21	1240	187	3300	4.4	16.0	--	--	--	--
	--	77-04-21	1250	195	3350	4.3	16.0	.50	2100	2100	5.0
	--	77-06-08	0815	160	2550	7.1	16.0	.80	1700	1600	.2
	--	77-06-08	0845	180	3300	4.6	15.0	10	1900	1900	12
	--	77-06-08	0900	187	3300	4.4	16.0	--	--	--	--
	--	77-06-08	0915	195	3800	3.8	16.0	39	2100	2100	23
	--	76-10-18	1350	160	2360	5.1	16.0	23	1300	1300	--
	--	77-06-06	1500	150	2900	3.9	16.5	--	--	--	--
	--	77-06-06	1530	165	3200	3.4	17.0	4.8	1600	1600	14
365817094510201	--	76-10-20	0945	160	1060	6.7	13.0	--	--	--	--
	--	76-10-20	1010	190	1030	6.7	13.0	1.4	520	340	--
	--	76-10-20	1100	210	4400	6.3	14.0	--	--	--	--
	--	76-10-20	1135	225	4800	6.3	14.0	3.3	2400	2400	--
	--	76-12-07	1500	160	1100	6.5	13.0	--	--	--	--
	--	76-12-07	1515	190	1100	6.5	13.0	1.6	580	340	1.5
	--	76-12-07	1545	210	1100	6.4	13.0	--	--	--	--
	--	76-12-07	1600	225	4560	5.9	14.0	140	2300	2300	27
	--	77-02-17	1400	160	1400	6.6	13.0	--	--	--	--
	--	77-02-17	1415	190	1380	6.5	13.0	1.7	640	380	1.7
	--	77-02-17	1430	200	1500	6.5	13.0	--	--	--	--
	--	77-02-17	1445	210	4200	6.1	13.5	--	--	--	--
	--	77-02-17	1500	225	4800	5.8	14.0	180	2300	2300	23
	--	77-04-21	1550	160	1500	6.5	13.5	--	--	--	--
	--	77-04-21	1600	190	1500	6.5	14.0	.90	780	520	2.0
	--	77-04-21	1615	205	2900	6.3	14.5	--	--	--	--
	--	77-04-21	1640	225	4800	5.8	15.0	160	2400	2400	11
	--	77-06-07	1215	155	1100	6.5	14.0	.30	570	320	1.6
	--	77-06-07	1240	190	1450	6.6	14.0	--	--	--	--
	--	77-06-07	1300	205	3100	6.4	14.0	--	--	--	--
	--	77-06-07	1315	225	4200	5.9	15.0	220	2400	2400	24

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

TOTAL ACIDITY AS CACO ₃ (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD- SURP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	CAR- BONATE (CO ₃) (MG/L)	ALKA- LINITY AS CACO ₃ (MG/L)	CARBON DIOXIDE (CO ₂) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
OTTAWA COUNTY												
--	490	210	140	13	1.3	4.3	168	0	138	6.8	2300	7.4
--	--	--	--	--	--	--	--	--	--	--	--	--
40	510	140	36	4	.4	3.1	5	0	4	127	2300	5.8
--	500	200	44	4	.4	3.7	94	0	77	15	2000	7.0
--	--	--	--	--	--	--	--	--	--	--	--	--
407	510	140	36	4	.4	3.1	0	0	0	.0	2600	5.6
84	490	180	44	5	.4	3.4	24	0	20	24	2000	7.3
--	--	--	--	--	--	--	--	--	--	--	--	--
298	500	140	39	4	.4	3.2	0	0	0	.0	2200	14
35	490	190	45	5	.4	4.0	110	0	90	14	1900	7.3
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
248	600	140	39	4	.4	3.2	0	0	0	.0	2500	72
10	470	130	32	4	.3	3.2	180	0	150	23	1600	4.8
596	530	140	38	4	.4	3.5	0	0	0	.0	2400	5.4
--	--	--	--	--	--	--	--	--	--	--	--	--
1140	500	200	57	6	.5	4.0	0	0	0	.0	3000	6.2
--	440	45	25	4	.3	1.6	9	0	7	114	1600	4.6
--	--	--	--	--	--	--	--	--	--	--	--	--
695	500	88	33	4	.4	1.3	0	0	0	.0	2300	5.0
--	--	--	--	--	--	--	--	--	--	--	--	--
--	180	16	19	7	.4	4.5	216	0	177	69	380	4.0
--	--	--	--	--	--	--	--	--	--	--	--	--
--	470	290	92	8	.8	8.2	11	0	9	8.8	3500	23
--	--	--	--	--	--	--	--	--	--	--	--	--
74	200	19	23	8	.4	4.7	289	0	237	146	430	4.6
--	--	--	--	--	--	--	--	--	--	--	--	--
1340	490	260	81	7	.7	7.0	35	0	29	70	3100	20
--	--	--	--	--	--	--	--	--	--	--	--	--
84	220	21	29	9	.5	5.4	310	0	254	157	510	14
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
1140	480	260	82	7	.8	6.5	0	0	0	.0	3300	18
--	--	--	--	--	--	--	--	--	--	--	--	--
99	270	26	36	9	.6	6.2	320	0	260	162	610	6.6
--	--	--	--	--	--	--	--	--	--	--	--	--
546	520	270	85	7	.8	6.8	0	0	0	.0	3500	15
79	190	23	26	9	.5	4.7	300	0	250	152	420	4.5
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
1190	500	280	86	7	.8	6.2	6	0	5	12	3400	15

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED FLUORIDE (F) (MG/L)	BROMIDE (BR) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	SUSPENDED SOLIDS (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)
OTTAWA COUNTY										
365754094493401	76-10-20	1.9	--	12	3210	3260	4.37	173	.21	.93
	76-10-20	--	--	--	--	--	--	--	--	--
	76-10-20	5.4	--	14	3480	3220	4.73	90	.07	.31
	76-12-06	1.3	--	12	3170	2840	4.31	1	--	--
	76-12-06	--	--	--	--	--	--	--	--	--
	76-12-06	2.9	--	15	3410	3530	4.64	57	--	--
	77-02-17	1.9	--	11	3090	2810	4.20	0	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	3.9	--	14	3330	3080	4.53	25	--	--
	77-04-21	1.4	--	13	3060	2730	4.16	3	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	8.0	--	15	3630	3680	4.94	6	--	--
	77-06-08	.9	--	13	2690	2350	3.66	0	.18	.80
	77-06-08	8.3	--	19	3850	3500	5.24	3	.01	.04
	77-06-08	--	--	--	--	--	--	--	--	--
365738094495101	77-06-08	1.0	--	19	4800	4410	6.53	2	.01	.04
	76-10-18	2.9	--	14	2400	2280	3.26	27	.01	.04
	77-06-06	--	--	--	--	--	--	--	--	--
365817094510201	77-06-06	2.3	--	18	3480	3250	4.73	7	.02	.09
	76-10-20	--	--	--	--	--	--	--	--	--
	76-10-20	.7	--	11	830	748	1.13	12	.16	.71
	76-10-20	--	--	--	--	--	--	--	--	--
	76-10-20	7.5	--	7.8	5920	5100	8.05	15	.03	.13
	76-12-07	--	--	--	--	--	--	--	--	--
	76-12-07	.1	--	19	904	872	1.23	0	--	--
	76-12-07	--	--	--	--	--	--	--	--	--
	76-12-07	6.6	--	8.8	5370	4720	7.30	170	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	1.2	--	22	1030	1010	1.40	0	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	7.4	--	10	5230	4910	7.11	183	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	.4	--	19	1200	1180	1.63	5	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	7.9	--	11	5520	5140	7.51	172	--	--
	77-06-07	.2	--	19	910	877	1.24	0	.19	.84
	77-06-07	--	--	--	--	--	--	--	--	--
	77-06-07	--	--	--	--	--	--	--	--	--
	77-06-07	7.9	--	10	5650	5100	7.68	156	.03	.13

QUALITY OF GROUND WATER

537

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DIS- SOLVED NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (NO2) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED AMMONIA NITRO- GEN (N) (MG/L)	DIS- SOLVED AMMONIA (NH4) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	TOTAL ALUM- INUM (AL) (UG/L)	DIS- SOLVED ALUM- INUM (AL) (UG/L)	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	DIS- SOLVED BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)
OTTAWA COUNTY												
.00	.00	.21	.00	.00	--	130	20	1	0	0	0	100
--	--	--	--	--	--	--	--	--	--	--	--	--
.00	.00	.07	.15	.19	--	14000	13000	1	1	0	0	150
--	--	.20	--	--	--	340	10	--	--	--	--	120
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	12000	14000	--	--	--	--	150
--	--	--	--	--	--	1400	820	--	--	--	--	110
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	9000	0	--	--	--	--	140
--	--	--	--	--	--	140	0	--	--	--	--	110
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
.00	.00	.18	.01	.01	--	26000	26000	--	--	--	--	140
.01	.03	.02	.27	.35	--	20	10	0	0	100	100	100
--	--	--	--	--	--	23000	24000	0	0	100	200	210
--	--	--	--	--	--	--	--	--	--	--	--	--
.01	.03	.02	.48	.62	--	42000	42000	2	1	100	100	260
.00	.00	.01	.19	.24	--	6000	5500	2	1	0	0	100
--	--	--	--	--	--	--	--	--	--	--	--	--
.00	.00	.02	.26	.33	--	26000	30000	2	1	100	200	170
--	--	--	--	--	--	--	--	--	--	--	--	--
.00	.00	.16	.01	.01	--	40	0	0	0	0	0	120
--	--	--	--	--	--	--	--	--	--	--	--	--
.00	.00	.03	.58	.75	--	10000	5000	13	11	0	0	290
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	50	0	--	--	--	--	140
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	8000	5000	--	--	--	--	310
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	40	0	--	--	--	--	140
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	4500	4500	--	--	--	--	310
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	20000	0	--	--	--	--	250
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	5000	5000	--	--	--	--	320
.01	.03	.20	.00	.00	--	30	20	0	0	100	100	160
--	--	--	--	--	--	--	--	--	--	--	--	--
.01	.03	.04	.53	.68	--	5500	5500	8	11	600	600	310

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

STATION NUMBER	DATE OF SAMPLE	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
OTTAWA COUNTY										
365754094493401	76-10-20	70	20	16	10	10	50	8	<10	3
	76-10-20	--	--	--	--	--	--	--	--	--
	76-10-20	100	430	410	50	30	350	64	120	100
	76-12-06	80	100	11	--	--	--	--	--	--
	76-12-06	--	--	--	--	--	--	--	--	--
	76-12-06	100	400	390	--	--	--	--	--	--
	77-02-17	80	150	8	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	130	320	340	--	--	--	--	--	--
	77-04-21	70	60	65	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	140	570	560	--	--	--	--	--	--
	77-06-08	70	20	12	10	10	<50	2	20	2
	77-06-08	150	500	510	60	60	350	400	120	130
	77-06-08	--	--	--	--	--	--	--	--	--
	77-06-08	200	850	860	150	140	600	600	240	260
	76-10-18	70	490	470	10	10	200	49	60	48
	77-06-06	--	--	--	--	--	--	--	--	--
	77-06-06	110	1100	1200	150	140	300	350	200	220
365817094510201	76-10-20	--	--	--	--	--	--	--	--	--
	76-10-20	100	80	12	0	0	50	2	<10	11
	76-10-20	--	--	--	--	--	--	--	--	--
	76-10-20	220	350	330	20	10	850	43	20	7
	76-12-07	--	--	--	--	--	--	--	--	--
	76-12-07	110	100	13	--	--	--	--	--	--
	76-12-07	--	--	--	--	--	--	--	--	--
	76-12-07	240	380	360	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	130	110	10	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--	--	--
	77-02-17	200	330	340	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	130	600	140	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--	--	--
	77-04-21	200	310	340	--	--	--	--	--	--
	77-06-07	150	110	8	10	0	<50	0	20	8
	77-06-07	--	--	--	--	--	--	--	--	--
	77-06-07	--	--	--	--	--	--	--	--	--
	77-06-07	210	300	350	20	20	800	800	20	8

QUALITY OF GROUND WATER

539

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	TOTAL NICKEL (NI) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)
OTTAWA COUNTY												
490	30	100	1	70	200	200	.1	.2	0	1	100	100
--	--	--	--	--	--	--	--	--	--	--	--	--
61000	55000	300	300	130	2000	1500	.1	.2	0	0	1100	1100
1000	30	100	1	80	440	420	--	--	--	--	900	500
--	--	--	--	--	--	--	--	--	--	--	--	--
60000	59000	300	250	130	1700	1900	--	--	--	--	1200	1200
950	30	<100	10	110	840	820	--	--	--	--	500	500
--	--	--	--	--	--	--	--	--	--	--	--	--
42000	41000	200	200	130	1800	1800	--	--	--	--	1000	1100
350	60	100	100	90	400	420	--	--	--	--	250	250
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
120000	100000	300	300	180	2500	2500	--	--	--	--	1700	1600
90	50	100	4	60	220	220	.1	.2	0	0	50	100
110000	120000	400	350	190	2800	3100	.2	.0	0	0	1600	1700
--	--	--	--	--	--	--	--	--	--	--	--	--
190000	210000	400	400	260	4200	4600	.2	.2	0	0	2600	2900
29000	28000	200	30	70	740	760	.4	.8	0	0	650	600
--	--	--	--	--	--	--	--	--	--	--	--	--
70	60	200	350	140	1600	1600	.2	.2	0	0	1100	1300
--	--	--	--	--	--	--	--	--	--	--	--	--
80	20	200	150	30	30	30	.1	.0	0	0	50	24
--	--	--	--	--	--	--	--	--	--	--	--	--
370000	240000	300	350	220	6000	6000	.1	.1	0	1	5000	5000
--	--	--	--	--	--	--	--	--	--	--	--	--
150	150	200	97	30	50	50	--	--	--	--	200	28
--	--	--	--	--	--	--	--	--	--	--	--	--
340000	270000	300	200	110	5300	5400	--	--	--	--	6000	4100
--	--	--	--	--	--	--	--	--	--	--	--	--
170	70	<100	98	40	60	50	--	--	--	--	50	31
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
320000	300000	300	250	200	6000	5500	--	--	--	--	3900	3900
--	--	--	--	--	--	--	--	--	--	--	--	--
240	60	400	150	50	2700	50	--	--	--	--	1800	49
--	--	--	--	--	--	--	--	--	--	--	--	--
320000	290000	300	250	210	5900	5500	--	--	--	--	3900	4000
180	20	200	99	40	10	20	.1	.0	0	0	<50	20
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
320000	310000	300	250	210	5800	6200	.2	.0	1	0	4500	4500

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

STATION NUMBER	DATE OF SAMPLE	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED VANADIUM (V) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE SUBSTANCE (MG/L)
OTTAWA COUNTY								
365754094493401	76-10-20	1	1	.1	6300	6500	3.3	.00
	76-10-20	--	--	--	--	--	--	--
	76-10-20	1	1	24	140000	130000	.8	.00
	76-12-06	--	--	.0	50000	26000	--	--
	76-12-06	--	--	--	--	--	--	--
	76-12-06	--	--	18	130000	130000	--	--
	77-02-17	--	--	.0	55000	53000	--	--
	77-02-17	--	--	--	--	--	--	--
	77-02-17	--	--	22	120000	120000	--	--
	77-04-21	--	--	.0	22000	22000	--	--
	77-04-21	--	--	--	--	--	--	--
	77-04-21	--	--	--	--	--	--	--
	77-04-21	--	--	7.0	170000	170000	--	--
	77-06-08	0	0	.0	7000	7300	3.1	.10
	77-06-08	2	2	.0	190000	190000	.8	.00
	77-06-08	--	--	--	--	--	--	--
	77-06-08	1	1	17	350000	340000	3.2	.10
365738094495101	76-10-18	1	1	1.2	110000	110000	.6	.00
	77-06-06	--	--	--	--	--	--	--
	77-06-06	1	1	11	250000	250000	.7	.00
365817094510201	76-10-20	--	--	--	--	--	--	--
	76-10-20	2	2	.7	46000	25000	3.4	.10
	76-10-20	--	--	--	--	--	--	--
	76-10-20	0	0	120	440000	440000	3.2	.00
	76-12-07	--	--	--	--	--	--	--
	76-12-07	--	--	.0	27000	27000	--	--
	76-12-07	--	--	--	--	--	--	--
	76-12-07	--	--	120	430000	420000	--	--
	77-02-17	--	--	--	--	--	--	--
	77-02-17	--	--	.0	36000	35000	--	--
	77-02-17	--	--	--	--	--	--	--
	77-02-17	--	--	--	--	--	--	--
	77-02-17	--	--	.0	420000	410000	--	--
	77-04-21	--	--	--	--	--	--	--
	77-04-21	--	--	.0	49000	49000	--	--
	77-04-21	--	--	--	--	--	--	--
	77-04-21	--	--	110	--	412000	--	--
	77-06-07	3	3	.0	39000	39000	3.2	.10
	77-06-07	--	--	--	--	--	--	--
	77-06-07	--	--	--	--	--	--	--
	77-06-07	0	0	150	440000	440000	1.6	.10

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FACTORS FOR CONVERTING U.S. CUSTOMARY UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the U.S. customary units published herein to the International System of Units (SI). Subsequent reports will contain both the U.S. customary and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply U.S. customary 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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